TERRESTRIAL ANIMAL HEALTH CODE

VOLUME 2

Recommendations applicable to OIE Listed diseases and other diseases of importance to international trade

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C O N T E N T S

VOLUME 2

Recommendations applicable to OIE Listed diseases and other diseases of importance to international trade

Foreword vii
User's guide ix
Glossary xiii

SECTION 8. MULTIPLE SPECIES

Chapter 8.1. Anthrax 433
Chapter 8.2. Aujeszky's disease 438
Chapter 8.3. Bluetongue 448
Chapter 8.4. Echinococcosis/hydaticidosis 464
Chapter 8.5. Foot and mouth disease 465
Chapter 8.6. Heartwater 492
Chapter 8.7. Japanese encephalitis 493
Chapter 8.8. New world screwworm (Coelomysia hominivorax) and old world screwworm (Chrysomya bezziana) 494
Chapter 8.9. Paratuberculosis 496
Chapter 8.10. Rabies 497
Chapter 8.11. Rift Valley fever 500
Chapter 8.12. Rinderpest 505
Chapter 8.13. Trichinosis (Trichinella spiralis) 519
Chapter 8.14. Tularemia 521
Chapter 8.15. Vesicular stomatitis 523
Chapter 8.16. West Nile fever 526

SECTION 9. APIDAE

Chapter 9.1. Acarapisosis of honey bees 531
Chapter 9.2. American foulbrood of honey bees 534
Chapter 9.3. European foulbrood of honey bees 537
Chapter 9.4. Small hive beetle infestation (Aethina tumida) 540
Chapter 9.5. Tropilaelaps infestation of honey bees 545
Chapter 9.6. Varroosis of honey bees 548

SECTION 10. AVES

Chapter 10.1. Avian chlamydiosis 551
Chapter 10.2. Avian infectious bronchitis 552
Chapter 10.3. Avian infectious laryngotraechitis 554
Chapter 10.4. Avian influenza 556
Chapter 10.5. Avian mycoplasmosis (Mycoplasma gallisepticum) 576
Chapter 10.6. Avian tuberculosis 578
Chapter 10.7. Duck virus enteritis 580
Chapter 10.8. Duck virus hepatitis 582
Chapter 10.9. Fowl cholera 584
Chapter 10.10. Fowl typhoid and pullorum disease 586
Chapter 10.11. Infectious bursal disease (Gumboro disease) 588
Chapter 10.12. Marek's disease 590
Chapter 10.13.  
Newcastle disease  

SECTION 11.  

**BOVIDAE**  

Section 11.1.  
Bovine anaplasmosis  
Section 11.2.  
Bovine babesiosis  
Section 11.3.  
Bovine brucellosis  
Section 11.4.  
Bovine genital campylobacteriosis  
Section 11.5.  
Bovine spongiform encephalopathy  
Section 11.6.  
Bovine tuberculosis  
Section 11.7.  
Bovine tuberculosis of farmed cervidae  
Section 11.8.  
Contagious bovine pleuropneumonia  
Section 11.9.  
Enzootic bovine leukosis  
Section 11.10.  
Haemorrhagic septicemia (*Pasteurella multocida* serotypes 6b and 6e)  
Section 11.11.  
Infectious bovine rhinotracheitis/ infectious pustular vulvovaginitis  
Section 11.12.  
Lumpy skin disease (caused by group III virus, type Neethling)  
Section 11.13.  
Theileriosis  
Section 11.14.  
Trichomonosis  

SECTION 12.  

**EQUIDAE**  

Section 12.1.  
African horse sickness  
Section 12.2.  
Contagious equine metritis  
Section 12.3.  
Dourine  
Section 12.4.  
Equine encephalomyelitis (Eastern and Western)  
Section 12.5.  
Equine infectious anaemia  
Section 12.6.  
Equine influenza  
Section 12.7.  
Equine piroplasmosis  
Section 12.8.  
Equine rhinopneumonitis  
Section 12.9.  
Equine viral arteritis  
Section 12.10.  
Glanders  
Section 12.11.  
Venezuelan equine encephalomyelitis  

SECTION 13.  

**LAGOMORPHA**  

Section 13.1.  
Myxomatosis  
Section 13.2.  
Rabbit haemorrhagic disease  

SECTION 14.  

**OVIDAE AND CAPRIDAE**  

Section 14.1.  
Caprine and ovine brucellosis (excluding *Brucella ovis*)  
Section 14.2.  
Caprine arthritis/encephalitis  
Section 14.3.  
Contagious agalactia  
Section 14.4.  
Contagious caprine pleuropneumonia  
Section 14.5.  
Enzootic abortion of ewes (Ovine chlamydiosis)  
Section 14.6.  
Maedi-visna  
Section 14.7.  
Ovine epididymitis (*Brucella ovis*)  
Section 14.8.  
Peste des petits ruminants  
Section 14.9.  
Scrapie  
Section 14.10.  
Sheep pox and goat pox  

SECTION 15.  

**SUIDAE**  

Section 15.1.  
African swine fever  
Section 15.2.  
Classical swine fever
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.3</td>
<td>Porcine brucellosis</td>
<td>760</td>
</tr>
<tr>
<td>15.4</td>
<td>Swine vesicular disease</td>
<td>762</td>
</tr>
<tr>
<td>15.5</td>
<td>Teschovirus encephalomyelitis (previously enterovirus encephalomyelitis, Teschen disease, Talfan disease) (under study)</td>
<td>768</td>
</tr>
<tr>
<td>15.6</td>
<td>Transmissible gastroenteritis</td>
<td>773</td>
</tr>
</tbody>
</table>
FOREWORD

The aim of the OIE Terrestrial Animal Health Code (hereafter referred to as the Terrestrial Code) is to assure the sanitary safety of international trade in terrestrial animals (mammals, birds and bees) and their products. This is achieved through the detailing of health measures to be used by the veterinary authorities of importing and exporting countries to avoid the transfer of agents pathogenic to animals or humans, while avoiding unjustified sanitary barriers.

The health measures in the Terrestrial Code (in the form of standards and recommendations) have been formally adopted by the World Assembly of OIE Delegates which constitutes the organisation’s highest decision-making body. This 19th edition incorporates modifications to the Terrestrial Code agreed at the 78th OIE General Session in May 2010. The 2010 edition includes revised information on the following subjects: glossary, criteria for listing diseases, animal health surveillance, surveillance for arthropod vectors of animal diseases, status for OIE listed diseases, import risk analysis, Veterinary Services, evaluation of Veterinary Services, design and implementation of identification systems to achieve animal traceability, zoning and compartmentalisation, application of compartmentalisation, general hygiene in semen collection and processing centres, collection and processing of bovine, small ruminant and porcine semen, collection and processing of in vivo derived embryos from livestock and horses, collection and processing of in vitro produced embryos/oocytes from livestock and horses, collection and processing of laboratory rodent and rabbit embryos/ova, disposal of dead animals, general obligations related to certification, certification procedures, border posts and quarantine stations in the importing country, control of hazards of animal health and public health importance in animal feed, prevention, detection and control of Salmonella in poultry, introduction to the recommendations for controlling antimicrobial resistance, transport of animals by land, transport of animals by sea, daughter of animals, killing of animals for disease control purposes, stray dog population control, anthrax, Ajeneck’s disease, bluetongue, foot and mouth disease, Rift Valley fever, West Nile fever, avian influenza, Newcastle disease, bovine spongiform encephalopathy, bovine tuberculosis, bovine tuberculosis of farmed cervidae, contagious bovine pleuropneumonia, enzootic bovine leukosis, infectious bovine rhinotracheitis, infectious pustular vulvovaginitis, lumpy skin disease, equine influenza, equine viral arteritis, scrapie and classical swine fever.

This edition includes one new chapter on use of animals in research and education.

The chapters on Salmonella Enteritidis and Salmonella Typhimurium in poultry, bovine cysticercosis, dermatophilosis, epizootic lymphangitis, horse mange, horse pox and atrophic rhinitis of swine have been deleted from this edition.

The development of these standards and recommendations is the result of the continuous work of the OIE Terrestrial Animal Health Standards Commission (hereafter referred to as the Code Commission). This Commission, which comprises six elected members, meets twice yearly to address its work programme. The Commission draws upon the expertise of internationally renowned scientific experts to prepare draft texts for new texts in the Terrestrial Code and to revise existing texts in the light of advances in veterinary science. The views of OIE National Delegates are systematically sought through the twice yearly circulation of texts. The Code Commission collaborates closely with other Specialist Commissions of the OIE, including the Aquatic Animal Health Standards Commission, the Biological Standards Commission and the
Scientific Commission for Animal Diseases, to ensure the recommendations contained in the Terrestrial Code are based upon the latest scientific information.

The measures recommended in the Terrestrial Code are formally adopted by the World Assembly comprising the plenary meeting of OIE National Delegates, who are in most cases the heads of OIE Members' veterinary authorities. The World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) formally recognises the responsibility of the OIE to specify standards and recommendations as the international references for animal health and zoonotic diseases. The SPS Agreement provides a multilateral framework, incorporating WTO Members' rights and disciplines, to guide the development, adoption and enforcement of sanitary measures to facilitate international trade. According to the SPS Agreement, WTO Members should provide a scientific justification for their import health measures. It is preferable that these be based on OIE recommendations. Where there are no OIE recommendations or in cases where a government chooses to apply more restrictive conditions than those recommended by the OIE, the importing country should base its animal health measures on an import risk analysis as described in the Terrestrial Code. The Terrestrial Code is thus an integral part of the WTO legal framework for international trade.

The Terrestrial Code is published annually in the three official OIE languages (English, French and Spanish). An unofficial translation into Russian is also available from the OIE upon request. The Terrestrial Code may be viewed and downloaded from the OIE Web site at http://www.oie.int.

The User's Guide, which follows the foreword, is designed to help Veterinary Authorities and other interested parties to use the Terrestrial Code and to promote fair access for all Members, including developing and least developed countries to international markets for animals and animal products.

We wish to thank the members of the Code Commission, Delegates and the experts participating in Working Groups and ad hoc Groups and other Commissions for their expert advice. Finally but not least, my thanks go to the staff of the OIE for their dedication in producing this 19th edition of the Terrestrial Code.

Members of the OIE Code Commission (2003-2010):
President: Dr A. Thiermann
Vice-President: Dr E. Bonbon
Secretary General: Dr S.C. MacDiarmid
Members: Dr J. Caetano, Dr A. Hassan and Dr S. Hargreaves

July 2010
A. General remarks

1. The purpose of this guide is to assist the Veterinary Authorities of OIE Members to use the OIE Terrestrial Animal Health Code (hereafter referred to as the Terrestrial Code) in the application of animal health measures to international trade in animals and animal products.

2. The recommendations in each of the disease chapters in Volume 2 of the Terrestrial Code are designed to prevent the disease in question being introduced into the importing country, taking into account the nature of the commodity and the animal health status of the exporting country. Correctly applied, OIE recommendations provide for trade in animals and animal products to take place with an optimal level of animal health security, based on the most up to date scientific information and available techniques.

3. The recommendations in the Terrestrial Code make reference only to the animal health situation in the exporting country, and assume that either the disease is either not present in the importing country or is the subject of a control or eradication programme. An OIE Member may authorise the importation of animals or animal products into its territory under conditions more or less stringent than those recommended by the Terrestrial Code. Where the conditions are more restrictive, they should be based on a scientific risk analysis conducted in accordance with OIE recommendations. For Members of the World Trade Organization (WTO), international trade measures should be based on a relevant international standard (i.e. for animal health measures, an OIE standard) or an import risk analysis, to meet their obligations under the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement).

4. Key terms and expressions used in the Terrestrial Code are defined in the Glossary. When preparing international veterinary health certificates, the importing country should endeavour to use these terms and expressions in accordance with the definitions given in the Terrestrial Code. The Terrestrial Code contains model veterinary health certificates as a further support to Members.

5. The OIE aims to include, at the beginning of each chapter relating to a specific disease, an article listing either the commodities that are considered safe for trade regardless of the status of the country (or zone) for the disease in question. This is a work in progress and some chapters do not yet contain articles listing safe commodities. In some chapters, the OIE identifies the commodities that are capable of transmitting the disease through international trade and/or those considered not to present a risk.

6. In many of the Terrestrial Code chapters, the use of specified diagnostic tests and vaccines is recommended and a reference made to the relevant section in the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (hereafter referred to as the Terrestrial Manual). A table summarising the recommended diagnostic tests for OIE listed diseases may be found in Chapter 1.3. of the Terrestrial Code.

7. Section 5 of the Terrestrial Code deals with obligations and ethics in international trade. The OIE recommends that Veterinary Authorities have sufficient copies of the
Terrestrial Code to allow all veterinarians directly involved in international trade to familiarise themselves with OIE recommendations. In addition, facilities responsible for disease diagnosis and vaccine production should be fully conversant with the recommendations in the Terrestrial Manual.

8. The term ('under study') is found in some chapters, with reference to an article or part of an article. This means that the text has not yet been adopted by the World Assembly of OIE Delegates and the particular provisions are not part of the Terrestrial Code. Members may wish to follow such recommendations in part or in full.

9. The complete text of the Terrestrial Code is available on the OIE Web site and may be downloaded from: http://www.oie.int.

B. Disease Information, the Bulletin and World Animal Health

These three OIE publications inform Veterinary Authorities on the animal health situation worldwide. Importing countries can thus have an overview of the animal health status, disease occurrence and control programmes in exporting countries.

C. International veterinary health certificates

1. An international veterinary certificate is an official document drawn up by the exporting country in accordance with the terms of Chapter 5.1. and Chapter 5.2. of the Terrestrial Code, describing the animal health requirements and, where appropriate, public health requirements for the exported commodity. The quality of the exporting country’s Veterinary Services, including the ethical approach to the provision of veterinary health certificates, is key in providing assurance to trading partners regarding the safety of exported animals and products.

2. International veterinary health certificates underpin international trade and provide assurances to the importing country regarding the health status of the animals and products imported. The health measures prescribed should take into account the health status of both exporting and importing countries and be based upon the recommendations in the Terrestrial Code.

3. The following steps should be taken when drafting international veterinary health certificates:

   a) list the diseases for which the importing country is justified in seeking protection, having regard to the disease status of the importing country and the exporting country. Importing countries should not impose measures in regard to diseases that occur in the importing country and that are not subject to official control or eradication programmes;

   b) list the health requirements for each of these diseases. These can be determined by referring to the relevant articles in the Terrestrial Code. The Terrestrial Code provides for various levels of sanitary status e.g. disease free country, zone or compartment, disease free herd, vaccinated or non vaccinated population;

   c) OIE models (see Chapters 5.10 to 5.12. of the Terrestrial Code) should be used as the baseline for international veterinary health certificates. The content and form of the final certificate may be modified as required.

4. As stated in Article 5.2.2. of the Terrestrial Code, international veterinary health certificates should be kept as simple as possible and should be clearly worded, to avoid misunderstanding of the importing country’s requirements.
D. Guidance notes for importers and exporters

To provide a clear understanding of trade requirements, it is advisable to prepare 'guidance notes' to assist importers and exporters. These notes should identify and explain the trade conditions, including the measures to be applied before and after export, during transport and unloading, relevant legal obligations and operational procedures. Exporters should also be reminded of the International Air Transport Association (IATA) rules governing air transport of animals and animal products.

The guidance notes should advise on all details to be included in the health certification accompanying the consignment to its destination.
For the purposes of the *Terrestrial Code*:

**Acceptable risk**

means a *risk* level judged by each OIE Member to be compatible with the protection of animal and public health within its territory.

**Animal**

means a mammal, bird or bee.

**Animal for breeding or rearing**

means a domesticated or confined *animal* which is not intended for *slaughter* within a short time.

**Animal for slaughter**

means an *animal* intended for *slaughter* within a short time, under the control of the relevant *Veterinary Authority*.

**Animal handler**

means a person with a knowledge of the behaviour and needs of *animals* who, with appropriate experience and a professional and positive response to an *animal*’s needs, can achieve effective management and good *welfare*. Competence should be gained through formal training and/or practical experience.

**Animal health status**

means the status of a country or a *zone* with respect to an *animal disease*, according to the criteria listed in the relevant chapter of the *Terrestrial Code* dealing with the *disease*.

**Animal identification**

means the combination of the identification and *registration* of an *animal* individually, with a unique identifier, or collectively by its *epidemiological unit* or group, with a unique group identifier.

**Animal identification system**

means the inclusion and linking of components such as identification of establishments/owners, the person(s) responsible for the *animal*(s), movements and other records with *animal identification*.

**Animal traceability**

means the ability to follow an *animal* or group of *animals* during all stages of its life.
**Animal welfare**

means how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear and distress. Good animal welfare requires disease prevention and veterinary treatment, appropriate shelter, management, nutrition, humane handling and humane slaughter/killing. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment.

**Antimicrobial agent**

means a naturally occurring, semi-synthetic or synthetic substance that at in vivo concentrations exhibits antimicrobial activity (kill or inhibit the growth of micro-organisms). Anthelmintics and substances classed as disinfectants or antiseptics are excluded from this definition.

**Apiary**

means a beehive or group of beehives whose management allows them to be considered as a single epidemiological unit.

**Appropriate level of protection**

means the level of protection deemed appropriate by the country establishing a sanitary measure to protect human or animal life or health within its territory.

**Approved**

means officially approved, accredited or registered by the Veterinary Authority.

**Artificial insemination centre**

means a facility approved by the Veterinary Authority and which meets the conditions set out in the Terrestrial Code for the collection, processing and/or storage of semen.

**Beehive**

means a structure for the keeping of honey bee colonies that is being used for that purpose, including frameless hives, fixed frame hives and all designs of moveable frame hives (including nucleus hives), but not including packages or cages used to confine bees for the purpose of transport or isolation.

**Biosecurity plan**

means a plan that identifies potential pathways for the introduction and spread of disease in a zone or compartment, and describes the measures which are being or will be applied to mitigate the disease risks, if applicable, in accordance with the recommendations in the Terrestrial Code.

**Border post**

means any airport, or any port, railway station or road check-point open to international trade of commodities, where import veterinary inspections can be performed.
Case

means an individual animal infected by a pathogenic agent, with or without clinical signs.

Collection centre

means a facility approved by the Veterinary Authority for the collection of embryos/ova and used exclusively for donor animals which meet the conditions of the Terrestrial Code.

Commodity

means live animals, products of animal origin, animal genetic material, biological products and pathological material.

Compartment

means an animal subpopulation contained in one or more establishments under a common biosecurity management system with a distinct health status with respect to a specific disease or specific diseases for which required surveillance, control and biosecurity measures have been applied for the purpose of international trade.

Competent Authority

means the Veterinary Authority or other Governmental Authority of a Member having the responsibility and competence for ensuring or supervising the implementation of animal health and welfare measures, international veterinary certification and other standards and recommendations in the Terrestrial Code and in the OIE Aquatic Animal Health Code in the whole territory.

Container

means a non-self-propelled receptacle or other rigid structure for holding animals during a journey by one or several means of transport.

Containment zone

means a defined zone around and including suspected or infected establishments, taking into account the epidemiological factors and results of investigations, where control measures to prevent the spread of the infection are applied.

Day-old birds

means birds aged not more than 72 hours after hatching.

Death

means the irreversible loss of brain activity demonstrable by the loss of brain stem reflexes.

Disease

means the clinical and/or pathological manifestation of infection.

Disinfection

means the application, after thorough cleansing, of procedures intended to destroy the infectious or parasitic agents of animal diseases, including zoonoses; this applies to premises, vehicles and different objects which may have been directly or indirectly contaminated.
Disinfestation

means the application of procedures intended to eliminate arthropods which may cause diseases or are potential vectors of infectious agents of animal diseases, including zoonoses.

Early detection system

means a system for the timely detection and identification of an incursion or emergence of diseases/infections in a country, zone or compartment. An early detection system should be under the control of the Veterinary Services and should include the following characteristics:

a) representative coverage of target animal populations by field services;

b) ability to undertake effective disease investigation and reporting;

c) access to laboratories capable of diagnosing and differentiating relevant diseases;

d) a training programme for veterinarians, veterinary para-professionals, livestock owners/keepers and others involved in handling animals for detecting and reporting unusual animal health incidents;

e) the legal obligation of private veterinarians to report to the Veterinary Authority;

f) a national chain command.

Emerging disease

means a new infection resulting from the evolution or change of an existing pathogenic agent, a known infection spreading to a new geographic area or population, or a previously unrecognized pathogenic agent or disease diagnosed for the first time and which has a significant impact on animal or public health.

Epidemiological unit

means a group of animals with a defined epidemiological relationship that share approximately the same likelihood of exposure to a pathogen. This may be because they share a common environment (e.g. animals in a pen), or because of common management practices. Usually, this is a herd or a flock. However, an epidemiological unit may also refer to groups such as animals belonging to residents of a village, or animals sharing a communal animal handling facility. The epidemiological relationship may differ from disease to disease, or even strain to strain of the pathogen.

Equivalence of sanitary measures

means the state wherein the sanitary measure(s) proposed by the exporting country as an alternative to those of the importing country, achieve(s) the same level of protection.

Eradication

means the elimination of a pathogenic agent from a country or zone.

Establishment

means the premises in which animals are kept.

Exporting country

means a country from which commodities are sent to another country.
Flock

means a number of *animals* of one kind kept together under human control or a congregation of gregarious wild *animals*. For the purposes of the *Terrestrial Code*, a *flock* is usually regarded as an *epidemiological unit*.

Free compartment

means a *compartment* in which the absence of the animal pathogen causing the disease under consideration has been demonstrated by all requirements specified in the *Terrestrial Code* for free status being met.

Free zone

means a *zone* in which the absence of the disease under consideration has been demonstrated by the requirements specified in the *Terrestrial Code* for free status being met. Within the zone and at its borders, appropriate *official veterinary control* is effectively applied for *animals* and animal products, and their transportation.

Fresh meat

means *meat* that has not been subjected to any treatment irreversibly modifying its organoleptic and physicochemical characteristics. This includes frozen *meat*, chilled *meat*, minced *meat* and mechanically recovered *meat*.

Greaves

means the protein-containing residue obtained after the partial separation of fat and water during the process of rendering.

Hatching eggs

means fertilised bird eggs, suitable for incubation and hatching.

Hazard

means a biological, chemical or physical agent in, or a condition of, an *animal* or animal product with the potential to cause an adverse health effect.

Hazard identification

means the process of identifying the pathogenic agents which could potentially be introduced in the *commodity* considered for importation.

Headquarters

means the Permanent Secretariat of the World Organisation for Animal Health located at:

12, rue de Prony, 75017 Paris, FRANCE
Telephone: 33-(0)1 44 15 18 88
Fax: 33-(0)1 42 67 09 87
Electronic mail: oie@oie.int
WWW: http://www.oie.int

Herd

means a number of *animals* of one kind kept together under human control or a congregation of gregarious wild *animals*. For the purposes of the *Terrestrial Code*, a *herd* is usually regarded as an *epidemiological unit*. 
Importing country

means a country that is the final destination to which commodities are sent.

Incidence

means the number of new cases or outbreaks of a disease that occur in a population at risk in a particular geographical area within a defined time interval.

Incubation period

means the longest period which elapses between the introduction of the pathogen into the animal and the occurrence of the first clinical signs of the disease.

Infected zone

means a zone in which a disease has been diagnosed.

Infection

means the entry and development or multiplication of an infectious agent in the body of humans or animals.

Infective period

means the longest period during which an affected animal can be a source of infection.

International trade

means importation, exportation and transit of commodities.

International veterinary certificate

means a certificate, issued in conformity with the provisions of Chapter 5.2., describing the animal health and/or public health requirements which are fulfilled by the exported commodities.

Journey

An animal transport journey commences when the first animal is loaded onto a vehicle/vessel or into a container and ends when the last animal is unloaded, and includes any stationary resting/holding periods. The same animals do not commence a new journey until after a suitable period for rest and recuperation, with adequate feed and water.

Killing

means any procedure which causes the death of an animal.

Laboratory

means a properly equipped institution staffed by technically competent personnel under the control of a specialist in veterinary diagnostic methods, who is responsible for the validity of the results. The Veterinary Authority approves and monitors such laboratories with regard to the diagnostic tests required for international trade.
Lairage

means pens, yards and other holding areas used for accommodating animals in order to give them necessary attention (such as water, feed, rest) before they are moved on or used for specific purposes including slaughter.

Listed diseases

means the list of transmissible disease agreed by the World Assembly of OIE Delegates and set out in Chapter 1.2. of the Terrestrial Code.

Loading/unloading

Loading means the procedure of moving animals onto a vehicle/vessel or into a container for transport purposes, while unloading means the procedure of moving animals off a vehicle/vessel or out of a container.

Market

means a place where animals are assembled for the purpose of trade or sale.

Meat

means all edible parts of an animal.

Meat-and-bone meal

means the solid protein products obtained when animal tissues are rendered, and includes any intermediate protein product other than peptides of a molecular weight less than 10,000 daltons and amino-acids.

Meat products

means meat that has been subjected to a treatment irreversibly modifying its organoleptic and physicochemical characteristics.

Milk

means the normal mammary secretion of milking animals obtained from one or more milkings without either addition to it or extraction from it.

Milk product

means the product obtained by any processing of milk.

Modified stamping-out policy

see stamping-out policy.

Monitoring

means the intermittent performance and analysis of routine measurements and observations, aimed at detecting changes in the environment or health status of a population.

Notifiable disease

means a disease listed by the Veterinary Authority, and that, as soon as detected or suspected, should be brought to the attention of this Authority, in accordance with national regulations.
**Notification**

means the procedure by which:

a) the *Veterinary Authority* informs the *Headquarters*,

b) the *Headquarters* inform the *Veterinary Authority*,

of the occurrence of an *outbreak* of *disease* or *infection*, according to the provisions of Chapter 1.1. of the *Terrestrial Code*.

**Official control programme**

means a programme which is approved, and managed or supervised by the *Veterinary Authority* of a country for the purpose of controlling a *vector*, pathogen or *disease* by specific measures applied throughout that country, or within a *zone* or *compartment* of that country.

**Official Veterinarian**

means a *veterinarian* authorised by the *Veterinary Authority* of the country to perform certain designated official tasks associated with animal health and/or public health and inspections of *commodities* and, when appropriate, to certify in conformity with the provisions of Chapters 5.1. and 5.2. of the *Terrestrial Code*.

**Official veterinary control**

means the operations whereby the *Veterinary Services*, knowing the location of the *animals* and after taking appropriate actions to identify their owner or responsible keeper, are able to apply appropriate animal health measures, as required. This does not exclude other responsibilities of the *Veterinary Services* e.g. food safety.

**Outbreak**

means the occurrence of one or more *cases* in an *epidemiological unit*.

**Pathological material**

means samples obtained from live or dead *animals*, containing or suspected of containing infectious or parasitic agents, to be sent to a *laboratory*.

**Place of shipment**

means the place where the *commodities* are loaded into the *vehicle* or handed to the agency that will transport them to another country.

**Population**

means a group of *units* sharing a common defined characteristic.

**Post-journey period**

means the period between *unloading* and either recovery from the effects of the *journey* or *slaughter* (if this occurs before recovery).

**Poultry**

means all domesticated birds, including backyard poultry, used for the production of *meat* or eggs for consumption, for the production of other commercial products, for restocking...
supplies of game, or for breeding these categories of birds, as well as fighting cocks used for any purpose.

Birds that are kept in captivity for any reason other than those reasons referred to in the preceding paragraph, including those that are kept for shows, races, exhibitions, competitions or for breeding or selling these categories of birds as well as pet birds, are not considered to be poultry.

**Pre-journey period**

means the period during which animals are identified, and often assembled for the purpose of loading them.

**Prevalence**

means the total number of cases or outbreak of a disease that are present in a population at risk, in a particular geographical area, at one specified time or during a given period.

**Protection zone**

means a zone established to protect the health status of animals in a free country or free zone, from those in a country or zone of a different animal health status, using measures based on the epidemiology of the disease under consideration to prevent spread of the causative pathogenic agent into a free country or free zone. These measures may include, but are not limited to, vaccination, movement control and an intensified degree of surveillance.

**Qualitative risk assessment**

means an assessment where the outputs on the likelihood of the outcome or the magnitude of the consequences are expressed in qualitative terms such as ‘high’, ‘medium’, ‘low’ or ‘negligible’.

**Quality**

is defined by International Standard ISO 8402 as ‘the totality of characteristics of an entity that bear on its ability to satisfy stated and implied needs’.

**Quantitative risk assessment**

means an assessment where the outputs of the risk assessment are expressed numerically.

**Quarantine station**

means an establishment under the control of the Veterinary Authority where animals are maintained in isolation with no direct or indirect contact with other animals, to ensure that there is no transmission of specified pathogen(s) outside the establishment while the animals are undergoing observation for a specified length of time and, if appropriate, testing and treatment.

**Registration**

is the action by which information on animals (such as identification, animal health, movement, certification, epidemiology, establishments) is collected, recorded, securely stored and made appropriately accessible and able to be utilised by the Competent Authority.
Resting point
means a place where the journey is interrupted to rest, feed or water the animals; the animals may remain in the vehicle/vessel or container, or be unloaded for these purposes.

Restraint
means the application to an animal of any procedure designed to restrict its movements.

Risk
means the likelihood of the occurrence and the likely magnitude of the biological and economic consequences of an adverse event or effect to animal or human health.

Risk analysis
means the process composed of hazard identification, risk assessment, risk management and risk communication.

Risk assessment
means the evaluation of the likelihood and the biological and economic consequences of entry, establishment and spread of a hazard within the territory of an importing country.

Risk communication
is the interactive transmission and exchange of information and opinions throughout the risk analysis process concerning risk, risk-related factors and risk perceptions among risk assessors, risk managers, risk communicators, the general public and other interested parties.

Risk management
means the process of identifying, selecting and implementing measures that can be applied to reduce the level of risk.

Sanitary measure
means a measure, such as those described in various chapters of the Terrestrial Code, destined to protect animal or human health or life within the territory of the OIE Member from risks arising from the entry, establishment and/or spread of a hazard.

Slaughter
means any procedure which causes the death of an animal by bleeding.

Slaughterhouse/abattoir
means premises, including facilities for moving or lairaging animals, used for the slaughter of animals to produce animal products and approved by the Veterinary Services or other Competent Authority.

Space allowance
means the measure of the floor area and height allocated per individual or body weight of animals.

Specific surveillance
means the surveillance targeted to a specific disease or infection.
**Stamping-out policy**

means carrying out under the authority of the Veterinary Authority, on confirmation of a disease, the killing of the animals which are affected and those suspected of being affected in the herd and, where appropriate, those in other herds which have been exposed to infection by direct animal to animal contact, or by indirect contact of a kind likely to cause the transmission of the causal pathogen. All susceptible animals, vaccinated or unvaccinated, on an infected premises should be killed and their carcasses destroyed by burning or burial, or by any other method which will eliminate the spread of infection through the carcasses or products of the animals killed.

This policy should be accompanied by the cleansing and disinfection procedures defined in the Terrestrial Code.

The terms modified stamping-out policy should be used in communications to the OIE whenever the above animal health measures are not implemented in full and details of the modifications should be given.

**Stocking density**

means the number or body weight of animals per unit area on a vehicle/vessel or container.

**Stunning**

means any mechanical, electrical, chemical or other procedure which causes immediate loss of consciousness; when used before slaughter, the loss of consciousness lasts until death from the slaughter process; in the absence of slaughter, the procedure would allow the animal to recover consciousness.

**Subpopulation**

means a distinct part of a population identifiable according to specific common animal health characteristics.

**Surveillance**

means the systematic ongoing collection, collation, and analysis of information related to animal health and the timely dissemination of information to those who need to know so that action can be taken.

**Terrestrial Code**

means the OIE Terrestrial Animal Health Code.

**Terrestrial Manual**

means the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals.

**Transit country**

means a country through which commodities destined for an importing country are transported or in which a stopover is made at a border post.

**Transparency**

means the comprehensive documentation of all data, information, assumptions, methods, results, discussion and conclusions used in the risk analysis. Conclusions should be supported by an objective and logical discussion and the document should be fully referenced.
**Transport**
means the procedures associated with the carrying of *animals* for commercial purposes from one location to another by any means.

**Transporter**
means the person licensed by the *Competent Authority* to transport *animals*.

**Travel**
means the movement of a *vehicle/vessel or container* carrying *animals* from one location to another.

**Unit**
means an individually identifiable element used to describe, for example, the members of a *population* or the elements selected when sampling; examples of *units* include individual *animals*, *herds*, *flocks* and *apiaries*.

**Vaccination**
means the successful immunisation of susceptible *animals* through the administration, according to the manufacturer's instructions and the *Terrestrial Manual*, where relevant, of a vaccine comprising antigens appropriate to the *disease* to be controlled.

**Vector**
means an insect or any living carrier that transports an infectious agent from an infected individual to a susceptible individual or its food or immediate surroundings. The organism may or may not pass through a development cycle within the *vector*.

**Vehicle/vessel**
means any means of conveyance including train, truck, aircraft or ship that is used for carrying *animal(s)*.

**Veterinarian**
means a person registered or licensed by the relevant *veterinary statutory body* of a country to practice veterinary medicine/science in that country.

**Veterinary Authority**
means the Governmental Authority of an OIE Member, comprising *veterinarians*, other professionals and para-professionals, having the responsibility and competence for ensuring or supervising the implementation of animal health and *welfare* measures, international veterinary certification and other standards and recommendations in the *Terrestrial Code* in the whole territory.

**Veterinary para-professional**
means a person who, for the purposes of the *Terrestrial Code*, is authorised by the *veterinary statutory body* to carry out certain designated tasks (dependent upon the category of *veterinary para-professional*) in a territory, and delegated to them under the responsibility and direction of a *veterinarian*. The tasks for each category of *veterinary para-professional* should be defined by the *veterinary statutory body* depending on qualifications and training, and according to need.
Veterinary Services
means the governmental and non-governmental organisations that implement animal health and welfare measures and other standards and recommendations in the Terrestrial Code and the OIE Aquatic Animal Health Code in the territory. The Veterinary Services are under the overall control and direction of the Veterinary Authority. Private sector organisations, veterinarians, veterinary paraprofessionals or aquatic animal health professionnals are normally accredited or approved by the Veterinary Authority to deliver the delegated functions.

Veterinary statutory body
means an autonomous authority regulating veterinarians and veterinary para-professionals.

Zone/region
means a clearly defined part of a territory containing an animal subpopulation with a distinct health status with respect to a specific disease for which required surveillance, control and biosecurity measures have been applied for the purpose of international trade.

Zoonosis
means any disease or infection which is naturally transmissible from animals to humans.
CHAPTER 8.1.

ANTHRAX

Article 8.1.1.

General provisions

This chapter is intended to manage the human and animal health risks associated with the presence of *Bacillus anthracis* in commodities and the environment.

There is no evidence that anthrax is transmitted by *animals* before the onset of clinical and pathological signs. Early detection of outbreaks, quarantine of affected premises, destruction of diseased *animals* and fomites, and implementation of appropriate sanitary procedures at abattoirs and dairy factories will ensure the safety of products of animal origin intended for human consumption.

For the purposes of the *Terrestrial Code*, the *incubation period* for anthrax shall be 20 days.

Anthrax should be notifiable in the whole country.

Standards for diagnostic tests and vaccines are described in the *Terrestrial Manual*.

When authorising import or transit of commodities covered in the chapter, with the exception of those listed in Article 8.1.2., *Veterinary Authorities* should require the conditions prescribed in this chapter.

Article 8.1.2.

Safe commodities

When authorising import or transit of the following commodities, *Veterinary Authorities* should not require any anthrax related conditions: semen and *in vivo* derived cattle embryos collected and handled in accordance with Chapters 4.5., 4.6. and 4.7., as relevant.

Article 8.1.3.

Recommendations for the importation of ruminants, equines and pigs

*Veterinary Authorities* of importing countries should require the presentation of an *international veterinary certificate* attesting that the *animals*:

1. showed no clinical sign of anthrax on the day of shipment;
AND
2. were kept for the 20 days prior to shipment in an establishment where no case of anthrax was officially declared during that period; or
3. were vaccinated, not less than 20 days and not more than 6 months prior to shipment in accordance with the *Terrestrial Manual*.

**Article 8.1.4.**

**Recommendations for the importation of fresh meat and meat products destined for human consumption**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the products originate from *animals* which:

1. have shown no sign of anthrax during ante-mortem and post-mortem inspections; and
2. were not vaccinated against anthrax using live vaccine during the 21 days prior to *slaughter* or a longer period depending on the manufacturer’s recommendations; and
3. come from *establishments* which are not placed under movement restriction on account of anthrax and in which there has been no *case* of anthrax during the 20 days prior to *slaughter*.

**Article 8.1.5.**

**Recommendations for the importation of hides, skins and hair (from ruminants, equines and pigs)**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the products originate from *animals* which:

1. have shown no sign of anthrax during ante-mortem and post-mortem inspections; and
2. come from *establishments* which are not placed under movement restriction on account of anthrax.

**Article 8.1.6.**

**Recommendations for the importation of wool**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the products:

1. originate from *establishments* where no *case* of anthrax has been reported since the previous shearing of all *animals*;

OR

2. have been treated in accordance with the recommendations in Article 8.1.11.

**Article 8.1.7.**

**Recommendations for the importation of milk and milk products intended for human consumption**
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the milk originates from animals showing no clinical signs of anthrax at the time of milking;
2. if the milk originates from herds or flocks that have had a case of anthrax within the previous 20 days, it has been chilled promptly and processed using a heat treatment at least equivalent to pasteurisation.

Article 8.1.8.

Recommendations for the importation of bristles (from pigs)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products originate from animals which:

1. have shown no sign of anthrax during ante-mortem and post-mortem inspections; and
2. come from establishments which are not placed under movement restriction on account of anthrax control;

OR

3. have been processed to ensure the destruction of B. anthracis by:
   a) boiling for 60 minutes; and
   b) drying in hot air.

Article 8.1.9.

Procedures for the inactivation of B. anthracis spores in skins and trophies from wild animals

In situations in which skins and trophies from wild animals may be contaminated with B. anthracis spores, the following disinfection procedure is recommended:

1. fumigation with ethylene oxide 500 mg/L, at relative humidity 20 – 40%, at 55°C for 30 minutes; or
2. fumigation with formaldehyde 400 mg/m³ at relative humidity 30%, at >15°C for 4 hours; or
3. gamma irradiation with a dose of 40 kGy.

Article 8.1.10.

Procedures for the inactivation of B. anthracis spores in bone-meal and meat-and-bone meal

The following procedure should be used to inactivate any B. anthracis spores which may be present during the production of bone-meal or meat-and-bone meal from ruminants, equines and pigs:

1. the raw material should be reduced to a maximum particle size of 50 mm before heating; and
2. the raw material should be heated under saturated steam conditions to a temperature of not less than 133°C for a minimum of 20 minutes at an absolute pressure of 3 bar. Other industrial process demonstrating equivalent efficacy is also acceptable.
Article 8.1.11.

Procedures for the inactivation of *B. anthracis* spores in wool and hair

In situations in which wool or hair may be contaminated with *B. anthracis* spores, the following five-step disinfection procedure is recommended:

1. immersion in 0.25 – 0.3% soda liquor for 10 minutes at 40.5°C;
2. immersion in soap liquor for 10 minutes at 40.5°C;
3. immersion in 2% formaldehyde solution for 10 minutes at 40.5°C;
4. a second immersion in 2% formaldehyde solution for 10 minutes at 40.5°C;
5. rinsing on cold water followed by drying in hot air.

Article 8.1.12.

Procedures for the inactivation of *B. anthracis* spores in manure, dung and bedding

In situations in which manure, dung or bedding may be contaminated with *B. anthracis* spores, the following are recommended:

1. small volumes by incineration; or
2. chemothermal treatment by composting as follows:
   a) mix with one of the following at a rate of 1 – 1.5L/m³:
      i) 10% formaldehyde (approximately 30% formalin), or
      ii) 4% gluteraldehyde (pH 8.0 – 8.5);
   b) turn the material after 5 weeks;
   c) leave for a further 5 weeks.

[Note: spontaneous combustion of the composting pile is possible.]

Article 8.1.13.

Procedures for the inactivation of *B. anthracis* spores in liquid manure (slurry)

In situations in which liquid manure (slurry) may be contaminated with *B. anthracis* spores, disinfection with formalin (35% aqueous solution of formaldehyde) with stirring for one hour daily is recommended:

1. for slurry up to 5% dry matter, 50 kg formalin per m³ for 4 days;
2. for slurry >5% and <10% dry matter, 100 kg formalin per m³ for 4 days.

Article 8.1.14.

Procedures for the disinfection of surfaces in animal houses, buildings contaminated with *B. anthracis*
In situations in which surfaces in animal houses, stables, vehicles, etc. may be contaminated with *B. anthracis* spores, the following three-step approach is recommended:

1. a preliminary *disinfection* should be carried out using one of the following disinfectants at a rate of 1 – 1.5 L/m³ for 2 hours;
   a) 10% formaldehyde (approximately 30% formalin); or
   b) 4% glutaraldehyde (pH 8.0 – 8.5);
2. all surfaces should be washed and scrubbed using ample hot water and, when cleaned and waste water is free from dirt particles, dried;
3. a final *disinfection* step should be carried out using one of the following disinfectants applied at a rate of 0.4 L/m³ for 2 hours;
   a) 10% formaldehyde (approximately 30% formalin), repeated after one hour; or
   b) 4% glutaraldehyde (pH 8.0 – 8.5), repeated after one hour; or
   c) 3% hydrogen peroxide; or
   d) 1% peracetic acid, repeated after one hour.

*[Note: Formaldehyde and glutaraldehyde should not be used at temperatures below 10° C. Hydrogen peroxide and peracetic acid are not suitable in the presence of blood.]*

**Article 8.1.15.**

**Procedures for the fumigation of rooms contaminated with *B. anthracis***

Contaminated rooms which cannot be cleared before cleaning and *disinfection* can be fumigated to eliminate *B. anthracis* spores. The following procedure is recommended:

1. all windows, doors and vents to the outside should be sealed with heavy adhesive tape; and
2. for rooms up to 30 m³, 4 L of water containing 400 ml of concentrated formalin (37% w/v formaldehyde) in an electric kettle (with a timing switch to turn it off) should be boiled away and the room left overnight. Room temperature should be >15°C.

*[Note: Formaldehyde fumigation is hazardous and proper respirators should be on hand for operator safety. The effectiveness of the fumigation process should be verified by exposing dried discs of filter paper which have been dipped in a suspension of spores of *B. subtilis* var globigii or *B. cereus* or Sterne vaccine strain of *B. anthracis* and placed in the room before fumigation is started. At the end of fumigation, the discs should be placed on nutrient agar plates containing 0.1% histidine and incubated overnight at 37°C. If fumigation has been effective, there will be no bacterial growth.]*
CHAPTER 8.2.

AUJESZKY'S DISEASE

Article 8.2.1.

General provisions

The Aujeszky's disease (AD) free or provisionally free status of a country or zone can only be determined if the following conditions are fulfilled:

1. a risk assessment has been conducted identifying all potential factors for AD occurrence and their historic perspective;
2. AD is notifiable in the whole country, and all clinical cases suggestive of AD are subjected to field and laboratory investigations;
3. an on-going awareness programme is in place to encourage reporting of all cases suggestive of AD in susceptible species;
4. the Veterinary Authority has current knowledge of, and authority over, all establishments containing pigs in the whole country;
5. domestic pigs are properly identified when leaving their establishment of origin with an indelible mark giving the identification number of their herd of origin; a reliable tracing back procedure is in place for all pigs leaving their establishment of origin.

An AD infected establishment means an establishment in which the virus has been isolated or identified, or a positive serological result (total or gE antibodies) has been confirmed in a laboratory.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 8.2.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the AD status of the exporting country or zone.

Article 8.2.2.

Safe commodities

When authorising import or transit of the following commodities and any products made from these, Veterinary Authorities should not require any AD related conditions, regardless of the AD status of the exporting country or zone:

1. fresh meat of domestic and wild pigs not containing offal (head, and thoracic and abdominal viscera);
2. meat products of domestic and wild pigs not containing offal (head, and thoracic and abdominal viscera);
3. products of animal origin not containing offal (head, and thoracic and abdominal viscera).
AD free country or zone

1. Qualification

A country or zone may be considered free from the disease without formally applying a specific surveillance programme (historical freedom) if the disease has not been reported for at least 25 years, and if for at least the past 10 years:

a) it has been a notifiable disease;
b) an early detection system has been in place;
c) measures to prevent the introduction of the AD virus into the country or zone have been in place;
d) no vaccination against the disease has been carried out;
e) infection is not known to be established in wild swine, or measures have been implemented to prevent any transmission of the AD virus from wild swine to domestic pigs.

A country or zone which does not meet the conditions of the above paragraph may be considered free from AD when:

f) animal health regulations to control the movement of commodities with the exception of those listed in Article 8.2.2. in order to prevent the introduction of infection into the establishments of the country or zone have been in place for at least 2 years;

g) vaccination against AD has been banned for all domestic pigs in the country or zone for at least 2 years;

h) if AD has never been reported in the country or zone, serological surveys, with negative results, have been conducted on a representative sample of all pig establishments in conformity with the recommendations in Chapter X.X. (under study) no more than 3 years prior to qualification; the serological surveys should be directed at the detection of antibodies to the whole virus, and based on the breeding pig population or, for establishments that contain no breeding pigs, on a comparable number of fattening pigs; or

i) if AD has been reported in the country or zone, a surveillance and control programme has been in place to detect every infected establishment and eradicate AD from it; the surveillance programme should be carried out in conformity with the recommendations in Chapter X.X. (under study) and demonstrate that no establishments within the country or zone have had any clinical, virological or serological evidence of AD for at least 2 years.

In order for a country to reach free status, all of its zones should have reached AD free status.

In countries or zones with wild swine, measures should be implemented to prevent any transmission of the AD virus from wild swine to domestic pigs.

2. Maintenance of free status

In order to maintain its free status, a country or zone should comply with the following requirements:

a) periodic serological surveys directed at the detection of antibodies to the whole AD virus should be carried out on a statistically significant number of breeding pigs, in conformity with the recommendations in Chapter X.X. (under study);
b) the importation of the commodities with the exception of those listed in Article 8.2.2. into the country or zone is carried out in conformity with the import conditions contained in the relevant Articles of the present chapter;

c) the ban on AD vaccination remains in force;

d) measures aimed at preventing the transmission of the AD virus from wild swine to domestic pigs remain in force.

3. Recovery of free status

Should an AD outbreak occur in an establishment of a free country or zone, the status of the country or zone may be restored if either:

a) all the pigs in the outbreak have been slaughtered; and, during and after the application of this measure, an epidemiological investigation including clinical examination, and serological and/or virological testing has been carried out in all pig establishments which have been directly or indirectly in contact with the infected establishment and in all pig establishments located within a 5-kilometre radius of the outbreak, demonstrating that these establishments are not infected; or

b) vaccination with gE-deleted vaccines has been applied and:

i) a serological testing procedure (differential ELISA) has been implemented in the establishments where vaccination has been applied to demonstrate the absence of infection;

ii) the movement of pigs from these establishments has been banned, except for immediate slaughter, until the above procedure has demonstrated the absence of infection;

iii) all vaccinated animals have been slaughtered;

iv) during and after the application of the measures described in points i) to iii) above, a thorough epidemiological investigation including clinical examination and serological and/or virological testing has been carried out in all pig establishments which have been directly or indirectly in contact with the infected establishment and in all pig establishments located within a 5-kilometre radius of the outbreak, demonstrating that these establishments are not infected.

Article 8.2.4.

AD provisionally free country or zone

1. Qualification

A country or zone may be considered as provisionally free from AD if the following conditions are complied with:

a) animal health regulations to control the movement of commodities with the exception of those listed in Article 8.2.2. in order to prevent the introduction of infection into the establishments of the country or zone have been in place for at least 2 years;

b) if AD has never been reported in the country or zone, a serological survey, with negative results, has been conducted on a representative sample of all pig establishments in conformity with the recommendations in Chapter X.X. (under study) (at a level of confidence not sufficient to meet requirements for freedom); the serological survey should be directed at the detection of antibodies to the whole virus, and based on the
breeding pig population or, for establishments that contain no breeding pigs, on a comparable number of fattening pigs; or

c) if AD has been reported in the country or zone, a surveillance and control programme has been in place to detect infected establishments and eradicate AD from these establishments, the herd prevalence rate in the country or zone has not exceeded 1% for at least 3 years (the sampling procedure described in point 1e) of the definition of ‘AD free establishment’ should be applied within the establishments of the country or zone), and at least 90% of the establishments in the country or zone are qualified free;

d) in countries or zones with wild swine, measures should be taken to prevent any transmission of the AD virus between wild swine and domestic pigs.

2. Maintenance of provisionally free status

In order to maintain its provisionally free status, a country or zone should comply with the following requirements:

a) the measures described in points 1b) and 1d) above should be continued;

b) the percentage of infected establishments remains < 1%;

c) the importation of the commodities with the exception of those listed in Article 8.2.2. into the country or zone is carried out in conformity with the import conditions contained in the relevant Articles of the present chapter.

3. Recovery of provisionally free status

Should the percentage of infected establishments exceed 1% in a provisionally free country or zone, the status of the country or zone is cancelled and may be restored only once the percentage of infected establishments has remained < 1% for at least 6 months, and this result is confirmed by a serological survey conducted in conformity with point 1c) above.

Article 8.2.5.

AD infected country or zone

Countries and zones which do not fulfil the conditions to be considered free or provisionally free of AD should be considered as infected.

Article 8.2.6.

AD free establishment

1. Qualification

To qualify as free from AD, an establishment should satisfy the following conditions:

a) it is under the control of the Veterinary Authority;

b) no clinical, virological or serological evidence of AD has been found for at least one year;

c) the introduction of pigs, semen and embryos/ova into the establishment is carried out in conformity with the import conditions for these commodities contained in the relevant articles of the present chapter;

d) vaccination against AD has not been carried out in the establishment for at least 12 months, and any previously vaccinated pigs are free from gE antibodies;
Chapter 8.2. - Aujeszky's disease

2. Maintenance of free status

For establishments located in an infected country or infected zone, the testing procedure described in point 1e) above should be carried out every 4 months.

For establishments located in a provisionally free country or zone, the testing procedure described in point 1e) above should be carried out every year.

3. Recovery of free status

Should a free establishment become infected, or should an outbreak occur within a 5-kilometre radius of a free establishment, the free status of the establishment should be suspended until the following conditions are met:

a) in the infected establishment:
   i) all the pigs in the establishment have been slaughtered, or
   ii) at least 30 days after removal of all infected animals, all breeding animals have been subjected to a serological test to the whole AD virus, with negative results, on two occasions, at an interval of 2 months;

b) in other establishments located in the 5-kilometre radius zone: a number of breeding pigs from each establishment has been subjected, with negative results, to serological tests to the whole AD virus (non vaccinated establishments) or to gE antibodies (vaccinated establishments), applying the sampling procedure described in point 1e above.

Article 8.2.7.

Recommendations for importation from AD free countries or zones

for domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of AD on the day of shipment;
2. come from an establishment located in an AD free country or zone;
3. have not been vaccinated against AD.

Article 8.2.8.

Recommendations for importation from AD provisionally free countries or zones
for domestic pigs for breeding or rearing

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_

1. showed no clinical sign of AD on the day of shipment;
2. have been kept exclusively in _AD_ free _establishments_ since birth;
3. have not been vaccinated against _AD_;
4. were subjected to a serological test to the whole _AD_ virus, with negative results, within 15 days prior to shipment.

_Article 8.2.9._

**Recommendations for importation from _AD_ infected countries or zones**

for domestic pigs for breeding or rearing

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_

1. showed no clinical sign of _AD_ on the day of shipment;
2. were kept exclusively in _AD_ free _establishments_ since birth;
3. have not been vaccinated against _AD_;
4. were isolated in the _establishment_ of origin or a _quarantine station_, and were subjected to a serological test to the whole _AD_ virus, with negative results, on two occasions, at an interval of not less than 30 days between each test, the second test being performed during the 15 days prior to shipment.

_Article 8.2.10._

**Recommendations for importation from _AD_ provisionally free countries or zones or _AD_ infected countries or zones**

for domestic pigs for slaughter

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. a _surveillance_ and control programme is in place in the country or _zone_ to detect infected _establishments_ and eradicate _AD_;
2. the _animals_:
   a) are not being eliminated as part of an eradication programme;
   b) showed no clinical sign of _AD_ on the day of shipment;
   c) have been kept exclusively in _AD_ free _establishments_ since birth; or
   d) have been vaccinated against _AD_ at least 15 days prior to shipment.

_[Note: Appropriate precautions should be taken both by the exporting country and the importing country to ensure that the pigs are transported directly from the place of shipment to the abattoir for immediate slaughter.]_
**Article 8.2.11.**

**Recommendations for importation from AD free countries or zones**

for wild swine

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the *animals*:

1. showed no clinical sign of AD on the day of shipment;
2. were captured in an AD free country or *zone*;
3. have not been vaccinated against the *disease*;
4. were isolated in a *quarantine station*, and were subjected to a serological test to the whole AD virus, with negative results, on two occasions, at an interval of not less than 30 days between each test, the second test being performed during the 15 days prior to shipment.

**Article 8.2.12.**

**Recommendations for importation from AD free countries or zones**

for semen of pigs

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor *animals*:
   a) showed no clinical sign of AD on the day of collection of the semen;
   b) were kept in an *establishment or artificial insemination centre* located in an AD free country or *zone* at the time of semen collection;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.6. and 4.5.

**Article 8.2.13.**

**Recommendations for importation from AD provisionally free countries or zones**

for semen of pigs

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor *animals*:
   a) have been kept for at least 4 months prior to semen collection in an *artificial insemination centre* which has the status of AD free *establishment*, and where all boars are subjected to a serological test to the whole AD virus, with negative results, every 4 months;
   b) showed no clinical sign of AD on the day of collection;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.6. and 4.5.
Article 8.2.14.

Recommendations for importation from AD infected countries or zones

for semen of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) were kept in an AD free establishment for at least 6 months prior to entering the artificial insemination centre;
   b) have been kept for at least 4 months prior to semen collection in the artificial insemination centre which has the status of AD free establishment, and where all boars are subjected to a serological test to the whole AD virus, with negative results, every 4 months;
   c) were subjected to a serological test to the whole AD virus, with negative results, within 10 days prior to or 21 days after semen collection;
   d) showed no clinical sign of AD on the day of collection;

2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.6. and 4.5.

Article 8.2.15.

Recommendations for importation from AD free countries or zones

for in vivo derived embryos of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor females:
   a) showed no clinical sign of AD on the day of collection of the embryos;
   b) were kept in an establishment located in an AD free country or zone prior to collection;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 8.2.16.

Recommendations for importation from AD provisionally free countries or zones

for in vivo derived embryos of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor females:
   a) showed no clinical sign of AD on the day of collection of the embryos;
   b) were kept in an AD free establishment for at least 3 months prior to collection;
2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 8.2.17.

Recommendations for importation from AD infected countries or zones

for in vivo derived embryos of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor females:
   a) showed no clinical sign of AD on the day of collection of the embryos;
   b) were kept in an AD free establishment for at least 3 months prior to collection;
   c) were subjected to a serological test to the whole AD virus, with negative results, within 10 days prior to collection;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 8.2.18.

Recommendations for importation from AD free countries or zones

for offal (head, and thoracic and abdominal viscera) of pigs or products containing pig offal

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of offal or products containing pig offal comes from animals which come from establishments located in an AD free country or zone.

Article 8.2.19.

Recommendations for importation from AD provisionally free countries or zones or from AD infected countries or zones

for offal (head, and thoracic and abdominal viscera) of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of offal comes from animals:

1. which have been kept in an AD free establishment since birth;

2. which have not been in contact with animals from establishments not considered free from AD during their transport to the approved abattoir and therein.
Article 8.2.20.

Recommendations for importation from AD provisionally free countries or zones or from AD infected countries or zones

for products containing pig offal (head, and thoracic and abdominal viscera)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. either the entire consignment of offal used to prepare the products complied with the conditions referred to in Article 8.2.19.; or
2. the products have been processed to ensure the destruction of the AD virus; and
3. the necessary precautions were taken after processing to avoid contact of the products with any source of AD virus.
CHAPTER 8.3.

BLUE TONGUE

Article 8.3.1.

General provisions

For the purposes of the Terrestrial Code, the infective period for bluetongue virus (BTV) shall be 60 days.

Historically, the global BTV distribution has been confined between the latitudes of approximately 53°N and north of 34°S with a recent extension in Northern Europe.

In the absence of clinical disease in a country or zone, its BTV status should be determined by an ongoing surveillance programme (in accordance with Articles 8.3.16. to 8.3.21.). The programme may need to be adapted to target parts of the country or zone at a higher risk due to historical, geographical and climatic factors, ruminant population data and Culicoides ecology, or proximity to enzootic or incursional zones as described in Articles 8.3.16. to 8.3.21.

All countries or zones adjacent to a country or zone not having free status should be subjected to similar surveillance. The surveillance should be carried out over a distance of at least 100 kilometres from the border with that country or zone, but a lesser distance could be acceptable if there are relevant ecological or geographical features likely to interrupt the transmission of BTV or a bluetongue surveillance programme (in accordance with Articles 8.3.16. to 8.3.21.) in the country or zone not having free status supports a lesser distance.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 8.3.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the BTV status of the ruminant population of the exporting country or zone.

Article 8.3.2.

Safe trade

When authorising import or transit of the following commodities, Veterinary Authorities should not require any BTV related conditions regardless of the BTV status of the ruminant population of the exporting country or zone:

1. milk and milk products;
2. meat and meat products;
3. hides and skins;
4. wool and fibre;
5. in vivo derived bovine embryos and oocytes collected, processed and stored in conformity with the provisions of Chapter 4.7. except for BTV8 (under study).
Article 8.3.3.  

**BTV free country or zone**  

1. A country or a zone may be considered free from BTV when bluetongue is notifiable in the whole country and either:  
   a) a surveillance programme in accordance with Articles 8.3.16. to 8.3.21. has demonstrated no evidence of BTV in the country or zone during the past 2 years; or  
   b) a surveillance programme has demonstrated no evidence of *Culicoides* in the country or zone.  

2. A BTV free country or zone in which ongoing *vector surveillance*, performed according to point 5 of Article 8.3.19., has found no evidence of *Culicoides* will not lose its free status through the importation of vaccinated, seropositive or infective animals, or semen or embryos/ova from infected countries or infected zones.  

3. A BTV free country or zone in which surveillance has found evidence that *Culicoides* are present will not lose its free status through the importation of vaccinated or seropositive animals from infected countries or infected zones, provided:  
   a) the animals have been vaccinated, at least 60 days prior to dispatch, in accordance with the *Terrestrial Manual* with a vaccine which covers all serotypes whose presence in the source population has been demonstrated through a surveillance programme in accordance with Articles 8.3.16. to 8.3.21., and the animals are identified in the accompanying certification as having been vaccinated; or  
   b) the animals are not vaccinated and, at least 60 days prior to dispatch, are demonstrated to have specific antibodies against the bluetongue virus serotypes whose presence has been demonstrated in the exporting country or zone.  

4. A BTV free country or zone adjacent to an infected country or infected zone should include a zone as described in Article 8.3.1. in which surveillance is conducted in accordance with Articles 8.3.16. to 8.3.21. *Animals* within this zone should be subjected to continuing surveillance. The boundaries of this zone should be clearly defined, and should take account of geographical and epidemiological factors that are relevant to BTV transmission.  

Article 8.3.4.  

**BTV seasonally free zone**  

A BTV seasonally free zone is a part of an infected country or an infected zone for which for part of a year, surveillance demonstrates no evidence either of BTV transmission or of adult *Culicoides*.  

For the application of Articles 8.3.7., 8.3.10. and 8.3.13., the seasonally free period is taken to commence the day following the last evidence of BTV transmission (as demonstrated by the surveillance programme), and of the cessation of activity of adult *Culicoides*.  

For the application of Articles 8.3.7., 8.3.10. and 8.3.13., the seasonally free period is taken to conclude either:  

1. at least 28 days before the earliest date that historical data show bluetongue virus activity has recommenced; or
2. immediately if current climatic data or data from a surveillance programme indicate an earlier resurgence of activity of adult *Culicoides*.

A BTV seasonally free zone in which surveillance has found no evidence that *Culicoides* are present will not lose its free status through the importation of vaccinated, seropositive or infective animals, or semen or embryos/ova from infected countries or infected zones.

**Article 8.3.5.**

**BTV infected country or zone**

A BTV infected country or infected zone is a clearly defined area where evidence of BTV has been reported during the past 2 years.

**Article 8.3.6.**

**Recommendations for importation from BTV free countries or zones**

for ruminants and other BTV susceptible herbivores

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the animals were kept in a BTV free country or zone since birth or for at least 60 days prior to shipment; or

2. the animals were kept in a BTV free country or zone for at least 28 days, then were subjected, with negative results, to a serological test to detect antibody to the BTV group according to the *Terrestrial Manual* and remained in the BTV free country or zone until shipment; or

3. the animals were kept in a BTV free country or zone for at least 7 days, then were subjected, with negative results, to an agent identification test according to the *Terrestrial Manual*, and remained in the BTV free country or zone until shipment; or

4. the animals:
   a) were kept in a BTV free country or zone for at least 7 days;
   b) were vaccinated, at least 60 days before the introduction into the free country or zone, in accordance with the *Terrestrial Manual* against all serotypes whose presence in the source population has been demonstrated through a surveillance programme as described in Articles 8.3.16. to 8.3.21.;
   c) were identified as having been vaccinated; and
   d) remained in the BTV free country or zone until shipment; AND

5. if the animals were exported from a free zone, either:
   a) did not transit through an infected zone during transportation to the place of shipment; or
   b) were protected from attack from *Culicoides* at all times when transiting through an infected zone; or
   c) had been vaccinated in accordance with point 4 above.
Article 8.3.7.

Recommendations for importation from BTV seasonally free zones

for ruminants and other BTV susceptible herbivores

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_

1. were kept during the seasonally free period in a BTV seasonally free zone since birth or for at least 60 days prior to shipment; or

2. were kept during the BTV seasonally free period in a BTV seasonally free zone for at least 28 days prior to shipment, and were subjected during the residence period in the zone to a serological test to detect antibody to the BTV group according to the _Terrestrial Manual_, with negative results, carried out at least 28 days after the commencement of the residence period; or

3. were kept during the BTV seasonally free period in a BTV seasonally free zone for at least 14 days prior to shipment, and were subjected during the residence period in the zone to an agent identification test according to the _Terrestrial Manual_, with negative results, carried out at least 14 days after the commencement of the residence period; or

4. were kept during the seasonally free period in a BTV seasonally free zone and were vaccinated, at least 60 days before the introduction into the free country or zone, in accordance with the _Terrestrial Manual_ against all serotypes whose presence in the source population has been demonstrated through a _surveillance_ programme in accordance with Articles 8.3.16. to 8.3.21. and were identified as having been vaccinated and remained in the BTV free country or zone until shipment;

AND

5. if the _animals_ were exported from a free zone, either:
   a) did not transit through an _infected_ zone during transportation to the place of shipment; or
   b) were protected from attack from _Culicoides_ at all times when transiting through an _infected_ zone; or
   c) were vaccinated in accordance with point 4 above.

Article 8.3.8.

Recommendations for importation from BTV infected countries or zones

for ruminants and other BTV susceptible herbivores

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_

1. were protected from attack from _Culicoides_ in an insect proof establishment for at least 60 days prior to shipment and during transportation to the place of shipment; or

2. were protected from attack from _Culicoides_ in an insect proof establishment for at least 28 days prior to shipment and during transportation to the place of shipment, and were subjected during that period to a serological test according to the _Terrestrial Manual_ to detect antibody to the BTV group, with negative results, carried out at least 28 days after introduction into the insect proof establishment; or
3. were protected from attack from *Calicoides* in an insect proof establishment for at least 14 days prior to shipment and during transportation to the place of shipment, and were subjected during that period to an agent identification test according to the *Terrestrial Manual*, with negative results, carried out at least 14 days after introduction into the insect proof establishment; or

4. were vaccinated, at least 60 days before shipment, in accordance with the *Terrestrial Manual* against all serotypes whose presence in the source population has been demonstrated through a surveillance programme in accordance with Articles 8.3.16. to 8.3.21., and were identified in the accompanying certification as having been vaccinated or, if demonstrated to have antibodies, have been protected from vectors for at least 60 days prior to shipment; or

5. demonstrated to have antibodies for at least 60 days prior to dispatch against all serotypes whose presence has been demonstrated in the source population through a surveillance programme in accordance with Articles 8.3.16. to 8.3.21.

**Article 8.3.9.**

**Recommendations for importation from BTV free countries or zones**

for semen of ruminants and other BTV susceptible herbivores

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor animals:
   a) were kept in a BTV free country or zone for at least 60 days before commencement of, and during, collection of the semen; or
   b) were subjected to a serological test according to the *Terrestrial Manual* to detect antibody to the BTV group, between 21 and 60 days after the last collection for this consignment, with negative results; or
   c) were subjected to an agent identification test according to the *Terrestrial Manual* on blood samples collected at commencement and conclusion of, and at least every 7 days (virus isolation test) or at least every 28 days (PCR test) during, semen collection for this consignment, with negative results;

2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

**Article 8.3.10.**

**Recommendations for importation from BTV seasonally free zones**

for semen of ruminants and other BTV susceptible herbivores

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor animals:
   a) were kept during the BTV seasonally free period in a seasonally free zone for at least 60 days before commencement of, and during, collection of the semen; or
   b) were subjected to a serological test according to the *Terrestrial Manual* to detect antibody to the BTV group, with negative results, at least every 60 days throughout the
The semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 8.3.11.

Recommendations for importation from BTV infected countries or zones

for semen of ruminants and other BTV susceptible herbivores

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) were protected from attack from Culicoides for at least 60 days before commencement of, and during, collection of the semen; or
   b) were subjected to a serological test according to the Terrestrial Manual to detect antibody to the BTV group, with negative results, at least every 60 days throughout the collection period and between 21 and 60 days after the final collection for this consignment; or
   c) were subjected to an agent identification test according to the Terrestrial Manual on blood samples collected at commencement and conclusion of, and at least every 7 days (virus isolation test) or at least every 28 days (PCR test) during, semen collection for this consignment, with negative results;

2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 8.3.12.

Recommendations for importation from BTV free countries or zones

for in vivo derived embryos of ruminants (other than bovines) and other BTV susceptible herbivores and for in vitro produced bovine embryos

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor females:
   a) were kept in a BTV free country or zone for at least the 60 days prior to, and at the time of, collection of the embryos; or
   b) were subjected to a serological test according to the Terrestrial Manual to detect antibody to the BTV group, between 21 and 60 days after collection, with negative results; or
c) were subjected to an agent identification test according to the *Terrestrial Manual* on a blood sample taken on the day of collection, with negative results;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7, 4.8. and 4.9., as relevant.

**Article 8.3.13.**

**Recommendations for importation from BTV seasonally free zones**

for *in vivo* derived embryos/oocytes of ruminants (other than bovines) and other BTV susceptible herbivores and for *in vitro* produced bovine embryos

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor females:
   a) were kept during the seasonally free period in a seasonally free zone for at least 60 days before commencement of, and during, collection of the embryos/oocytes; or
   b) were subjected to a serological test according to the *Terrestrial Manual* to detect antibody to the BTV group, between 21 and 60 days after collection, with negative results; or
   c) were subjected to an agent identification test according to the *Terrestrial Manual* on a blood sample taken on the day of collection, with negative results;

2. the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

**Article 8.3.14.**

**Recommendations for importation from BTV infected countries or zones**

for *in vivo* derived embryos/oocytes of ruminants (other than bovines) and other BTV susceptible herbivores and for *in vitro* produced bovine embryos

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor females:
   a) were protected from attack from *Culicoides* for at least 60 days before commencement of, and during, collection of the embryos/oocytes; or
   b) were subjected to a serological test according to the *Terrestrial Manual* to detect antibody to the BTV group, between 21 and 60 days after collection, with negative results; or
   c) were subjected to an agent identification test according to the *Terrestrial Manual* on a blood sample taken on the day of collection, with negative results;

2. the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.
Article 8.3.15.

Protecting animals from Culicoides attack

When transporting animals through BTV infected countries or infected zones, Veterinary Authorities should require strategies to protect animals from attack from Culicoides during transport, taking into account the local ecology of the vector.

Potential risk management strategies include:

1. treating animals with insect repellents prior to and during transportation;
2. loading, transporting and unloading animals at times of low vector activity (i.e. bright sunshine, low temperature);
3. ensuring vehicles do not stop en route during dawn or dusk, or overnight, unless the animals are held behind insect proof netting;
4. darkening the interior of the vehicle, for example by covering the roof and/or sides of vehicles with shadecloth;
5. surveillance for vectors at common stopping and offloading points to gain information on seasonal variations;
6. using historical information and/or information from appropriately verified and validated BTV epidemiological models to identify low risk ports and transport routes.

Article 8.3.16.

Surveillance: introduction

Articles 8.3.16. to 8.3.21. define the principles and provide a guide on the surveillance for BT complementary to Chapter 1.4. and for vectors complementary to Chapter 1.5., applicable to Members seeking to determine their BT status. This may be for the entire country or zone. Guidance for Members seeking free status following an outbreak and for the maintenance of BT status is also provided.

BT is a vector-borne infection transmitted by different species of Culicoides insects in a range of ecosystems. An important component of BT epidemiology is vectorial capacity which provides a measure of disease risk that incorporates vector competence, abundance, biting rates, survival rates and extrinsic incubation period. However, methods and tools for measuring some of these vector factors remain to be developed, particularly in a field context. Therefore, surveillance for BT should focus on transmission in domestic ruminants.

The impact and epidemiology of BT differ widely in different regions of the world and therefore it is impossible to provide specific recommendations for all situations. It is incumbent upon Members to provide scientific data that explain the epidemiology of BT in the region concerned and adapt the surveillance strategies for defining their infection status (free, seasonally free or infected country or zone) to the local conditions. There is considerable latitude available to Members to justify their infection status at an acceptable level of confidence.

Surveillance for BT should be in the form of a continuing programme.
Article 8.3.17.

**Surveillance: case definition**

For the purposes of surveillance, a case refers to an animal infected with BT virus (BTV).

For the purposes of international trade, a distinction should be made between a case as defined below and an animal that is potentially infectious to vectors. The conditions for trade are defined in Articles 8.3.1. to 8.3.15. of this chapter.

The purpose of surveillance is the detection of virus circulation in a country or zone and not determination of the status of an individual animal or herds. Surveillance deals not only with the occurrence of clinical signs caused by BTV, but also with the evidence of infection with BTV in the absence of clinical signs.

The following defines the occurrence of BTV infection:

1. BTV has been isolated and identified as such from an animal or a product derived from that animal, or
2. viral antigen or viral ribonucleic acid (RNA) specific to one or more of the serotypes of BTV has been identified in samples from one or more animals showing clinical signs consistent with BT, or epidemiologically linked to a confirmed or suspected case, or giving cause for suspicion of previous association or contact with BTV, or
3. antibodies to structural or nonstructural proteins of BTV that are not a consequence of vaccination have been identified in one or more animals that either show clinical signs consistent with BT, or epidemiologically linked to a confirmed or suspected case, or give cause for suspicion of previous association or contact with BTV.

Article 8.3.18.

**Surveillance: general conditions and methods**

1. A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. In particular:
   a) a formal and ongoing system for detecting and investigating outbreaks of disease should be in place;
   b) a procedure should be in place for the rapid collection and transport of samples from suspect cases of BT to a laboratory for BT diagnosis as described in the Terrestrial Manual;
   c) a system for recording, managing and analysing diagnostic and surveillance data should be in place.
2. The BT surveillance programme should:
   a) in a country/zone free or seasonally free, include an early warning system for reporting suspicious cases. Farmers and workers, who have regular contact with domestic ruminants, as well as diagnosticians, should report promptly any suspicion of BT to the Veterinary Authority. They should be supported directly or indirectly (e.g. through private veterinarians or Veterinary para-professionals) by government information programmes and the Veterinary Authority. An effective surveillance system will periodically identify suspicious cases that require follow-up and investigation to confirm or exclude that the cause of the condition is BTV. The rate at which such suspicious cases
are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. All suspected cases of BT should be investigated immediately and samples should be taken and submitted to a laboratory. This requires that sampling kits and other equipment are available for those responsible for surveillance;

b) conduct random or targeted serological and virological surveillance appropriate to the infection status of the country or zone.

Generally, the conditions to prevent exposure of susceptible animals to BTV infected vectors will be difficult to apply. However, under specific situations, in establishments such as artificial insemination centres or quarantine stations exposure to vectors may be preventable. The testing requirements for animals kept in these facilities are described in Articles 8.3.11. and 8.3.14.

Article 8.3.19.

Surveillance strategies

The target population for surveillance aimed at identification of disease and/or infection should cover susceptible domestic ruminants within the country or zone. Active and passive surveillance for BTV infection should be ongoing. Surveillance should be composed of random or targeted approaches using virological, serological and clinical methods appropriate for the infection status of the country or zone.

The strategy employed may be based on surveillance using randomised sampling that would demonstrate the absence of BTV infection at an acceptable level of confidence. The frequency of sampling should be dependent on the epidemiological situation. Random surveillance is conducted using serological tests described in the Terrestrial Manual. Positive serological results may be followed up with virological methods as appropriate.

Targeted surveillance (e.g. based on the increased likelihood of infection in particular localities or species) may be an appropriate strategy. Virological and serological methods may be used concurrently to define the BTV status of targeted populations.

A Member should justify the surveillance strategy chosen as being adequate to detect the presence of BTV infection in accordance with Chapter 1.4. and the prevailing epidemiological situation. It may, for example, be appropriate to target clinical surveillance at particular species likely to exhibit clinical signs (e.g. sheep). Similarly, virological and serological testing may be targeted to species that rarely show clinical signs (e.g. cattle).

In vaccinated populations, serological and virological surveillance is necessary to detect the BTV types circulating to ensure that all circulating types are included in the vaccination programme.

If a Member wishes to declare freedom from BTV infection in a specific zone, the design of the surveillance strategy would need to be aimed at the population within the zone.

For random surveys, the design of the sampling strategy will need to incorporate epidemiologically appropriate design prevalence. The sample size selected for testing will need to be large enough to detect evidence of infection if it were to occur at a predetermined minimum rate. The sample size and expected prevalence determine the level of confidence in the results of the survey. The Member should justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence in particular needs to be based on the prevailing or historical epidemiological situation.

Irrespective of the survey approach selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results.
obtained. Ideally, the sensitivity and specificity of the tests used should be validated for the vaccination/infection history and the different species in the target population.

Irrespective of the testing system employed, surveillance system design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There needs to be an effective procedure for following up positives to ultimately determine with a high level of confidence, whether they are indicative of infection or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as those which may be epidemiologically linked to it.

The principles involved in surveillance for disease/infection are technically well defined. The design of surveillance programmes to prove the absence of BTV infection/circulation needs to be carefully followed to avoid producing results that are either insufficiently reliable to be accepted by international trading partners, or excessively costly and logistically complicated. The design of any surveillance programme, therefore, requires inputs from professionals competent and experienced in this field.

1. Clinical surveillance

Clinical surveillance aims at the detection of clinical signs of BT at the flock/herd level. Whereas significant emphasis is placed on the diagnostic value of mass serological screening, surveillance based on clinical inspection should not be underrated, particularly during a newly introduced infection. In sheep and occasionally goats, clinical signs may include oedema, hyperaemia of mucosal membranes, coronitis and cyanotic tongue.

BT suspects detected by clinical surveillance should always be confirmed by laboratory testing.

2. Serological surveillance

An active programme of surveillance of host populations to detect evidence of BTV transmission is essential to establish BTV status in a country or zone. Serological testing of ruminants is one of the most effective methods of detecting the presence of BTV. The species tested depends on the epidemiology of BTV infection, and the species available, in the local area. Cattle are usually the most sensitive indicator species. Management variables that may influence likelihood of infection, such as the use of insecticides and animal housing, should be considered.

Surveillance may include serological surveys, for example abattoir surveys, the use of cattle as sentinel animals (which should be individually identifiable), or a combination of methods. Surveillance may also be conducted by sampling and testing of bulk milk using an ELISA, as prescribed in the Terrestrial Manual.

The objective of serological surveillance is to detect evidence of BTV circulation. Samples should be examined for antibodies against BTV using tests prescribed in the Terrestrial Manual. Positive BTV antibody tests results can have four possible causes:

a) natural infection with BTV,

b) vaccination against BTV,

c) maternal antibodies,

d) positive results due to the lack of specificity of the test.

It may be possible to use sera collected for other survey purposes for BTV surveillance. However, the principles of survey design described in these recommendations and the
requirements for a statistically valid survey for the presence of BTV infection should not be compromised.

The results of random or targeted serological surveys are important in providing reliable evidence that no BTV infection is present in a country or zone. It is, therefore, essential that the survey is thoroughly documented. It is critical to interpret the results in light of the movement history of the animals being sampled.

Serological surveillance in a free zone should target those areas that are at highest risk of BTV transmission, based on the results of previous surveillance and other information. This will usually be towards the boundaries of the free zone. In view of the epidemiology of BTV infection, either random or targeted sampling is suitable to select herds and/or animals for testing.

A protection zone within a free country or zone should separate it from a potentially infected country or infected zone. Serological surveillance in a free country or zone should be carried out over an appropriate distance from the border with a potentially infected country or infected zone, based upon geography, climate, history of infection and other relevant factors.

Serological surveillance in infected zones will identify changes in the boundary of the zone, and can also be used to identify the BTV types circulating. In view of the epidemiology of BTV infection, either random or targeted sampling is suitable.

3. Virological surveillance

Isolation and genetic analysis of BTV from a proportion of infected animals is beneficial in terms of providing information on serotype and genetic characteristics of the viruses concerned.

Virological surveillance using tests described in the Terrestrial Manual can be conducted:

a) to identify virus circulation in at risk populations,

b) to confirm clinically suspect cases,

c) to follow up positive serological results,

d) to better characterize the genotype of circulating virus in a country or zone.

4. Sentinel animals

Sentinel animals are a form of targeted surveillance with a prospective study design. They are the preferred strategy for BTV surveillance. They comprise groups of unexposed animals managed at fixed locations and sampled regularly to detect new BTV infections.

The primary purpose of a sentinel animal programme is to detect BTV infections occurring at a particular place, for instance sentinel groups may be located on the usual boundaries of infected zones to detect changes in distribution of BTV. In addition, sentinel animal programmes allow the timing and dynamics of infections to be observed.

A sentinel animal programme should use animals of known source and history of exposure, control management variables such as use of insecticides and animal housing (depending on the epidemiology of BTV in the area under consideration), and be flexible in its design in terms of sampling frequency and choice of tests.

Care is necessary in choosing the sites for the sentinel groups. The aim is to maximise the chance of detecting BTV activity at the geographical location for which the sentinel site acts as a sampling point. The effect of secondary factors that may influence events at each location, such as climate, may also be analysed. To avoid bias, sentinel groups should comprise animals selected to be of similar age and susceptibility to BTV infection. Cattle are the most
appropriate sentinels but other domestic ruminant species may be used. The only feature distinguishing groups of sentinels should be their geographical location.

Sera from sentinel animal programmes should be stored methodically in a serum bank to allow retrospective studies to be conducted in the event of new serotypes being isolated.

The frequency of sampling will depend on the reason for choosing the sampling site. In endemic areas, virus isolation will allow monitoring of the serotypes and genotypes of BTV circulating during each time period. The borders between infected and non-infected areas can be defined by serological detection of infective period. Monthly sampling intervals are frequently used. Sentinels in declared free zones add to confidence that BTV infections are not occurring unobserved. In such cases, sampling prior to and after the possible period of transmission is sufficient.

Definitive information on BTVs circulating in a country or zone is provided by isolation and identification of the viruses. If virus isolation is required, sentinels should be sampled at sufficiently frequent intervals to ensure that samples are collected during the period of viraemia.

5. Vector surveillance

BTV is transmitted between ruminant hosts by species of Culicoides which vary across the world. It is therefore important to be able to identify potential vector species accurately although many such species are closely related and difficult to differentiate with certainty.

The main purpose of vector surveillance is to determine areas of different levels of risk and local details of seasonality by determining the various vector species present in an area, their respective seasonal occurrence, and abundance. Vector surveillance has particular relevance to potential areas of spread. Long term surveillance can also be used to assess vector suppression measures.

The most effective way of gathering this information should take account of the biology and behavioural characteristics of the local vector species of Culicoides and may include the use of Onderstepoort-type light traps or similar, operated from dusk to dawn in locations adjacent to domestic ruminants, or the use of drop traps over ruminant animals.

Vector surveillance should be based on scientific sampling techniques. The choice of the number and type of traps to be used in vector surveillance and the frequency of their use should take into account the size and ecological characteristics of the area to be surveyed.

The operation of vector surveillance sites at the same locations as sentinel animals is advisable.

The use of a vector surveillance system to detect the presence of circulating virus is not recommended as a routine procedure as the typically low vector infection rates mean that such detections can be rare. Other surveillance strategies (e.g. the use of sentinel animals of domestic ruminants) are preferred to detect virus circulation.

Article 8.3.20.

Documentation of BTV infection free status

1. Members declaring freedom from BTV infection for the country or zone: additional surveillance procedures

In addition to the general conditions described in the above-mentioned articles, a Member declaring freedom from BTV infection for the entire country or a zone should provide evidence for the existence of an effective surveillance programme. The strategy and design of
the *surveillance* programme will depend on the prevailing epidemiological circumstances and should be planned and implemented according to general conditions and methods described in this chapter, to demonstrate absence of BTV infection during the preceding 24 months in susceptible domestic ruminant populations. This requires the support of a *laboratory* able to undertake identification of BTV infection through virus detection and antibody tests described in the *Terrestrial Manual*. This *surveillance* should be targeted to non-vaccinated *animals*. Clinical *surveillance* may be effective in sheep while serological *surveillance* is more appropriate in cattle.

2. **Additional requirements for countries or zones that practise vaccination**

Vaccination to prevent the transmission of BTV may be part of a disease control programme. The level of *flock* or *herd* immunity required to prevent transmission will depend on the *flock* or *herd* size, composition (e.g. species) and density of the susceptible population. It is therefore impossible to be prescriptive. The vaccine should also comply with the provisions stipulated for BTV vaccines in the *Terrestrial Manual*. Based on the epidemiology of BTV *infection* in the country or *zone*, it may be that a decision is reached to vaccinate only certain species or other subpopulations.

In countries or *zones* that practise vaccination, there is a need to perform virological and serological tests to ensure the absence of virus circulation. These tests should be performed on non-vaccinated subpopulations or on sentinels. The tests have to be repeated at appropriate intervals according to the purpose of the *surveillance* programme. For example, longer intervals may be adequate to confirm endemicity, while shorter intervals may allow on-going demonstration of absence of transmission.

**Article 8.3.21.**

**The use and interpretation of serological and virus detection tests**

1. **Serological testing**

Ruminants infected with BTV produce antibodies to structural and non-structural viral proteins, as do *animals* vaccinated with current modified live virus vaccines. Antibodies to the BTV serogroup antigen are detected with high sensitivity and specificity by competitive ELISA (c-ELISA) and to a lesser extent by AGID as described in the *Terrestrial Manual*. Positive c-ELISA results can be confirmed by neutralization assay to identify the infecting serotype(s); however, BTV infected ruminants can produce neutralizing antibodies to serotypes of BTV other than those to which they were exposed (false positive results), especially if they have been infected with multiple serotypes.

2. **Virus detection**

The presence of BTV in ruminant blood and tissues can be detected by virus isolation or polymerase chain reaction (PCR) as described in the *Terrestrial Manual*.

Interpretation of positive and negative results (both true and false) differs markedly between these tests because they detect different aspects of BTV *infection*, specifically (1) infectious BTV (virus isolation) and (2) nucleic acid (PCR). The following are especially relevant to interpretation of PCR assays:

a) The nested PCR assay detects BTV nucleic acid in ruminants long after the clearance of infectious virus. Thus positive PCR results do not necessarily coincide with active *infection* of ruminants. Furthermore, the nested PCR assay is especially prone to template contamination, thus there is considerable risk of false positive results.
b) PCR procedures other than real time PCR allow sequence analysis of viral amplicons from ruminant tissues, insect vectors or virus isolates. These sequence data are useful for creating data bases to facilitate important epidemiological studies, including the possible distinction of field and vaccine virus strains of BTV, genotype characterization of field strains of BTV, and potential genetic divergence of BTV relevant to vaccine and diagnostic testing strategies.

It is essential that BTV isolates are sent regularly to the OIE Reference Laboratories for genetic and antigenic characterization.

Fig. 1. Application of laboratory tests in serological surveillance
Fig. 2. Application of laboratory tests in virological surveillance
CHAPTER 8.4.

ECHINOCOCOSIS/HYDATIDOSIS

Article 8.4.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.4.2.

Recommendations for the importation of dogs, cats and other domestic or wild carnivores

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals were treated against echinococcosis/hydatidosis prior to shipment, and that the treatment used is recognised as being effective.
CHAPTER 8.5.

FOOT AND MOUTH DISEASE

Article 8.5.1.

Introduction

For the purposes of the Terrestrial Code, the incubation period for foot and mouth disease (FMD) shall be 14 days.

For the purposes of this Chapter, ruminants include animals of the family of Camelidae (except Camelus dromedarius).

For the purposes of this Chapter, a case includes an animal infected with FMD virus (FMDV).

For the purposes of international trade, this Chapter deals not only with the occurrence of clinical signs caused by FMDV, but also with the presence of infection with FMDV in the absence of clinical signs.

The following defines the occurrence of FMDV infection:

1. FMDV has been isolated and identified as such from an animal or a product derived from that animal; or
2. viral antigen or viral ribonucleic acid (RNA) specific to one or more of the serotypes of FMDV has been identified in samples from one or more animals, whether showing clinical signs consistent with FMD or not, or epidemiologically linked to a confirmed or suspected outbreak of FMD, or giving cause for suspicion of previous association or contact with FMDV; or
3. antibodies to structural or nonstructural proteins of FMDV that are not a consequence of vaccination, have been identified in one or more animals showing clinical signs consistent with FMD, or epidemiologically linked to a confirmed or suspected outbreak of FMD, or giving cause for suspicion of previous association or contact with FMDV.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.5.2.

FMD free country where vaccination is not practised

Susceptible animals in the FMD free country where vaccination is not practised should be protected from neighbouring infected countries by the application of animal health measures that effectively prevent the entry of the virus, taking into consideration physical or geographical barriers. These measures may include a protection zone.

To qualify for inclusion in the existing list of FMD free countries where vaccination is not practised, a Member should:

1. have a record of regular and prompt animal disease reporting;
2. send a declaration to the OIE stating that:
   a) there has been no outbreak of FMD during the past 12 months;
b) no evidence of FMDV infection has been found during the past 12 months;
c) no vaccination against FMD has been carried out during the past 12 months;
d) no vaccinated animal has been introduced since the cessation of vaccination;

3. supply documented evidence that:
   a) surveillance for FMD and FMDV infection in accordance with Articles 8.5.42. to 8.5.48. is in operation;
   b) regulatory measures for the early detection, prevention and control of FMD have been implemented.

4. describe in detail the boundaries and measures of a protection zone, if applicable.

The Member will be included in the list only after the submitted evidence has been accepted by the OIE. Retention on the list requires that the information in points 2, 3 and 4 above be re-submitted annually and changes in the epidemiological situation or other significant events including those relevant to points 3b) and 4 should be reported to the OIE according to the requirements in Chapter 1.1.

Article 8.5.3.

FMD free country where vaccination is practised

Susceptible animals in the FMD free country where vaccination is practised should be protected from neighbouring infected countries by the application of animal health measures that effectively prevent the entry of the virus, taking into consideration physical or geographical barriers. These measures may include a protection zone.

To qualify for inclusion in the list of FMD free countries where vaccination is practised, a Member should:

1. have a record of regular and prompt animal disease reporting;
2. send a declaration to the OIE stating that:
   a) there has been no outbreak of FMD during the past 2 years;
   b) no evidence of FMDV circulation has been found during the past 12 months;
3. supply documented evidence that:
   a) surveillance for FMD and FMDV circulation in accordance with Articles 8.5.42. to 8.5.48. is in operation;
   b) regulatory measures for the early detection, prevention and control of FMD have been implemented;
   c) routine vaccination is carried out for the purpose of the prevention of FMD;
   d) the vaccine used complies with the standards described in the Terrestrial Manual and is appropriate for the strains of virus currently circulating;
4. describe in detail the boundaries and measures of a protection zone, if applicable.

The Member will be included in the list only after the submitted evidence has been accepted by the OIE. Retention on the list requires that the information in point 2, 3 and 4 above be re-submitted annually and changes in the epidemiological situation or other significant events including those
relevant to points 3b) and 4 should be reported to the OIE according to the requirements in Chapter 1.1.

If a Member that meets the requirements of a FMD free country where vaccination is practised wishes to change its status to FMD free country where vaccination is not practised, the status of this country remains unchanged for a period of at least 12 months after vaccination has ceased. Evidence should also be provided showing that FMDV infection has not occurred during that period.

Article 8.5.4.

FMD free zone where vaccination is not practised

An FMD free zone where vaccination is not practised can be established in either an FMD free country where vaccination is practised or in a country of which parts are infected. In defining such zones the principles of Chapter 4.3. should be followed. Susceptible animals in the FMD free zone should be protected from the rest of the country and from neighbouring countries if they are of a different animal health status by the application of animal health measures that effectively prevent the entry of the virus, taking into consideration physical or geographical barriers. These measures may include a protection zone.

To qualify for inclusion in the list of FMD free zones where vaccination is not practised, a Member should:

1. have a record of regular and prompt animal disease reporting;
2. send a declaration to the OIE stating that within the proposed FMD free zone:
   a) there has been no outbreak of FMD during the past 12 months;
   b) no evidence of FMDV infection has been found during the past 12 months;
   c) no vaccination against FMD has been carried out during the past 12 months;
   d) no vaccinated animal has been introduced into the zone since the cessation of vaccination, except in accordance with Article 8.5.10.;
3. supply documented evidence that:
   a) surveillance for FMD and FMDV infection in accordance with Articles 8.5.42. to 8.5.48. is in operation;
   b) regulatory measures for the early detection, prevention and control of FMD have been implemented;
4. describe in detail and supply documented evidence that these are properly implemented and supervised:
   a) the boundaries of the proposed FMD free zone,
   b) the boundaries and measures of a protection zone, if applicable,
   c) the system for preventing the entry of the virus (including the control of the movement of susceptible animals) into the proposed FMDV free zone (in particular if the procedure described in Article 8.5.10. is implemented).

The proposed free zone will be included in the list of FMD free zones where vaccination is not practised only after the submitted evidence has been accepted by the OIE.
The information required in points 2, 3 and 4b)-c) above should be re-submitted annually and changes in the epidemiological situation or other significant events including those relevant to points 3b) and 4 should be reported to the OIE according to the requirements in Chapter 1.1.

**Article 8.5.5.**

**FMD free zone where vaccination is practised**

An FMD free zone where vaccination is practised can be established in either an FMD free country where vaccination is not practised or in a country of which parts are infected. In defining such zones the principles of Chapter 4.3. should be followed. Susceptible animals in the FMD free zone where vaccination is practised should be protected from neighbouring countries or zones if they are of a lesser animal health status by the application of animal health measures that effectively prevent the entry of the virus, taking into consideration physical or geographical barriers. These measures may include a protection zone.

To qualify for inclusion in the list of FMD free zones where vaccination is practised, a Member should:

1. have a record of regular and prompt animal disease reporting;
2. send a declaration to the OIE that within the proposed FMD free zone:
   a) there has been no outbreak of FMD for the past 2 years;
   b) no evidence of FMDV circulation has been found during the past 12 months;
3. supply documented evidence that:
   a) surveillance for FMD and FMDV infection in accordance with Articles 8.5.42. to 8.5.48. is in operation;
   b) regulatory measures for the early detection, prevention and control of FMD have been implemented;
   c) routine vaccination is carried out for the purpose of the prevention of FMD;
   d) the vaccine used complies with the standards described in the *Terrestrial Manual* and is appropriate for the strains of virus currently circulating;
4. describe in detail and supply documented evidence that these are properly implemented and supervised:
   a) the boundaries of the proposed FMD free zone,
   b) the boundaries and measures of a protection zone, if applicable,
   c) the system for preventing the entry of the virus (including the control of the movement of susceptible animals) into the proposed FMD free zone (in particular if the procedure described in Article 8.5.10. is implemented).

The proposed free zone will be included in the list of FMD free zones where vaccination is practised only after the submitted evidence has been accepted by the OIE. The information required in points 2, 3 and 4 b)-c) above should be re-submitted annually and changes in the epidemiological situation or other significant events including those relevant to points 3 b) and 4 should be reported to the OIE according to the requirements in Chapter 1.1.

If a Member that has a zone which meets the requirements of a FMD free zone where vaccination is practised wishes to change the status of the zone to FMD free zone where vaccination is not practised, the status of this zone remains unchanged for a period of at least 12 months after
vaccination has ceased. Evidence should also be provided showing that FMDV infection has not occurred in the said zone during that period.

Article 8.5.6.

FMD free compartment

A FMD free compartment can be established in either a FMD free country or zone or in an infected country or zone. In defining such a compartment the principles of Chapters 4.3. and 4.4. should be followed. Susceptible animals in the FMD free compartment should be separated from any other susceptible animals by the application of an effective biosecurity management system.

A Member wishing to establish a FMD free compartment should:

1. have a record of regular and prompt animal disease reporting and if not FMD free, have an official control programme and a surveillance system for FMD in place according to Articles 8.5.42. to 8.5.44. that allows an accurate knowledge of the prevalence of FMD in the country or zone;

2. declare for the FMD free compartment that:
   a) there has been no outbreak of FMD during the past 12 months;
   b) no evidence of FMDV infection has been found during the past 12 months;
   c) vaccination against FMD is prohibited;
   d) no animal vaccinated against FMD within the past 12 months is in the compartment;
   e) animals, semen and embryos should only enter the compartment in accordance with relevant Articles in this chapter;
   f) documented evidence shows that surveillance in accordance with Articles 8.5.42. to 8.5.48. is in operation for FMD and FMDV infection;
   g) an animal identification and traceability system in accordance with Chapters 4.1. and 4.2. is in place;

3. describe in detail the animal subpopulation in the compartment and the biosecurity plan for FMD and FMDV infection.

The compartment should be approved by the Veterinary Authority. The first approval should only be granted when no outbreak of FMD has occurred within the zone in which the compartment is situated, during the last 3 months.

Article 8.5.7.

FMD infected country or zone

An FMD infected country is a country that does not fulfil the requirements to qualify as either an FMD free country where vaccination is not practised or an FMD free country where vaccination is practised.

An FMD infected zone is a zone that does not fulfil the requirements to qualify as either an FMD free zone where vaccination is not practised or an FMD free zone where vaccination is practised.
Establishment of a containment zone within an FMD free country or zone

In the event of limited outbreaks within an FMD free country or zone, including within a protection zone, with or without vaccination, a single containment zone, which includes all cases, can be established for the purpose of minimizing the impact on the entire country or zone. For this to be achieved, the Veterinary Authority should provide documented evidence that:

1. the outbreaks are limited based on the following factors:
   a) immediately on suspicion, a rapid response including notification has been made;
   b) standstill of animal movements has been imposed, and effective controls on the movement of other commodities mentioned in this chapter are in place;
   c) epidemiological investigation (trace-back, trace-forward) has been completed;
   d) the infection has been confirmed;
   e) the primary outbreak and likely source of the outbreak has been identified;
   f) all cases have been shown to be epidemiologically linked;
   g) no new cases have been found in the containment zone within a minimum of two incubation periods as defined in Article 8.5.1. after the stamping-out of the last detected case is completed;

2. a stamping-out policy has been applied;

3. the susceptible animal population within the containment zones should be clearly identifiable as belonging to the containment zone;

4. increased passive and targeted surveillance in accordance with Articles 8.5.42. to 8.5.48. in the rest of the country or zone has been carried out and has not detected any evidence of infection;

5. animal health measures that effectively prevent the spread of the FMDV to the rest of the country or zone, taking into consideration physical and geographical barriers, are in place;

6. ongoing surveillance in the containment zone is in place.

The free status of the areas outside the containment zone would be suspended pending the establishment of the containment zone. The free status of these areas could be reinstated irrespective of the provisions of Article 8.5.9., once the containment zone is clearly established, by complying with points 1 to 6 above. The containment zone should be managed in such a way that it can be demonstrated that commodities for international trade can be shown to have originated outside the containment zone.

The recovery of the FMD free status of the containment zone should follow the provisions of Article 8.5.9.
Recovery of free status

1. When an FMD outbreak or FMDV infection occurs in an FMD free country or zone where vaccination is not practised, one of the following waiting periods is required to regain the status of FMD free country or zone where vaccination is not practised:
   a) 3 months after the last case where a stamping-out policy and serological surveillance are applied in accordance with Articles 8.5.42. to 8.5.48.; or
   b) 3 months after the slaughter of all vaccinated animals where a stamping-out policy, emergency vaccination and serological surveillance are applied in accordance with Articles 8.5.42. to 8.5.48.; or
   c) 6 months after the last case or the last vaccination (according to the event that occurs the latest), where a stamping-out policy, emergency vaccination not followed by the slaughtering of all vaccinated animals, and serological surveillance are applied in accordance with Articles 8.5.42. to 8.5.48., provided that a serological survey based on the detection of antibodies to nonstructural proteins of FMDV demonstrates the absence of infection in the remaining vaccinated population.

   Where a stamping-out policy is not practised, the above waiting periods do not apply, and Article 8.5.2. or 8.5.4. applies.

2. When an FMD outbreak or FMDV infection occurs in an FMD free country or zone where vaccination is practised, one of the following waiting periods is required to regain the status of FMD free country or zone where vaccination is practised:
   a) 6 months after the last case where a stamping-out policy, emergency vaccination and serological surveillance in accordance with Articles 8.5.42. to 8.5.48. are applied, provided that the serological surveillance based on the detection of antibodies to nonstructural proteins of FMDV demonstrates the absence of virus circulation; or
   b) 18 months after the last case where a stamping-out policy is not applied, but emergency vaccination and serological surveillance in accordance with Articles 8.5.42. to 8.5.48. are applied, provided that the serological surveillance based on the detection of antibodies to nonstructural proteins of FMDV demonstrates the absence of virus circulation.

3. When a FMD outbreak or FMDV infection occurs in a FMD free compartment, Article 8.5.6. applies.

Transfer directly to slaughter of FMD susceptible animals from an infected zone to a free zone (where vaccination either is or is not practised) within a country

In order not to jeopardise the status of a free zone, FMD susceptible animals should only leave the infected zone if moved by mechanised transport directly to slaughter in the nearest designated abattoir under the following conditions:

1. no FMD susceptible animal has been introduced into the establishment of origin and no animal in the establishment of origin has shown clinical signs of FMD for at least 30 days prior to movement;
2. the animals were kept in the establishment of origin for at least 3 months prior to movement;
3. FMD has not occurred within a 10-kilometre radius of the establishment of origin for at least 3 months prior to movement;

4. the animals should be transported under the supervision of the Veterinary Authority in a vehicle, which was cleansed and disinfected before loading, directly from the establishment of origin to the abattoir without coming into contact with other susceptible animals;

5. such an abattoir is not approved for the export of fresh meat during the time it is handling the meat of animals from the infected zone;

6. vehicles and the abattoir should be subjected to thorough cleansing and disinfection immediately after use.

The meat should be treated according to Article 8.5.25. or Article 8.5.26. Other products obtained from the animals and any products coming into contact with them should be considered infected, and treated in such a way as to destroy any residual virus in accordance with Articles 8.5.34. to 8.5.41.

Animals moved into a free zone for other purposes should be moved under the supervision of the Veterinary Authority and comply with the conditions in Article 8.5.14.

Article 8.5.11.

Transfer directly to slaughter of FMD susceptible animals from a containment zone to a free zone (where vaccination either is or is not practised) within a country

In order not to jeopardise the status of a free zone, FMD susceptible animals should only leave the containment zone if moved by mechanised transport directly to slaughter in the nearest designated abattoir under the following conditions:

1. the containment zone has been officially established according to the requirements in Article 8.5.8.;

2. the animals should be transported under the supervision of the Veterinary Authority in a vehicle, which was cleansed and disinfected before loading, directly from the establishment of origin to the abattoir without coming into contact with other susceptible animals;

3. such an abattoir is not approved for the export of fresh meat during the time it is handling the meat of animals from the containment zone;

4. vehicles and the abattoir should be subjected to thorough cleansing and disinfection immediately after use.

The meat should be treated according to point 2 of Article 8.5.25. or Article 8.5.26. Other products obtained from the animals and any products coming into contact with them should be treated in such a way as to destroy any residual virus in accordance with Articles 8.5.34. to 8.5.41.

Article 8.5.12.

Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments for FMD susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of FMD on the day of shipment;
2. were kept since birth or for at least the past 3 months in a FMD free country or zone where vaccination is not practised or a FMD free compartment;

3. have not been vaccinated;

4. if transiting an infected zone, were not exposed to any source of FMD infection during transportation to the place of shipment.

Article 8.5.13.

Recommendations for importation from FMD free countries or zones where vaccination is practised

for domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of FMD on the day of shipment;

2. were kept in an FMD free country or zone since birth or for at least the past 3 months; and

3. have not been vaccinated and were subjected, with negative results, to tests for antibodies against FMD virus, when destined to an FMD free country or zone where vaccination is not practised;

4. if transiting an infected zone, were not exposed to any source of FMD infection during transportation to the place of shipment.

Article 8.5.14.

Recommendations for importation from FMD infected countries or zones

for domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of FMD on the day of shipment;

2. were kept in the establishment of origin since birth, or

   a) for the past 30 days, if a stamping-out policy is in force in the exporting country, or

   b) for the past 3 months, if a stamping-out policy is not in force in the exporting country,

   and that FMD has not occurred within a ten-kilometre radius of the establishment of origin for the relevant period as defined in points a) and b) above; and

3. were isolated in an establishment for the 30 days prior to shipment, and all animals in isolation were subjected to diagnostic tests (probang and serology) for evidence of FMDV infection with negative results at the end of that period, and that FMD did not occur within a ten-kilometre radius of the establishment during that period; or

4. were kept in a quarantine station for the 30 days prior to shipment, all animals in quarantine were subjected to diagnostic tests (probang and serology) for evidence of FMDV infection with negative results at the end of that period, and that FMD did not occur within a ten-kilometre radius of the quarantine station during that period;
5. were not exposed to any source of FMD infection during their transportation from the quarantine station to the place of shipment.

Article 8.5.15.

**Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments**

for fresh semen of domestic ruminants and pigs

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor *animals*:
   a) showed no clinical sign of FMD on the day of collection of the semen;
   b) were kept for at least 3 months prior to collection in a FMD free country or zone where vaccination is not practised or a FMD free *compartment*;

2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 8.5.16.

**Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments**

for frozen semen of domestic ruminants and pigs

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor *animals*:
   a) showed no clinical sign of FMD on the day of collection of the semen and for the following 30 days;
   b) were kept for at least 3 months prior to collection in an FMD free country or zone where vaccination is not practised or a FMD free *compartment*;

2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 8.5.17.

**Recommendations for importation from FMD free countries or zones where vaccination is practised**

for semen of domestic ruminants and pigs

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor *animals*:
   a) showed no clinical sign of FMD on the day of collection of the semen and for the following 30 days;
b) were kept for at least 3 months prior to collection in a FMD free country or zone;

c) if destined to an FMD free country or zone where vaccination is not practised:
   i) have not been vaccinated and were subjected, not less than 21 days after collection of the semen, to tests for antibodies against FMD virus, with negative results; or
   ii) had been vaccinated at least twice, with the last vaccination not more than 12 and not less than one month prior to collection;

2. no other animal present in the artificial insemination centre has been vaccinated within the month prior to collection;

3. the semen:
   a) was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.;
   b) was stored in the country of origin for a period of at least one month following collection, and during this period no animal on the establishment where the donor animals were kept showed any sign of FMD.

Article 8.5.18.

Recommendations for importation from FMD infected countries or zones

for semen of domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) showed no clinical sign of FMD on the day of collection of the semen;
   b) were kept in an establishment where no animal had been added in the 30 days before collection, and that FMD has not occurred within 10 kilometres for the 30 days before and after collection;
   c) have not been vaccinated and were subjected, not less than 21 days after collection of the semen, to tests for antibodies against FMD virus, with negative results; or
   d) had been vaccinated at least twice, with the last vaccination not more than 12 and not less than one month prior to collection;

2. no other animal present in the artificial insemination centre has been vaccinated within the month prior to collection;

3. the semen:
   a) was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.;
   b) was subjected, with negative results, to a test for FMDV infection if the donor animal has been vaccinated within the 12 months prior to collection;
   c) was stored in the country of origin for a period of at least one month following collection, and during this period no animal on the establishment where the donor animals were kept showed any sign of FMD.
Article 8.5.19.

Recommendations for the importation of *in vivo* derived embryos of cattle

Irrespective of the FMD status of the *exporting country, zone or compartment*, *Veterinary Authorities* should authorise without restriction on account of FMD the import or transit through their territory of *in vivo* derived embryos of cattle subject to the presentation of an *international veterinary certificate* attesting that the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 8.5.20.

Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments

for *in vitro* produced embryos of cattle

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor females:
   a) showed no clinical sign of FMD at the time of collection of the oocytes;
   b) were kept at the time of collection in a FMD free country or *zone* where vaccination is not practised or a FMD free *compartment*;

2. fertilisation was achieved with semen meeting the conditions referred to in Articles 8.5.15., 8.5.16., 8.5.17. or 8.5.18., as relevant;

3. the oocytes were collected, and the embryos were processed and stored in conformity with the provisions of Chapters 4.8. and 4.9., as relevant.

Article 8.5.21.

Recommendations for importation from FMD free countries or zones where vaccination is practised

for *in vitro* produced embryos of cattle

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor females:
   a) showed no clinical sign of FMD at the time of collection of the oocytes;
   b) were kept for at least 3 months prior to collection in a FMD free country or *zone* where vaccination is practised;
   c) if destined for an FMD free country or *zone* where vaccination is not practised or a FMD free *compartment*:
      i) have not been vaccinated and were subjected, with negative results, to tests for antibodies against FMD virus; or
      ii) had been vaccinated at least twice, with the last vaccination not less than one month and not more than 12 months prior to collection;
2. no other animal present in the establishment has been vaccinated within the month prior to collection;

3. fertilization was achieved with semen meeting the conditions referred to in Articles 8.5.15., 8.5.16., 8.5.17. or 8.5.18., as relevant;

4. the oocytes were collected, and the embryos were processed and stored in conformity with the provisions of Chapters 4.8. and 4.9., as relevant.

Article 8.5.22.

Recommendations for importation from FMD free countries or zones where vaccination is not practised or FMD free compartments

for fresh meat of FMD susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of meat comes from animals which:

1. have been kept in the FMD free country or zone where vaccination is not practised or a FMD free compartment since birth, or which have been imported in accordance with Article 8.5.12., Article 8.5.13. or Article 8.5.14.;

2. have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for FMD with favourable results.

Article 8.5.23.

Recommendations for importation from FMD free countries or zones where vaccination is practised

for fresh meat of cattle and buffaloes (Bubalus bubalis) (excluding feet, head and viscera)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of meat comes from animals which:

1. have been kept in the FMD free country or zone where vaccination is practised, or which have been imported in accordance with Article 8.5.12., Article 8.5.13. or Article 8.5.14.;

2. have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for FMD with favourable results.

Article 8.5.24.

Recommendations for importation from FMD free countries or zones where vaccination is practised

for fresh meat or meat products of pigs and ruminants other than cattle and buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of meat comes from animals which:

1. have been kept in the FMD free country or zone where vaccination is practised, or which have been imported in accordance with Article 8.5.12., Article 8.5.13. or Article 8.5.14.;

2. have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for FMD with favourable results.
Article 8.5.25.

Recommendations for importation from FMD infected countries or zones, where an official control programme exists, involving compulsory systematic vaccination of cattle for fresh meat of cattle and buffaloes (Bubalus bubalis) (excluding feet, head and viscera)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of meat:

1. comes from animals which:
   a) have remained in the exporting country for at least 3 months prior to slaughter;
   b) have remained, during this period, in a part of the country where cattle are regularly vaccinated against FMD and where official controls are in operation;
   c) have been vaccinated at least twice with the last vaccination not more than 12 months and not less than one month prior to slaughter;
   d) were kept for the past 30 days in an establishment, and that FMD has not occurred within a ten-kilometre radius of the establishment during that period;
   e) have been transported, in a vehicle which was cleansed and disinfected before the cattle were loaded, directly from the establishment of origin to the approved abattoir without coming into contact with other animals which do not fulfil the required conditions for export;
   f) have been slaughtered in an approved abattoir:
      i) which is officially designated for export;
      ii) in which no FMD has been detected during the period between the last disinfection carried out before slaughter and the shipment for export has been dispatched;
   g) have been subjected to ante-mortem and post-mortem inspections for FMD with favourable results within 24 hours before and after slaughter;

2. comes from deboned carcasses:
   a) from which the major lymphatic nodes have been removed;
   b) which, prior to deboning, have been submitted to maturation at a temperature above +2°C for a minimum period of 24 hours following slaughter and in which the pH value was below 6.0 when tested in the middle of both the longissimus dorsi.

Article 8.5.26.

Recommendations for importation from FMD infected countries or zones for meat products of domestic ruminants and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the entire consignment of meat comes from animals which have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for FMD with favourable results;

2. the meat has been processed to ensure the destruction of the FMD virus in conformity with one of the procedures referred to in Article 8.5.34;
3. the necessary precautions were taken after processing to avoid contact of the *meat products* with any potential source of FMD virus.

Article 8.5.27.

**Recommendations for importation from FMD free countries or zones (where vaccination either is or is not practised) or FMD free compartments**

For milk and milk products intended for human consumption and for products of animal origin (from FMD susceptible animals) intended for use in animal feeding or for agricultural or industrial use, *Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products come from *animals* which have been kept in a FMD free country, zone or compartment, or which have been imported in accordance with Article 8.5.12., Article 8.5.13. or Article 8.5.14.

Article 8.5.28.

**Recommendations for importation from FMD infected countries or zones where an official control programme exists**

For milk, cream, milk powder and milk products, *Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. these products:
   a) originate from *herds or flocks* which were not infected or suspected of being infected with FMD at the time of milk collection;
   b) have been processed to ensure the destruction of the FMD virus in conformity with one of the procedures referred to in Article 8.5.38. and in Article 8.5.39.;
2. the necessary precautions were taken after processing to avoid contact of the products with any potential source of FMD virus.

Article 8.5.29.

**Recommendations for importation from FMD infected countries**

For blood and meat-meals (from domestic or wild ruminants and pigs), *Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the manufacturing method for these products included heating to a minimum core temperature of 70°C for at least 30 minutes.

Article 8.5.30.

**Recommendations for importation from FMD infected countries**
for wool, hair, bristles, raw hides and skins (from domestic or wild ruminants and pigs)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these products have been processed to ensure the destruction of the FMD virus in conformity with one of the procedures referred to in Articles 8.5.35., 8.5.36. and 8.5.37.;
2. the necessary precautions were taken after collection or processing to avoid contact of the products with any potential source of FMD virus.

Veterinary Authorities can authorise, without restriction, the import or transit through their territory of semi-processed hides and skins (limed hides, pickled pelts, and semi-processed leather - e.g. wet blue and crust leather), provided that these products have been submitted to the usual chemical and mechanical processes in use in the tanning industry.

Article 8.5.31.

Recommendations for importation from FMD infected countries or zones

for straw and forage

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these commodities:

1. are free of grossly identifiable contamination with material of animal origin;
2. have been subjected to one of the following treatments, which, in the case of material sent in bales, has been shown to penetrate to the centre of the bale:
   a) either to the action of steam in a closed chamber such that the centre of the bales has reached a minimum temperature of 80°C for at least 10 minutes,
   b) or to the action of formalin fumes (formaldehyde gas) produced by its commercial solution at 35-40% in a chamber kept closed for at least 8 hours and at a minimum temperature of 19°C;

OR

3. have been kept in bond for at least 3 months (under study) before being released for export.

Article 8.5.32.

Recommendations for importation from FMD free countries or zones (where vaccination either is or is not practised)

for skins and trophies derived from FMD susceptible wild animals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products are derived from animals that have been killed in such a country or zone, or which have been imported from a country or zone free of FMD (where vaccination either is or is not practised).

Article 8.5.33.

Recommendations for importation from FMD infected countries or zones
for skins and trophies derived from FMD susceptible wild animals.

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products have been processed to ensure the destruction of the FMD virus in conformity with the procedures referred to in Article 8.5.40.

**Article 8.5.34.**

**Procedures for the inactivation of the FMD virus in meat**

For the inactivation of viruses present in *meat*, one of the following procedures should be used:

1. **Canning**

   *Meat* is subjected to heat treatment in a hermetically sealed container to reach an internal core temperature of at least 70°C for a minimum of 30 minutes or to any equivalent treatment which has been demonstrated to inactivate the FMD virus.

2. **Thorough cooking**

   *Meat*, previously deboned and defatted, shall be subjected to heating so that an internal temperature of 70°C or greater is maintained for a minimum of 30 minutes.

   After cooking, it shall be packed and handled in such a way that it cannot be exposed to a source of virus.

3. **Drying after salting**

   When *rigor mortis* is complete, the *meat* must be deboned, salted with cooking salt (NaCl) and completely dried. It must not deteriorate at ambient temperature.

   ‘Drying’ is defined in terms of the ratio between water and protein which must not be greater than 2.25:1.

**Article 8.5.35.**

**Procedures for the inactivation of the FMD virus in wool and hair**

For the inactivation of viruses present in wool and hair for industrial use, one of the following procedures should be used:

1. industrial washing, which consists of the immersion of the wool in a series of baths of water, soap and sodium hydroxide (soda) or potassium hydroxide (potash);

2. chemical depilation by means of slaked lime or sodium sulphide;

3. fumigation in formaldehyde in a hermetically sealed chamber for at least 24 hours. The most practical method is to place potassium permanganate in containers (which must NOT be made of plastic or polyethylene) and add commercial formalin; the amounts of formalin and potassium permanganate are respectively 53 ml and 35 g per cubic metre of the chamber;

4. industrial scouring which consists of the immersion of wool in a water-soluble detergent held at 60-70°C;

5. storage of wool at 18°C for 4 weeks, or 4°C for 4 months, or 37°C for 8 days.
Article 8.5.36.

Procedures for the inactivation of the FMD virus in bristles

For the inactivation of viruses present in bristles for industrial use, one of the following procedures should be used:

1. boiling for at least one hour;

2. immersion for at least 24 hours in a 1% solution of formaldehyde prepared from 30 ml commercial formalin per litre of water.

Article 8.5.37.

Procedures for the inactivation of the FMD virus in raw hides and skins

For the inactivation of viruses present in raw hides and skins for industrial use, the following procedure should be used: salting for at least 28 days in sea salt containing 2% sodium carbonate.

Article 8.5.38.

Procedures for the inactivation of the FMD virus in milk and cream for human consumption

For the inactivation of viruses present in milk and cream for human consumption, one of the following procedures should be used:

1. a sterilisation process applying a minimum temperature of 132°C for at least one second (ultra-high temperature [UHT]), or

2. if the milk has a pH less than 7.0, a sterilisation process applying a minimum temperature of 72°C for at least 15 seconds (high temperature - short time pasteurisation [HTST]), or

3. if the milk has a pH of 7.0 or over, the HTST process applied twice.

Article 8.5.39.

Procedures for the inactivation of the FMD virus in milk for animal consumption

For the inactivation of viruses present in milk for animal consumption, one of the following procedures should be used:

1. the HTST process applied twice;

2. HTST combined with another physical treatment, e.g. maintaining a pH 6 for at least one hour or additional heating to at least 72°C combined with dessication;

3. UHT combined with another physical treatment referred to in point 2 above.
Procedures for the inactivation of the FMD virus in skins and trophies from wild animals susceptible to the disease

For the inactivation of viruses present in skins and trophies from wild animals susceptible to FMD, one of the following procedures should be used prior to complete taxidermal treatment:

1. boiling in water for an appropriate time so as to ensure that any matter other than bone, horns, hooves, claws, antlers or teeth is removed;
2. gamma irradiation at a dose of at least 20 kiloGray at room temperature (20°C or higher);
3. soaking, with agitation, in a 4% (w/v) solution of washing soda (sodium carbonate - Na₂CO₃) maintained at pH 11.5 or above for at least 48 hours;
4. soaking, with agitation, in a formic acid solution (100 kg salt [NaCl] and 12 kg formic acid per 1,000 litres water) maintained at below pH 3.0 for at least 48 hours; wetting and dressing agents may be added;
5. in the case of raw hides, salting for at least 28 days with sea salt containing 2% washing soda (sodium carbonate - Na₂CO₃).

Procedures for the inactivation of the FMD virus in casings of ruminants and pigs

For the inactivation of viruses present in casings of ruminants and pigs, the following procedures should be used:
salting for at least 30 days either with dry salt (NaCl) or with saturated brine (Aw < 0.80), or with phosphate salts/sodium chloride mixture, and kept at room temperature of about 20°C during this entire period.

Surveillance: introduction

Articles 8.5.42. to 8.5.48. define the principles and provide a guide for the surveillance of FMD in accordance with Chapter 1.4. applicable to Members seeking establishment of freedom from FMD, either with or without the use of vaccination. Guidance is provided for Members seeking reestablishment of freedom from FMD for the entire country or for a zone, either with or without vaccination, or a compartment, following an outbreak and for the maintenance of FMD status.

The impact and epidemiology of FMD differ widely in different regions of the world and therefore it is impossible to provide specific recommendations for all situations. Surveillance strategies employed for demonstrating freedom from FMD at an acceptable level of confidence will need to be adapted to the local situation. For example, the approach to proving freedom from FMD following an outbreak caused by a pig-adapted strain of FMD virus (FMDV) should differ significantly from an application designed to prove freedom from FMD for a country or zone where African buffaloes (Syncerus caffer) provide a potential reservoir of infection. It is incumbent upon the Member to submit a dossier to the OIE in support of its application that not only explains the epidemiology of FMD in the region concerned but also demonstrates how all the risk
factors are managed. This should include provision of scientifically-based supporting data. There is therefore considerable latitude available to Members to provide a well-reasoned argument to prove that the absence of FMDV infection (in non-vaccinated populations) or circulation (in vaccinated populations) is assured at an acceptable level of confidence.

Surveillance for FMD should be in the form of a continuing programme designed to establish that the whole territory or part of it is free from FMDV infection/circulation.

For the purposes of this Chapter, virus circulation means transmission of FMDV as demonstrated by clinical signs, serological evidence or virus isolation.

Article 8.5.43.

**Surveillance: general conditions and methods**

1. A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. A procedure should be in place for the rapid collection and transport of samples from suspect cases of FMD to a laboratory for FMD diagnoses as described in the Terrestrial Manual.

2. The FMD surveillance programme should:

   a) include an early warning system throughout the production, marketing and processing chain for reporting suspicious cases. Farmers and workers who have day-to-day contact with livestock, as well as diagnosticians, should report promptly any suspicion of FMD. They should be supported directly or indirectly (e.g. through private veterinarians or veterinary para-professionals) by government information programmes and the Veterinary Authority. All suspect cases of FMD should be investigated immediately. Where suspicion cannot be resolved by epidemiological and clinical investigation, samples should be taken and submitted to a laboratory. This requires that sampling kits and other equipment are available for those responsible for surveillance. Personnel responsible for surveillance should be able to call for assistance from a team with expertise in FMD diagnosis and control;

   b) implement, when relevant, regular and frequent clinical inspection and serological testing of high-risk groups of animals, such as those adjacent to an FMD infected country or infected zone (for example, bordering a game park in which infected wildlife are present).

An effective surveillance system will periodically identify suspicious cases that require follow-up and investigation to confirm or exclude that the cause of the condition is FMDV. The rate at which such suspicious cases are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. Applications for freedom from FMDV infection/circulation should, in consequence, provide details of the occurrence of suspicious cases and how they were investigated and dealt with. This should include the results of laboratory testing and the control measures to which the animals concerned were subjected during the investigation (quarantine, movement stand-still orders, etc.).
Surveillance strategies

1. Introduction

The target population for surveillance aimed at identifying disease and infection should cover all the susceptible species within the country, zone or compartment.

The design of surveillance programmes to prove the absence of FMDV infection/circulation needs to be carefully followed to avoid producing results that are either insufficiently reliable to be accepted by the OIE or international trading partners, or excessively costly and logistically complicated. The design of any surveillance programme, therefore, requires inputs from professionals competent and experienced in this field.

The strategy employed may be based on randomised sampling requiring surveillance consistent with demonstrating the absence of FMDV infection/circulation at an acceptable level of statistical confidence. The frequency of sampling should be dependent on the epidemiological situation. Targeted surveillance (e.g. based on the increased likelihood of infection in particular localities or species) may be an appropriate strategy. The Member should justify the surveillance strategy chosen as adequate to detect the presence of FMDV infection/circulation in accordance with Chapter 1.4. and the epidemiological situation. It may, for example, be appropriate to target clinical surveillance at particular species likely to exhibit clear clinical signs (e.g. cattle and pigs). If a Member wishes to apply for recognition of a specific zone within the country as being free from FMDV infection/circulation, the design of the survey and the basis for the sampling process would need to be aimed at the population within the zone.

For random surveys, the design of the sampling strategy will need to incorporate an epidemiologically appropriate design prevalence. The sample size selected for testing will need to be large enough to detect infection/circulation if it were to occur at a predetermined minimum rate. The sample size and expected disease prevalence determine the level of confidence in the results of the survey. The Member must justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence in particular clearly needs to be based on the prevailing or historical epidemiological situation.

Irrespective of the survey design selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained. Ideally, the sensitivity and specificity of the tests used should be validated for the vaccination/infection history and production class of animals in the target population.

Irrespective of the testing system employed, surveillance design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There needs to be an effective procedure for following-up positives to ultimately determine with a high level of confidence, whether they are indicative of infection/circulation or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as herds which may be epidemiologically linked to it.

2. Clinical surveillance

Clinical surveillance aims at detecting clinical signs of FMD by close physical examination of susceptible animals. Whereas significant emphasis is placed on the diagnostic value of mass serological screening, surveillance based on clinical inspection should not be underrated. It
may be able to provide a high level of confidence of detection of disease if a sufficiently large number of clinically susceptible animals is examined.

Clinical surveillance and laboratory testing should always be applied in series to clarify the status of FMD suspects detected by either of these complementary diagnostic approaches. Laboratory testing may confirm clinical suspicion, while clinical surveillance may contribute to confirmation of positive serology. Any sampling unit within which suspicious animals are detected should be classified as infected until contrary evidence is produced.

A number of issues must be considered in clinical surveillance for FMD. The often underestimated labour intensity and the logistical difficulties involved in conducting clinical examinations should not be underestimated and should be taken into account.

Identification of clinical cases is fundamental to FMD surveillance. Establishment of the molecular, antigenic and other biological characteristics of the causative virus, as well as its source, is dependent upon disclosure of such animals. It is essential that FMDV isolates are sent regularly to the regional reference laboratory for genetic and antigenic characterization.

3. Virological surveillance

Virological surveillance using tests described in the Terrestrial Manual should be conducted:

a) to monitor at risk populations;

b) to confirm clinically suspect cases;

c) to follow up positive serological results;

d) to test “normal” daily mortality, to ensure early detection of infection in the face of vaccination or in establishments epidemiologically linked to an outbreak.

4. Serological surveillance

Serological surveillance aims at detecting antibodies against FMDV. Positive FMDV antibody test results can have four possible causes:

a) natural infection with FMDV;

b) vaccination against FMD;

c) maternal antibodies derived from an immune dam (maternal antibodies in cattle are usually found only up to 6 months of age but in some individuals and in some species, maternal antibodies can be detected for considerably longer periods);

d) heterophile (cross) reactions.

It is important that serological tests, where applicable, contain antigens appropriate for detecting antibodies against viral variants (types, subtypes, lineages, topotypes, etc.) that have recently occurred in the region concerned. Where the probable identity of FMDVs is unknown or where exotic viruses are suspected to be present, tests able to detect representatives of all serotypes should be employed (e.g. tests based on nonstructural viral proteins – see below).

It may be possible to use serum collected for other survey purposes for FMD surveillance. However, the principles of survey design described in this Chapter and the requirement for a statistically valid survey for the presence of FMDV should not be compromised.

The discovery of clustering of seropositive reactions should be foreseen. It may reflect any of a series of events, including but not limited to the demographics of the population sampled, vaccinal exposure or the presence of field strain infection. As clustering may signal field strain infection, the investigation of all instances must be incorporated in the survey design. If vaccination cannot be excluded as the cause of positive serological reactions, diagnostic
methods should be employed that detect the presence of antibodies to nonstructural proteins (NSPs) of FMDVs as described in the Terrrestrial Manual.

The results of random or targeted serological surveys are important in providing reliable evidence that FMDV infection is not present in a country, zone or compartment. It is therefore essential that the survey be thoroughly documented.

Article 8.5.45.

Members applying for recognition of freedom from FMD for the whole country or a zone where vaccination is not practised: additional surveillance procedures

In addition to the general conditions described in the above-mentioned articles, a Member applying for recognition of FMD freedom for the country or a zone where vaccination is not practised should provide evidence for the existence of an effective surveillance programme. The strategy and design of the surveillance programme will depend on the prevailing epidemiological circumstances and will be planned and implemented according to general conditions and methods in this Chapter, to demonstrate absence of FMDV infection, during the preceding 12 months in susceptible populations. This requires the support of a national or other laboratory able to undertake identification of FMDV infection through virus/antigen/genome detection and antibody tests described in the Terrrestrial Manual.

Article 8.5.46.

Members applying for recognition of freedom from FMD for the whole country or a zone where vaccination is practised: additional surveillance procedures

In addition to the general conditions described in the above-mentioned articles, a Member applying for recognition of country or zone freedom from FMD with vaccination should show evidence of an effective surveillance programme planned and implemented according to general conditions and methods in this Chapter. Absence of clinical disease in the country or zone for the past 2 years should be demonstrated. Furthermore, surveillance should demonstrate that FMDV has not been circulating in any susceptible population during the past 12 months. This will require serological surveillance incorporating tests able to detect antibodies to NSPs as described in the Terrrestrial Manual. Vaccination to prevent the transmission of FMDV may be part of a disease control programme. The level of herd immunity required to prevent transmission will depend on the size, composition (e.g. species) and density of the susceptible population. It is therefore impossible to be prescriptive. However, the aim should, in general, be to vaccinate at least 80% of the susceptible population. The vaccine must comply with the Terrrestrial Manual. Based on the epidemiology of FMD in the country or zone, it may be that a decision is reached to vaccinate only certain species or other subsets of the total susceptible population. In that case, the rationale should be contained within the dossier accompanying the application to the OIE for recognition of status.

Evidence to show the effectiveness of the vaccination programme should be provided.
Article 8.5.47.

Members re-applying for recognition of freedom from FMD for the whole country or a zone where vaccination is either practised or not practised, following an outbreak: additional surveillance procedures

In addition to the general conditions described in the above-mentioned articles, a country re-applying for country or zone freedom from FMD where vaccination is practised or not practised should show evidence of an active surveillance programme for FMD as well as absence of FMDV infection/circulation. This will require serological surveillance incorporating, in the case of a country or a zone practising vaccination, tests able to detect antibodies to NSPs as described in the Terrestrial Manual.

Four strategies are recognised by the OIE in a programme to eradicate FMDV infection following an outbreak:

1. slaughter of all clinically affected and in-contact susceptible animals;
2. slaughter of all clinically affected and in-contact susceptible animals and vaccination of at-risk animals, with subsequent slaughter of vaccinated animals;
3. slaughter of all clinically affected and in-contact susceptible animals and vaccination of at-risk animals, without subsequent slaughter of vaccinated animals;
4. vaccination used without slaughter of affected animals or subsequent slaughter of vaccinated animals.

The time periods before which an application can be made for re-instatement of freedom from FMD depends on which of these alternatives is followed. The time periods are prescribed in Article 8.5.9.

In all circumstances, a Member re-applying for country or zone freedom from FMD with vaccination or without vaccination should report the results of an active surveillance programme implemented according to general conditions and methods in this Chapter.

Article 8.5.48.

The use and interpretation of serological tests (see Figure 1)

The recommended serological tests for FMD surveillance are described in the Terrestrial Manual. Animals infected with FMDV produce antibodies to both the structural proteins (SP) and the nonstructural proteins (NSP) of the virus. Tests for SP antibodies to include SP-ELISAs and the virus neutralisation test (VNT). The SP tests are serotype specific and for optimal sensitivity should utilise an antigen or virus closely related to the field strain against which antibodies are being sought. Tests for NSP antibodies include NSP I-ELISA 3ABC and the electro-immunotransfer blotting technique (EITB) as recommended in the Terrestrial Manual or equivalent validated tests. In contrast to SP tests, NSP tests can detect antibodies to all serotypes of FMD virus. Animals vaccinated and subsequently infected with FMD virus develop antibodies to NSPs, but in some, the titre may be lower than that found in infected animals that have not been vaccinated. Both the NSP I-ELISA 3ABC and EITB tests have been extensively used in cattle. Validation in other species is ongoing. Vaccines used should comply with the standards of the Terrestrial Manual insofar as purity is concerned to avoid interference with NSP antibody testing.

Serological testing is a suitable tool for FMD surveillance. The choice of a serosurveillance system will depend on, amongst other things, the vaccination status of the country. A country, which is
free from FMD without vaccination, may choose serosurveillance of high-risk subpopulations (e.g., based on geographical risk for exposure to FMDV). SP tests may be used in such situations for screening sera for evidence of FMDV infection/circulation if a particular virus of serious threat has been identified and is well characterised. In other cases, NSP testing is recommended in order to cover a broader range of strains and even serotypes. In both cases, serological testing can provide additional support to clinical surveillance. Regardless of whether SP or NSP tests are used in countries that do not vaccinate, a diagnostic follow-up protocol should be in place to resolve any presumptive positive serological test results.

In areas where animals have been vaccinated, SP antibody tests may be used to monitor the serological response to the vaccination. However, NSP antibody tests should be used to monitor for FMDV infection/circulation. NSP-ELISAs may be used for screening sera for evidence of infection/circulation irrespective of the vaccination status of the animal. All herds with seropositive reactors should be investigated. Epidemiological and supplementary laboratory investigation results should document the status of FMDV infection/circulation for each positive herd. Tests used for confirmation should be of high diagnostic specificity to eliminate as many false positive screening test reactors as possible. The diagnostic sensitivity of the confirmatory test should approach that of the screening test. The EITB or another OIE-accepted test should be used for confirmation.

Information should be provided on the protocols, reagents, performance characteristics and validation of all tests used.

1. **The follow-up procedure in case of positive test results if no vaccination is used in order to establish or re-establish FMD free status without vaccination**

   Any positive test result (regardless of whether SP or NSP tests were used) should be followed up immediately using appropriate clinical, epidemiological, serological and, where possible, virological investigations of the reactor animal at hand, of susceptible animals of the same epidemiological unit and of susceptible animals that have been in contact or otherwise epidemiologically associated with the reactor animal. If the follow-up investigations provide no evidence for FMDV infection, the reactor animal shall be classified as FMD negative. In all other cases, including the absence of such follow-up investigations, the reactor animal should be classified as FMD positive.

2. **The follow-up procedure in case of positive test results if vaccination is used in order to establish or re-establish FMD free status with vaccination**

   In case of vaccinated populations, one has to exclude that positive test results are indicative of virus circulation. To this end, the following procedure should be followed in the investigation of positive serological test results derived from surveillance conducted on FMD vaccinated populations.

   The investigation should examine all evidence that might confirm or refute the hypothesis that the positive results to the serological tests employed in the initial survey were not due to virus circulation. All the epidemiological information should be substantiated, and the results should be collated in the final report.

   It is suggested that in the primary sampling units where at least one animal reacts positive to the NSP test, the following strategy(ies) should be applied:

   a) Following clinical examination, a second serum sample should be taken from the animals tested in the initial survey after an adequate interval of time has lapsed, on the condition that they are individually identified, accessible and have not been vaccinated during this period. The number of animals with antibodies against NSP in the population at the time of retest should be statistically either equal to or less than that observed in the initial test if virus is not circulating.
The *animals* sampled should remain in the holding pending test results and should be clearly identifiable. If the three conditions for retesting mentioned above cannot be met, a new serological survey should be carried out in the holding after an adequate period of time, repeating the application of the primary survey design and ensuring that all *animals* tested are individually identified. These *animals* should remain in the holding and should not be vaccinated, so that they can be retested after an adequate period of time.

b) Following clinical examination, serum samples should be collected from representative numbers of susceptible *animals* that were in physical contact with the primary sampling unit. The magnitude and prevalence of antibody reactivity observed should not differ in a statistically significant manner from that of the primary sample if virus is not circulating.

c) Following clinical examination, epidemiologically linked *herds* should be serologically tested and satisfactory results should be achieved if virus is not circulating.

d) Sentinel *animals* can also be used. These can be young, unvaccinated *animals* or *animals* in which maternally conferred immunity has lapsed and belonging to the same species resident within the positive initial sampling units. They should be serologically negative if virus is not circulating. If other susceptible, unvaccinated *animals* are present, they could act as sentinels to provide additional serological evidence.

*Laboratory* results should be examined in the context of the epidemiological situation. Corollary information needed to complement the serological survey and assess the possibility of viral circulation includes but is not limited to:

- characterization of the existing production systems;

- results of clinical *surveillance* of the suspects and their cohorts;

- quantification of vaccinations performed on the affected sites;

- sanitary protocol and history of the *establishments* with positive reactors;

- control of *animal identification* and movements;

- other parameters of regional significance in historic FMDV transmission.

The entire investigative process should be documented as standard operating procedure within the *surveillance* programme.
Fig. 1. Schematic representation of laboratory tests for determining evidence of FMDV infection through or following serological surveys

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELISA</td>
<td>Enzyme-linked immunosorbent assay</td>
</tr>
<tr>
<td>VNT</td>
<td>Virus neutralisation test</td>
</tr>
<tr>
<td>NSP</td>
<td>Nonstructural protein(s) of foot and mouth disease virus (FMDV)</td>
</tr>
<tr>
<td>3ABC</td>
<td>NSP antibody test</td>
</tr>
<tr>
<td>EITB</td>
<td>Electro-immuno transfer blotting technique (Western blot for NSP antibodies of FMDV)</td>
</tr>
<tr>
<td>SP</td>
<td>Structural protein test</td>
</tr>
<tr>
<td>S</td>
<td>No evidence of FMDV</td>
</tr>
</tbody>
</table>
CHAPTER 8.6.

HEARTWATER

Article 8.6.1.

General provisions

Standards for diagnostic tests are described in the *Terrrestrial Manual*.

Article 8.6.2.

Trade in commodities

*Veterinary Authorities* of countries free from heartwater may prohibit importation or transit through their territory, from countries considered infected with heartwater, of domestic and wild ruminants.

Article 8.6.3.

Recommendations for importation from countries considered infected with heartwater

for domestic and wild ruminants

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the animals:

1. showed no clinical sign of heartwater on the day of shipment;

2. were subjected to a diagnostic test for heartwater with negative results during the 15 days prior to shipment;

3. were treated with acaricides prior to shipment and were completely free of ticks.
CHAPTER 8.7.

JAPANESE ENCEPHALITIS

Article 8.7.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for Japanese encephalitis shall be 21 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.7.2.

Recommendations for importation from countries or zones infected with Japanese encephalitis

for horses

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of Japanese encephalitis on the day of shipment; and

EITHER

2. were kept for the 21 days prior to shipment, in an insect-proof quarantine station and were protected from insect vector attack during their transportation from the quarantine station to the place of shipment;

OR

3. were vaccinated against Japanese encephalitis not less than 7 days and no more than 12 months prior to shipment.
CHAPTER 8.8.

NEW WORLD SCREWWORM  
(Cochliomyia hominivorax)
AND OLD WORLD SCREWWORM  
(Chrysomya bezziana)

Article 8.8.1.

Recommendations for importation from countries considered infested with new world or old world screwworm for domestic and wild mammals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. immediately prior to loading, the animals to be exported have been inspected, on the premises of origin, by an Official Veterinarian. After inspection for wounds with egg masses or larvae of new world or old world screwworm, any infested animal has been rejected for export;

2. immediately prior to entering the quarantine pens in the exporting country:
   a) each animal has been thoroughly examined for infested wounds, under the direct supervision of an Official Veterinarian, and that no infestation has been found in any animal; and
   b) any wounds have been treated prophylactically with an officially approved oily larvicide at the recommended dose; and
   c) all animals have been dipped, sprayed, or otherwise treated, immediately after inspection, with a product officially approved by the importing and exporting countries for the control of new world or old world screwworm, under the supervision of an Official Veterinarian and in conformity with the manufacturer's recommendations;

3. at the end of the quarantine and immediately prior to shipment for export:
   a) all animals have been re-examined for the presence of infestation and all animals have been found free of infestation;
   b) all wounds have been prophylactically treated with an approved oily larvicide under the supervision of an Official Veterinarian;
   c) all animals have been prophylactically treated again by dipping or spraying as in point 2 above.

Article 8.8.2.

Quarantine and transportation recommendations

1. The floor of the quarantine area and the vehicles must be thoroughly sprayed with an officially approved larvicide before and after each use.
2. The transit route must be the most direct, with no stopover without prior permission of the importing country.

Article 8.8.3.

Post importation inspection

1. On arrival at the importation point, all animals must be thoroughly inspected for wounds and possible new world or old world screwworm infestation under the supervision of an Official Veterinarian.

2. The bedding material of the vehicle and the quarantine area should immediately be gathered and burned following each consignment.

Article 8.8.4.

Import/export of animal products

The larval stage of the new world or old world screwworm fly is dependent on live animals and cannot survive for any length of time in dead tissue or animal products; therefore, restrictions on these products are not considered necessary.
CHAPTER 8.9.

PARATUBERCULOSIS

Article 8.9.1.

General provisions

Standards for diagnostic tests and vaccines are described in the *Terrestrial Manual.*
CHAPTER 8.10.

RABIES

Article 8.10.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for rabies shall be 6 months, and the infective period in domestic carnivores starts 15 days before the onset of the first clinical signs and ends when the animal dies.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.10.2.

Rabies free country

For the purposes of international trade, a country may be considered free from rabies when:

1. the disease is notifiable;
2. an effective system of disease surveillance is in operation;
3. all regulatory measures for the prevention and control of rabies have been implemented including effective importation procedures;
4. no case of indigenously acquired rabies infection has been confirmed in man or any animal species during the past 2 years; however, this status would not be affected by the isolation of Bat Lyssavirus;
5. no imported case in carnivores has been confirmed outside a quarantine station for the past 6 months.

Article 8.10.3.

Recommendations for importation from rabies free countries

for domestic mammals, and wild mammals reared under confined conditions

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of rabies on the day of shipment;
2. were kept since birth or for the 6 months prior to shipment in a rabies free country or were imported in conformity with the regulations stipulated in Articles 8.10.5., 8.10.6. or 8.10.7.
Article 8.10.4.

**Recommendations for importation from rabies free countries**

for wild mammals not reared under confined conditions

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the *animals*:

1. showed no clinical sign of rabies on the day of shipment;
2. have been captured in a rabies free country, at a sufficient distance from any infected country. The distance should be defined according to the species exported and the reservoir species in the infected country.

Article 8.10.5.

**Recommendations for importation from countries considered infected with rabies**

for dogs and cats

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the *animals*:

1. showed no clinical sign of rabies within 48 hours of shipment;

AND EITHER

2. were identified by a permanent mark (such as a microchip) and their identification number shall be stated in the *certificate*; and
3. were vaccinated against rabies:
   a) not less than 6 months and not more than one year prior to shipment in the case of a primary vaccination, which should have been carried out when the *animals* were at least 3 months old;
   b) not more than one year prior to shipment in the case of a booster vaccination;
   c) with an inactivated virus vaccine or with a recombinant vaccine expressing the rabies virus glycoprotein; and
4. were subjected not less than 3 months and not more than 24 months prior to shipment to an antibody test as prescribed in the *Terrestrial Manual* with a positive result equivalent to at least 0.5 IU/ml;

OR

5. have not been vaccinated against rabies or do not meet all the conditions set out in points 2, 3 and 4 above; in such cases, the *importing country* may require the placing of the *animals* in a *quarantine station* located on its territory, in conformity with the conditions stipulated in its animal health legislation.

Article 8.10.6.

**Recommendations for importation from countries considered infected with rabies**
for domestic ruminants, equines and pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of rabies on the day of shipment;
2. were kept for the 6 months prior to shipment in an establishment where separation from wild and feral animals was maintained and where no case of rabies was reported for at least 12 months prior to shipment.

Article 8.10.7.

Recommendations for importation from countries considered infected with rabies

for laboratory reared rodents and lagomorphs, and lagomorphs or wild mammals (other than non-human primates) reared under confined conditions

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of rabies on the day of shipment;
2. were kept since birth, or for the 6 months prior to shipment, in an establishment where no case of rabies was reported for at least 12 months prior to shipment.

Article 8.10.8.

Recommendations for importation from countries considered infected with rabies

for wild mammals not belonging to the orders of primates or carnivores and not reared under confined conditions

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of rabies on the day of shipment;
2. were kept in a quarantine station for the 6 months prior to shipment.

Article 8.10.9.

Recommendations for importation from countries considered infected with rabies

for frozen semen of dogs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals showed no clinical sign of rabies during the 15 days following collection of the semen.

[Note: For non-human primates, reference should be made to Chapter 6.11.]
CHAPTER 8.11.

RIFT VALLEY FEVER

Article 8.11.1.

General provisions

For the purposes of the Terrestrial Code, the infective period for Rift Valley fever (RVF) shall be 30 days.

For the purposes of this chapter, ruminants include camels.

The historic distribution of RVF is the sub-Saharan African continent, Madagascar and the Arabian Peninsula.

Countries or zones within the historic distribution of RVF or adjacent to those that are historically infected should be subjected to surveillance.

Epidemics of RVF may occur in infected areas after flooding. They are separated by inter-epidemic periods that may last for several decades in arid areas and, during these periods, the prevalence of infection in humans, animals and mosquitoes can be difficult to detect.

In the absence of clinical disease, the RVF status of a country or zone within the historically infected regions of the world should be determined by a surveillance programme (carried out in accordance with Chapter 1.4.) focusing on mosquitoes and serology of susceptible mammals. The programme should concentrate on parts of the country or zone at high risk because of historical, geographic and climatic factors, ruminant and mosquito population distribution, and proximity to areas where epidemics have recently occurred.

Standards for diagnostic tests are described in the Terrestrial Manual.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 8.11.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the RVF status of the ruminant population of the exporting country or zone.

Article 8.11.2.

Safe trade

When authorising import or transit of the following commodities and any products made from them, Veterinary Authorities should not require any RVF related conditions, regardless of the RVF status of the ruminant population of the exporting country or zone:

1. hides and skins;
2. wool and fibre.
Article 8.11.3.

RVF infection free country or zone

A country or a zone may be considered free from RVF infection when the disease is notifiable in animals throughout the country and either:

1. the country or zone lies outside the historically infected regions, and not adjacent to historically infections; or

2. a surveillance programme as described in Article 8.11.1. has demonstrated no evidence of RVF infection in humans, animals or mosquitoes in the country or zone during the past 4 years following a RVF epidemic.

The provisions of the last paragraph of Article 8.11.1. may need to be complied with on a continuous basis in order to maintain freedom from infection, depending on the geographical location of the country or zone.

A RVF infection free country or zone in which surveillance and monitoring has found no evidence that RVF infection is present will not lose its free status through the importation of permanently marked seropositive animals or those destined for direct slaughter.

Article 8.11.4.

RVF infected country or zone without disease

A RVF disease free country or zone is a country or zone that is not infection free (see Article 8.11.3.) but in which disease has not occurred in humans or animals in the past 6 months provided that climatic changes predisposing to outbreaks of RVF have not occurred during this time.

Article 8.11.5.

RVF infected country or zone with disease

A RVF infected country or zone with disease is one in which clinical disease in humans or animals has occurred within the past 6 months.

Article 8.11.6.

Recommendations for importation from RVF infection free countries or zones for ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. were kept in a RVF free country or zone since birth or for at least 30 days prior to shipment; and

2. if the animals were exported from a free zone, either:
   a) did not transit through an infected zone during transportation to the place of shipment; or
b) were protected from mosquito attack at all times when transiting through an infected zone.

Article 8.11.7.

Recommendations for importation from RVF infection free countries or zones

for meat and meat products of domestic and wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products are derived from animals which remained in the RVF infection free country/free zone since birth or for the last 30 days.

Article 8.11.8.

Recommendations for importation from RVF infected countries/zones without disease

for ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no evidence of RVF on the day of shipment;
2. met one of the following conditions:
   a) were kept in a RVF infected country/zone free of disease since birth or for the last 6 months providing that climatic changes predisposing to outbreaks of RVF have not occurred during this time; or
   b) were vaccinated against RVF at least 21 days prior to shipment with a modified live virus vaccine; or
   c) were held in a mosquito-proof quarantine station for at least 30 days prior to shipment during which the animals showed no clinical signs of RVF and were protected from mosquitoes between quarantine and the place of shipment as well as at the place of shipment;

AND

3. did not transit through an infected zone with disease during transportation of the place of shipment.

Article 8.11.9.

Recommendations for importation from RVF infected countries or zones without disease

for meat and meat products of domestic and wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the products are derived from animals which:
   a) remained in the RVF infected country or zone without disease since birth or for the last 30 days;
b) were slaughtered in an approved abattoir and were subjected to ante-mortem and post-mortem inspections for RVF with favourable results;

2. the carcasses from which the products were derived were submitted to maturation at a temperature above +2°C for a minimum period of 24 hours following slaughter.

Article 8.11.10.

Recommendations for importation from RVF infected countries or zones with disease

for ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no evidence of RVF on the day of shipment;
2. were vaccinated against RVF at least 21 days prior to shipment with a modified live virus vaccine;

OR

3. were held in a mosquito-proof quarantine station for at least 30 days prior to shipment during which the animals showed no clinical signs of RVF and were protected from mosquito attack between quarantine and the place of shipment as well as at the place of shipment.

Article 8.11.11.

Recommendations for importation from RVF infected countries or zones with disease

for meat and meat products of domestic and wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the carcasses:

1. are from animals which have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for RVF with favourable results; and
2. have been fully eviscerated and submitted to maturation at a temperature above +2°C for a minimum period of 24 hours following slaughter.

Article 8.11.12.

Recommendations for importation from RVF infected countries or zones with disease

for in vivo derived embryos of ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:

1. showed no evidence of RVF within the period from 28 days prior to 28 days following collection of the embryos;
2. were vaccinated against RVF at least 21 days prior to collection with a modified live virus vaccine;
OR

3. were serologically tested on the day of collection and at least 14 days following collection and showed no significant rise in titre.

Article 8.11.13.

(Under study) Recommendations for importation from RVF infected countries or zones with disease or from RVF infected countries or zones without disease for milk and milk products.

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the consignment:

1. was subjected to pasteurization; or
2. was subjected to a combination of control measures with equivalent performance as described in the Codex Alimentarius Code of Hygienic Practice for Milk and Milk Products.
CHAPTER 8.12.

RINDERPEST

Article 8.12.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for rinderpest (RP) shall be 21 days.

For the purpose of this chapter, a case includes an animal infected with rinderpest virus (RPV).

For the purpose of this chapter, susceptible animals apply to both domestic and wild artiodactyls.

For the purposes of international trade, this chapter deals not only with the occurrence of clinical signs caused by RPV, but also with the presence of infection with RPV in the absence of clinical signs.

Ban on vaccination against RP means a ban on administering a RP vaccine to any susceptible animal and a heterologous vaccine against RP to any large ruminants or pigs.

1. Animal not vaccinated against RP means:
   a) for large ruminants and pigs: an animal that has received neither a RP vaccine nor a heterologous vaccine against RP;
   b) for small ruminants: an animal that has not received a RP vaccine.

2. The following defines the occurrence of RPV infection:
   a) RPV has been isolated and identified as such from an animal or a product derived from that animal; or
   b) viral antigen or viral ribonucleic acid (RNA) specific to RP has been identified in samples from one or more animals showing one or more clinical signs consistent with RP, or epidemiologically linked to an outbreak of RP, or giving cause for suspicion of association or contact with RP; or
   c) antibodies to RPV antigens which are not the consequence of vaccination, have been identified in one or more animals with either epidemiological links to a confirmed or suspected outbreak of RP in susceptible animals, or showing clinical signs consistent with recent infection with RP.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 8.12.2.

Rinderpest free country

To qualify for inclusion in the existing list of RP free countries, a Member should:

1. have a record of regular and prompt animal disease reporting;
2. send a declaration to the OIE stating that:
   a) there has been no outbreak of RP during the past 24 months,
b) no evidence of RPV infection has been found during the past 24 months,

c) no vaccination against RP has been carried out during the past 24 months,

3. supply documented evidence that surveillance for both RP and RPV infection in accordance with Articles 8.12.20. to 8.12.27. is in operation and that regulatory measures for the prevention and control of RP have been implemented;

4. not have imported since the cessation of vaccination any animals vaccinated against RP.

The Member will be included in the list only after the submitted evidence has been accepted by the OIE. Retention on the list requires that the information in points 2a), 2b) and 2c) above be re-submitted annually and changes in the epidemiological situation or other significant events should be reported to the OIE according to the requirements in Chapter 1.1.

Article 8.12.3.

Recovery of free status

When a RP outbreak or RPV infection occurs in a RP free country, one of the following waiting periods is required to regain the status of RP free country:

1. 3 months after the last case where a stamping-out policy and serological surveillance are applied in accordance with Articles 8.12.20. to 8.12.27.; or

2. 3 months after the slaughter of all vaccinated animals where a stamping-out policy, emergency vaccination and serological surveillance are applied in accordance with Articles 8.12.20. to 8.12.27.; or

3. 6 months after the last case or the last vaccination (according to the event that occurs the latest), where a stamping-out policy, emergency vaccination not followed by the slaughter of all vaccinated animals, and serological surveillance are applied in accordance with Articles 8.12.20. to 8.12.27.

Where a stamping-out policy is not practised, the above waiting periods do not apply but Article 8.12.2. applies.

Article 8.12.4.

Infected country

When the requirements for acceptance as a RP free country are not fulfilled, a country shall be considered as RP infected.

Article 8.12.5.

Recommendations for importation from RP free countries

for RP susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of RP on the day of shipment;

2. remained in a RP free country since birth or for at least 30 days prior to shipment.
Article 8.12.6.

**Recommendations for importation from RP infected countries**

for RP susceptible animals

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. RP is the subject of a national *surveillance* programme according to Articles 8.12.20. to 8.12.27.;

2. RP has not occurred within a 10-kilometre radius of the *establishment* of origin of the *animals* destined for export for at least 21 days prior to their shipment to the *quarantine station* referred to in point 3b) below;

3. the *animals*:
   a) showed no clinical sign of RP on the day of shipment;
   b) were kept in the *establishment* of origin since birth or for at least 21 days before introduction into the *quarantine station* referred to in point c) below;
   c) have not been vaccinated against RP, were isolated in a *quarantine station* for the 30 days prior to shipment, and were subjected to a diagnostic test for RP on two occasions with negative results, at an interval of not less than 21 days;
   d) were not exposed to any source of *infection* during their transportation from the *quarantine station* to the place of shipment;

4. RP has not occurred within a ten-kilometre radius of the *quarantine station* for 30 days prior to shipment.

Article 8.12.7.

**Recommendations for importation from RP free countries**

for semen of RP susceptible animals

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor *animals*:
   a) showed no clinical sign of RP on the day of collection of the semen;
   b) were kept in a RP free country for at least 3 months prior to collection;

2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 8.12.8.

**Recommendations for importation from RP infected countries**
for semen of RP susceptible animals

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. RP is the subject of a national _surveillance_ programme according to Articles 8.12.20. to 8.12.27.;
2. the donor _animals_:
   a) showed no clinical sign of RP on the day of collection of the semen;
   b) were kept in an _establishment_ where no RP susceptible _animals_ had been added in the 21 days before collection, and that RP has not occurred within 10 kilometres of the _establishment_ for the 21 days before and after collection;
   c) were vaccinated against RP at least 3 months prior to collection; or
   d) have not been vaccinated against RP, and were subjected to a diagnostic test on two occasions with negative results, at an interval of not less than 21 days within the 30 days prior to collection;
3. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 8.12.9.

**Recommendations for importation from RP free countries**

_for in vivo_ derived embryos of RP susceptible animals

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor females were kept in an _establishment_ located in a RP free country at the time of collection;
2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 8.12.10.

**Recommendations for importation from RP infected countries**

_for in vivo_ derived embryos of RP susceptible animals

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. RP is the subject of a national _surveillance_ programme according to Articles 8.12.20. to 8.12.27.;
2. the donor females:
   a) and all other _animals_ in the _establishment_ showed no clinical sign of RP at the time of collection and for the following 21 days;
   b) were kept in an _establishment_ where no RP susceptible _animals_ had been added in the 21 days before collection of the embryos;
   c) were vaccinated against RP at least 3 months prior to collection; or
d) have not been vaccinated against RP, and were subjected to a diagnostic test for RP on
two occasions with negative results, at an interval of not less than 21 days within the
30 days prior to collection;

3. the embryos were collected, processed and stored in conformity with the provisions of
Chapters 4.7. and 4.9., as relevant.

Article 8.12.11.

Recommendations for importation from RP free countries

for fresh meat or meat products of susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate
attesting that the entire consignment comes from animals which have been kept in the country
since birth or for at least 3 months prior to slaughter.

Article 8.12.12.

Recommendations for importation from RP infected countries

for fresh meat (excluding offal) of susceptible animals

Veterinary Authorities should require the presentation of an international veterinary certificate
attesting that the entire consignment of meat:

1. comes from a country where RP is the subject of a national surveillance programme
   according to Articles 8.12.20. to 8.12.27.;

2. comes from animals which:
   a) showed no clinical sign of RP within 24 hours before slaughter;
   b) have remained in the country for at least 3 months prior to slaughter;
   c) were kept in the establishment of origin since birth or for at least 30 days prior to
      shipment to the approved abattoir, and that RP has not occurred within a ten-kilometre
      radius of the establishment during that period;
   d) were vaccinated against RP at least 3 months prior to shipment to the approved abattoir;
   e) had been transported, in a vehicle which was cleansed and disinfected before the animals
      were loaded, directly from the establishment of origin to the approved abattoir without
      coming into contact with other animals which do not fulfil the required conditions for
      export;
   f) were slaughtered in an approved abattoir in which no RP has been detected during the
      period between the last disinfection carried out before abattoir and the date on which the
      shipment has been dispatched.


Recommendations for importation from RP infected countries
for meat products of susceptible animals

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. only *fresh meat* complying with the provisions of Article 8.12.12. has been used in the preparation of the *meat products*; or

2. the *meat products* have been processed to ensure the destruction of the RPV in conformity with one of the procedures referred to in Article 8.5.34.;

3. the necessary precautions were taken after processing to avoid contact of the *meat products* with any possible source of RPV.


**Recommendations for importation from RP free countries**

for milk and milk products intended for human consumption and for products of animal origin (from RP susceptible animals) intended for use in animal feeding or for agricultural or industrial use

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products come from *animals* which have been kept in the country since birth or for at least 3 months.

Article 8.12.15.

**Recommendations for importation from RP infected countries**

for milk and cream

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. these products:
   a) originate from *herds or flocks* which were not subjected to any restrictions due to RP at the time of milk collection;
   b) have been processed to ensure the destruction of the RPV in conformity with one of the procedures referred to in Articles 8.5.38. and 8.5.39.;

2. the necessary precautions were taken after processing to avoid contact of the products with any potential source of RPV.

Article 8.12.16.

**Recommendations for importation from RP infected countries**

for milk products

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. these products are derived from *milk* complying with the above requirements;
2. the necessary precautions were taken after processing to avoid contact of the milk products with a potential source of RPV.

Article 8.12.17.

**Recommendations for importation from RP infected countries**

for blood and meat-meals (from susceptible animals)

_Veterinary Authorities_ should require the presentation of an international veterinary certificate attesting that the manufacturing method for these products included heating to a minimum internal temperature of 70°C for at least 30 minutes.

Article 8.12.18.

**Recommendations for importation from RP infected countries**

for wool, hair, bristles, raw hides and skins (from susceptible animals)

_Veterinary Authorities_ should require the presentation of an international veterinary certificate attesting that:

1. these products have been processed to ensure the destruction of the RPV in conformity with one of the procedures referred to in Articles 8.5.35., 8.5.36. and 8.5.37.;
2. the necessary precautions were taken after processing to avoid contact of the products with any potential source of RPV.

_Veterinary Authorities_ can authorise, without restriction, the import or transit through their territory of semi-processed hides and skins (limed hides, pickled pelts, and semi-processed leather - e.g. wet blue and crust leather), provided that these products have been submitted to the usual chemical and mechanical processes in use in the tanning industry.

Article 8.12.19.

**Recommendations for importation from RP infected countries**

for hooves, claws, bones and horns, hunting trophies and preparations destined for museums (from susceptible animals)

_Veterinary Authorities_ should require the presentation of an international veterinary certificate attesting that these products:

1. were completely dried and had no trace on them of skin, flesh or tendon; and/or
2. have been adequately disinfected.

Article 8.12.20.

**Surveillance: introduction**

Articles 8.12.20. to 8.12.27. define the principles and provides a guide for the surveillance of RP in accordance with Chapter 1.4. applicable to Members seeking establishment of freedom from RP.
Guidance is provided for Members seeking reestablishment of freedom from RP, following an outbreak and for the maintenance of RP free status.

Surveillance strategies employed for demonstrating freedom from RP at an acceptable level of confidence will need to be adapted to the local situation. Outbreaks of RP in cattle may be graded as per-acute, acute or sub-acute. Differing clinical presentations reflect variations in levels of innate host resistance (Bos indicus breeds being more resistant than B. taurus), and variations in the virulence of the attacking strain. Experience has shown that syndromic surveillance strategies i.e. surveillance based on a predefined set of clinical signs (e.g. searching for “stomatitis-enteritis syndrome”) are useful to increase the sensitivity of the system. It is generally accepted that unvaccinated populations of cattle are likely to promote the emergence of virulent strains and associated epidemics while partially vaccinated populations favour the emergence of mild strains associated with endemic situations. In the case of per-acute cases the presenting sign may be sudden death. In the case of sub-acute (mild) cases, clinical signs are irregularly displayed and difficult to detect.

In certain areas there are some key wildlife populations, especially African buffaloes, which act as sentinels for RP infection. These subpopulations should be included in the design of the surveillance strategy.

Surveillance for RP should be in the form of a continuing programme designed to establish that the whole country is free from RP virus (RPV) infection.

Article 8.12.21.

Surveillance: general conditions and methods

1. A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. A procedure should be in place for the rapid collection and transport of samples from suspect cases of RP to a laboratory for RP diagnoses as described in the Terrestrial Manual.

2. The RP surveillance programme should:

a) include an early warning system throughout the production, marketing and processing chain for reporting suspicious cases. Farmers and workers who have day-to-day contact with livestock, as well as diagnosticians, should report promptly any suspicion of RP. They should be supported directly or indirectly (e.g. through private veterinarians or veterinary para-professionals) by government information programmes and the Veterinary Authority. All significant epidemiological events consistent with “stomatitis-enteritis syndrome” should be investigated immediately. Where suspicion cannot be resolved by epidemiological and clinical investigation, samples should be taken and submitted to a laboratory. This requires that sampling kits and other equipment are available for those responsible for surveillance. Personnel responsible for surveillance should be able to call for assistance from a team with expertise in RP diagnosis and control;

b) implement, when relevant, regular and frequent clinical inspection and serological testing of high-risk groups of animals, such as those adjacent to a RP infected country.

An effective surveillance system will periodically identify suspicious cases compatible with the “stomatitis-enteritis syndrome” that require follow-up and investigation to confirm or exclude that the cause of the condition is RPV. The rate at which such suspicious cases are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. Applications for freedom from RPV infection should, in consequence, provide
details of the occurrence of suspicious cases and how they were investigated and dealt with. This should include the results of laboratory testing and the control measures to which the animals concerned were subjected during the investigation (quarantine, movement stand-still orders, etc.).

Article 8.12.22.

Surveillance strategies

1. Introduction

The target population for surveillance aimed at identifying disease and infection should cover all significant populations of susceptible species within the country to be recognised as free from RPV infection.

The strategy employed can be based on randomised sampling requiring surveillance consistent with demonstrating the absence of RPV infection at an acceptable level of statistical confidence. The frequency of sampling should be dependent on the epidemiological situation. Targeted surveillance (e.g. based on the increased likelihood of infection in particular localities or species) can be an appropriate strategy. The applicant Member should justify the surveillance strategy chosen as adequate to detect the presence of RPV infection in accordance with Chapter 1.4. and the epidemiological situation. It may, for example, be appropriate to target clinical surveillance at particular subpopulations likely to exhibit clear clinical signs.

For targeted surveillance consideration should be given to the following:

a) historical disease patterns (risk mapping) – clinical, participatory and laboratory-based;
b) critical population size, structure and density;
c) livestock husbandry and farming systems;
d) movement and contact patterns – markets and other trade-related movements;
e) transmission parameters (e.g. virulence of the strain, animal movements);
f) wildlife and other species demography.

For random surveys, the design of the sampling strategy will need to take into account the expected disease prevalence. The sample size selected for testing will need to be large enough to detect infection if it were to occur at a predetermined minimum rate. The sample size and expected disease prevalence determine the level of confidence in the results of the survey. The applicant Member must justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the expected prevalence in particular clearly needs to be based on the prevailing or historical epidemiological situation.

Irrespective of the survey design selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained.

Irrespective of the testing system employed, surveillance design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There needs to be an effective procedure for following-up positives to subsequently determine with a high level of confidence, whether they are indicative of infection or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as herds which may be epidemiologically linked to it.
The principles involved in surveillance for disease/infection are technically well defined in Chapter 1.4. The design of surveillance programmes to prove the absence of RPV infection needs to be carefully followed to ensure the reliability of results. The design of any surveillance programme, therefore, requires inputs from professionals competent and experienced in this field.

2. Clinical surveillance

Clinical surveillance aims at detecting clinical signs of "stomatitis-enteritis syndrome" by close physical examination of susceptible animals. Whereas significant emphasis is placed on the diagnostic value of mass serological screening, surveillance based on clinical inspection should not be underrated. It may be able to provide a high level of confidence of detection of disease if sufficiently large numbers of clinically susceptible animals are examined. It is essential that clinical cases detected be followed by the collection of appropriate samples such as ocular and nasal swabs, blood or other tissues for virus isolation. Clinical surveillance and laboratory testing should always be applied in series to clarify the status of RP suspects detected by either of these complementary diagnostic approaches. Laboratory testing may confirm clinical suspicion, while clinical surveillance may contribute to confirmation of positive serology. Any sampling unit within which suspicious animals are detected should be classified as infected until contrary evidence is produced.

Active search for clinical disease can include participatory disease searching, tracing backwards and forwards, and follow-up investigations. Participatory disease surveillance is a form of targeted active surveillance based upon methods to capture livestock owners perceptions on the prevalence and patterns of disease.

The labour requirements and the logistical difficulties involved in conducting clinical examinations should be taken into account.

It is essential that all RPV isolates are sent to an OIE Reference Laboratory to determine the biological characteristics of the causative virus as well as its genetic and antigenic characterization.

3. Virological surveillance

Given that RP is an acute infection with no known carrier state, virological surveillance using tests described in the Terrestrial Manual should be conducted to confirm clinically suspect cases. Applying virological methods in seropositive animals is not regarded as an efficient approach.

4. Serological surveillance

Serological surveillance aims at detecting antibodies against RPV. Positive RPV antibody test results can have four possible causes:

a) natural infection with RPV;

b) vaccination against RP;

c) maternal antibodies derived from an immune dam (maternal antibodies in cattle can be found only up to 12 months of age);

d) heterophile (cross) and other non-specific reactions.
Article 8.12.23.

**Selection of cattle and buffaloes for serosurveillance**

Mis-ageing of cattle selected for serosurveillance is the most common source of error. Colostral immunity can persist almost up to one year of age when measured by the H c-ELISA. Thus, it is essential to exclude from sampling buffaloes and cattle less than one year of age. In addition, it is frequently necessary to be able to exclude those which are older than a certain age, for example, to select only those born after cessation of vaccination.

It is important to select a cohort of cattle possessing only one pair of permanent incisors to preclude any interference from maternal immunity derived from earlier vaccination or infection and ensure that vaccinated cattle are not included.

Although it is stressed here that animals with milk teeth only are not suitable for surveillance based on serology, they are of particular interest and importance in surveillance for clinical disease. After the loss of colostral immunity, by about one year of age, these are the animals which are most likely to suffer the more severe disease form and in which to look for lesions indicative of RP.

It may be possible to use serum collected for other survey purposes for RP surveillance. However, the principles of survey design described in this chapter and the requirement for a statistically valid survey for the presence of RPV should not be compromised.

The discovery of clustering of seropositive reactions should be foreseen. It may reflect any of a series of events, including but not limited to the demographics of the population sampled, vaccinal exposure or the presence of field strain infection. As clustering may signal field strain infection, the investigation of all instances must be incorporated in the survey design.

The results of random or targeted serological surveys are important in providing reliable evidence that RPV infection is not present in a country. It is therefore essential that the survey be adequately documented.


**Wildlife surveillance where a significant susceptible wildlife population exists**

There are some key wildlife populations, especially African buffaloes, which act as sentinels for RP infection. Where a significant population of a susceptible wildlife species exists, serosurveillance data should be collected to support absence of infection. Detection of virus circulation in wildlife can be undertaken indirectly by sampling contiguous livestock populations.

Obtaining meaningful data from wildlife surveillance can be enhanced by close coordination of activities in the regions and countries. Both purposive and opportunistic samplings are used to obtain material for analysis in national and reference laboratories. The latter are required because many countries do not have adequate facilities to perform the full testing protocol for detecting RP antibodies in wildlife sera.

Targeted sampling is the preferred method to provide wildlife data to evaluate the status of RP infection. In reality, the capacity to perform targeted surveillance in the majority of countries remains minimal. However, samples can be obtained from hunted animals, and these may provide useful background information.

Wildlife form transboundary populations; therefore, any data from the population could be used to represent the result for the ecosystem and be submitted by more than one Member in an
application to the OIE (even if the sampling was not obtained in the territory of the OIE Member submitting the application). It is recommended therefore that the OIE Member Countries or Territories represented in a particular ecosystem should coordinate their sampling programmes.

Where the serological history of the herd is known from previous work (as might be the case for a sentinel herd), repeat sampling need only focus on the untested age groups, born since the last known infection. The sample needs to be taken according to the known epidemiology of the disease in a given species. Samples collected from hunted animals, which are positive, should not be interpreted without a targeted survey to confirm the validity of these results. Such sampling cannot follow a defined protocol and therefore can only provide background information.

Article 8.12.25.

Members applying for recognition of freedom from RP

In addition to the general conditions described in this chapter, a Member applying for recognition of RP freedom for the country should provide evidence for the existence of an effective surveillance programme. The strategy and design of the surveillance programme will depend on the prevailing epidemiological circumstances and will be planned and implemented according to general conditions and methods in this chapter, to demonstrate absence of RPV infection, during the preceding 24 months in susceptible populations. This requires the support of a national or other laboratory able to undertake identification of RPV infection through virus/antigen/genome detection and antibody tests described in the Terrestrial Manual.


Members re-applying for recognition of freedom from RP following an outbreak

Following an outbreak, or outbreaks, of RP in a Member at any time after recognition of RP freedom, the origin of the virus strain should be thoroughly investigated. In particular it is important to determine if this is due to the re-introduction of virus or re-emergence from an undetected focus of infection. Ideally, the virus should be isolated and compared with historical strains from the same area as well as those representatives of other possible sources.

After elimination of the outbreak or outbreaks, a Member wishing to regain the status ‘free from rinderpest’ should undertake serosurveillance according to this chapter to determine the extent of virus spread. In addition to the general conditions described in this chapter, a Member re-applying for recognition of country freedom from RP should show evidence of an active surveillance programme for RP as well as absence of RPV infection.

If investigations show the outbreak virus originated from outside the country, provided the outbreak was localised, rapidly contained and speedily eliminated, and provided there was no serological evidence of virus spread outside the index infected area, accreditation of freedom could proceed rapidly. It should be established that the outbreaks were contained, eliminated and did not represent endemic infection.
The use and interpretation of serological tests for serosurveillance of RP

Serological testing is an appropriate tool to use for RP surveillance. The prescribed serological tests which should be used for RP surveillance are described in the Terrestrial Manual; these are of high diagnostic specificity and minimise the proportion of false positive reactions. Antibodies to virulent strains and the Kabete O vaccine strain of RPV can be detected in cattle from about 10 days post infection (approximately 7 days after the appearance of fever) and peak around 30 to 40 days post infection. Antibodies then persist for many years, possibly for life, although titres decline with time. In the case of less virulent strains the detection of the antibody response by ELISA may be delayed by as much as three weeks. There is only one serotype of virus and the tests will detect antibodies elicited by infection with all RP viruses but the tests cannot discriminate between antibodies to field infection and those from vaccination with attenuated vaccines. This fact compromises serosurveillance in vaccinated populations and realistically meaningful serosurveillance can only commence once vaccination has ceased for several years. In these circumstances, dental ageing of cattle and buffaloes is of great value to minimise the inclusion of animals seropositive by virtue of colostral immunity and historic vaccination or infection. The cohort of cattle with one single set of central incisors is the most appropriate to sample (see footnote 2).

The test most amenable to the mass testing of sera as required to demonstrate freedom from infection is the H c-ELISA. Practical experience from well-controlled serological surveillance in non-vaccinated populations in Africa and Asia demonstrate that one can expect false positive reactions in 0.05% or less of sera tested. The sensitivity of the test approaches 100% (relative to the VNT) in Kabete O vaccinated cattle and infection with highly virulent viruses but is lower in the case of low virulence strains. Experience supported by experimental studies indicates that in all cases sensitivity exceeds 70%.

Only tests approved by OIE as indicated in the Terrestrial Manual should be used to generate data presented in support of applications for accreditation of RP freedom. It is necessary to demonstrate that apparently positive serological results have been adequately investigated. The follow-up studies should use appropriate clinical, epidemiological, serological and virological investigations. By this means the investigation should examine all evidence that might confirm or refute the hypothesis that the positive results to the serological tests employed in the survey were not due to virus circulation.
The prescribed serological tests have not been fully validated for use in all wild species. From the collective experience of the reference laboratories and experts over the years, an appropriate test protocol for wildlife is based on the high expected sero-prevalence in a previously infected buffalo herd which is 99% seroconversion of eligible animals within a herd as detected by use of a 100% sensitive test. No single test can achieve this but combining the Hc-ELISA with the VNT raises sensitivity close to 100%.


2 Pragmatically and solely for the purposes of serosurveillance, it can be accepted that cattle having one pair of erupted permanent central incisor teeth are aged between 21 and 36 months (Asian buffaloes 24 to 48 months) and cattle having only two pairs of erupted permanent central incisor teeth are aged between 30 and 48 months (Asian buffaloes 48-60 months).
CHAPTER 8.13.

TRICHINELLOSIS

(Trichinella spiralis)

Article 8.13.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.13.2.

Trichinellosis free country or zone

A country or zone may be considered free from trichinellosis in domestic swine when:

1. trichinellosis is notifiable in the country;

2. there is in force an effective disease reporting system shown to be capable of capturing the occurrence of cases;

AND EITHER:

3. it has been ascertained that Trichinella infection does not exist in the domestic swine population of the country or zone under consideration; this is established by the regular surveillance of the swine population using an approved testing procedure, which provided negative results when:

   a) within a five-year period, a serological survey was conducted on a statistically based sample size from within the slaughter sow population sufficient to provide at least 95% confidence of detecting trichinellosis if it was present at a prevalence exceeding 0.02%, and during this five-year period, continuous testing was conducted on a statistically based sample size from within the annual slaughter swine population sufficient to provide at least 95% confidence of detecting trichinellosis if it is present at a prevalence exceeding 0.01%, following which:

   b) a serological survey is carried out every third year on the slaughter sow population sufficient to provide at least 95% confidence of detecting trichinellosis if it is present at a prevalence exceeding 0.2%; during this time the number of samples in the slaughter swine population could be reduced to detect at the 0.5% level on an annual basis;

OR

4. in the country or zone under consideration, the following conditions are met:
   a) trichinellosis has not been reported in the domestic swine population for at least 5 years;
   b) wild susceptible species are subjected to a regular surveillance programme, and no clinical, serological or epidemiological evidence of trichinellosis has been found;

5. the regular surveillance described in point 3 above is carried out and should be concentrated where infestation was last identified, and/or where the feeding of swill to swine occurs;
6. any suspicion of disease is followed at the field level by traceback, quarantine and laboratory testing;

7. if trichinellosis is confirmed, the infected premises remains under official control programme and is subjected to disease control measures using a stamping-out policy and rodent control;

8. all feeding of swill is officially regulated;

9. any human outbreaks of trichinellosis are investigated to determine the animal source.

Article 8.13.3.

Trichinellosis free herd

(under study).

Article 8.13.4.

Recommendations for the importation of fresh meat of swine (domestic and wild)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the entire consignment of meat:

1. comes from domestic swine which have been slaughtered and inspected in an approved abattoir or wild swine which have been inspected;

AND

2. were subjected to a testing procedure for trichinellosis with negative results; or

3. comes from domestic swine which were born and bred in a country or zone free from trichinellosis in domestic swine; or

4. has been processed to ensure the destruction of all the larvae of the parasite.

Article 8.13.5.

Recommendations for the importation of fresh meat of equines (domestic and wild)

Veterinary Authorities of importing countries may require the presentation of an international veterinary certificate attesting that the entire consignment of meat:

1. comes from equines slaughtered and/or inspected in an approved abattoir;

AND

2. were subjected to a testing procedure for trichinellosis with negative results; or

3. has been processed to ensure the destruction of all the larvae of the parasite.
CHAPTER 8.14.

TULAREMIA


General provisions

For the purposes of the Terrestrial Code, the incubation period for tularemia (in hares, genus Lepus) shall be 15 days.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.14.2.

Tularemia free country

A country may be considered free from tularemia when it has been shown that tularemia has not been present for at least the past 2 years and when bacteriological or serological surveys in previously infected zones have given negative results.

Article 8.14.3.

Tularemia infected zone

A zone shall be considered as infected with tularemia:

1. until at least one year has elapsed after the last case has been confirmed;

AND

2. when a bacteriological survey on ticks within the infected zone has given negative results; or

3. when regular serological testing of hares and rabbits from that zone have given negative results.

Article 8.14.4.

Trade in commodities

Veterinary Authorities of tularemia free countries may prohibit importation or transit through their territory, from countries considered infected with tularemia, of live hares.

Article 8.14.5.

Recommendations for importation from countries considered infected with tularemia
for live hares

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of tularemia on the day of shipment;
2. were not kept in a tularemia infected zone;
3. have been treated against parasites (ticks); and
4. were kept in a quarantine station for the 15 days prior to shipment.
CHAPTER 8.15.

VESICULAR STOMATITIS

Article 8.15.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for vesicular stomatitis (VS) shall be 21 days.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.15.2.

VS free country

A country may be considered free from VS when:

1. VS is notifiable in the country;
2. no clinical, epidemiological or other evidence of VS has been found during the past 2 years.

Article 8.15.3.

Trade in commodities

Veterinary Authorities of countries shall consider whether there is a risk with regard to VS in accepting importation or transit through their territory, from other countries, of ruminants, swine, Equidae, and their semen and embryos.

Article 8.15.4.

Recommendations for importation from VS free countries

for domestic cattle, sheep, goats, pigs and horses

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of VS on the day of shipment;
2. were kept in a VS free country since birth or for at least the past 21 days.
Chapter 8.15. - Vesicular stomatitis

Article 8.15.5.

Recommendations for importation from VS free countries
for wild bovine, ovine, caprine, porcine and equine animals and deer

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of VS on the day of shipment;
2. come from a VS free country;

if the country of origin has a common border with a country considered infected with VS:
3. were kept in a quarantine station for the 30 days prior to shipment and were subjected to a diagnostic test for VS with negative results at least 21 days after the commencement of quarantine;
4. were protected from insect vectors during quarantine and transportation to the place of shipment.

Article 8.15.6.

Recommendations for importation from countries considered infected with VS
for domestic cattle, sheep, goats, pigs and horses

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of VS on the day of shipment;
2. were kept, since birth or for the past 21 days, in an establishment where no case of VS was officially reported during that period; or
3. were kept in a quarantine station for the 30 days prior to shipment and were subjected to a diagnostic test for VS with negative results at least 21 days after the commencement of quarantine;
4. were protected from insect vectors during quarantine and transportation to the place of shipment.

Article 8.15.7.

Recommendations for importation from countries considered infected with VS
for wild bovine, ovine, caprine, porcine and equine animals and deer

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of VS on the day of shipment;
2. were kept in a quarantine station for the 30 days prior to shipment and were subjected to a diagnostic test for VS with negative results at least 21 days after the commencement of quarantine;
3. were protected from insect vectors during quarantine and transportation to the place of shipment.
Article 8.15.8.

**Recommendations for importation from VS free countries or zones**

_for in vivo derived embryos of ruminants, swine and horses_

**Veterinary Authorities** should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor females were kept in an _establishment_ located in a VS free country or zone at the time of collection;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 8.15.9.

**Recommendations for importation from countries or zones considered infected with VS**

_for in vivo derived embryos of ruminants, swine and horses_

**Veterinary Authorities** should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor females:
   
   a) were kept for the 21 days prior to, and during, collection in an _establishment_ where no _case_ of VS was reported during that period;
   
   b) were subjected to a diagnostic test for VS, with negative results, within the 21 days prior to embryo collection;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.
CHAPTER 8.16.

WEST NILE FEVER

Article 8.16.1.

General provisions

West Nile fever (WNF) is a zoonotic disease caused by certain strains of the mosquito transmitted West Nile virus (WNV).

For the purpose of this chapter, the susceptible species are equidae, geese, ducks (under study) and birds other than poultry.

WNV is maintained in a mosquito–bird–mosquito transmission cycle, whereas humans and equidae are considered dead-end hosts. Most human infections occur by natural transmission from mosquitoes.

In relation to domestic animal trade, geese and ducks pose a risk for the spread of the WNV as some species have been documented to develop a viraemia sufficient to infect mosquitoes.

Surveillance for WNF should be carried out according to Chapter X.X.

The following criteria define the occurrence of WNF:

1. WNV has been isolated from an animal that shows signs consistent with WNF; or
2. viral antigen or viral ribonucleic acid (RNA) specific to WNV has been identified in samples from one or more animals that show clinical signs consistent with WNF, or that is epidemiologically linked to a confirmed or suspected outbreak of WNF; or
3. antibodies to WNV have been identified in an unvaccinated animal that shows clinical signs consistent with WNF or is epidemiologically linked to a confirmed or suspected outbreak of WNF.

For the purposes of the Terrestrial Code, the incubation period for WNF shall be 15 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

When authorising import or transit of the commodities covered in the chapter, with the exception of those listed in Article 8.16.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the WNF status of the exporting country or zone.

Article 8.16.2.

Safe trade

Members should not impose trade restrictions on dead-end hosts such as horses.

When authorising import or transit of the following commodities and any products made from these, Veterinary Authorities should not require any WNV related conditions, regardless of the WNF status of the exporting country or zone:

1. hatching eggs;
2. eggs for human consumption;
3. egg products;
4. poultry semen;
5. fresh meat and meat products of poultry;
6. products of poultry origin intended for use in animal feeding, or for agricultural or industrial use;
7. feathers and down from poultry;
8. semen of horses;
9. meat and meat products of horses.

Article 8.16.3.

WNF free country or zone

1. A country or zone may be considered free from WNF when WNF is notifiable in the whole country and either:
   a) no occurrence of WNF cases, where infection occurred within the territory of the Member, have been recorded for the past 2 years; or
   b) a surveillance programme in accordance with Chapter X.X. has demonstrated no evidence of WNV in the country or zone during the past 2 years.
2. A WNF free country or zone will not lose its free status through the importation from WNF infected countries or infected zones of:
   a) seropositive animals;
   b) semen, embryo or ova;
   c) animals vaccinated in accordance with the Terrestrial Manual at least 30 days prior to dispatch, and are identified in the accompanying certification as having been vaccinated; or
   d) animals not vaccinated if a surveillance programme in accordance with Chapter X.X. has been in place in the source population for a period of 30 days immediately prior to dispatch, and no evidence of WNV transmission has been detected.

Article 8.16.4.

WNF seasonally free country or zone

1. A WNF seasonally free country or zone is one in which for part of a year, surveillance demonstrates no evidence either of WNV transmission or presence of mosquitoes likely to be competent WNV vectors.
2. For the application of Article 8.16.6., the seasonally free period is taken to commence 21 days following the last evidence of WNV transmission (as demonstrated by the surveillance programme), or the cessation of activity of mosquitoes likely to be competent WNV vectors.
3. For the application of Article 8.16.6., the seasonally free period is taken to conclude either:
   a) at least 21 days before the earliest date that historical data show WNV transmission cycle has recommenced; or
b) immediately if current climatic data or data from a surveillance programme indicate an earlier resurgence of activity of mosquitoes likely to be competent WNV vectors.

4. A WNF seasonally free country or zone will not lose its free status through the importation from WNF infected countries or infected zones of:
   a) seropositive animals;
   b) semen, embryo or ova;
   c) animals vaccinated in accordance with the Terrestrial Manual at least 30 days prior to dispatch, and are identified in the accompanying certification as having been vaccinated; or
   d) animals not vaccinated if a surveillance programme in accordance with Chapter X.X. has been in place in the source population for a period of 30 days immediately prior to dispatch, and no evidence of WNV transmission has been detected.

Article 8.16.5.

Recommendations for importation from WNF free countries or zones

for ducks (under study), geese and birds other than poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the animals were kept in a WNF free country or zone since birth or for at least 30 days prior to shipment; or

2. the animals were kept in a WNF free country or zone for at least 15 days, were subjected, with negative results, to an agent identification test according to the Terrestrial Manual carried out on a sample collected at least 3 days after the commencement of the residence period and remained in the WNF free country or zone until shipment; or

3. the animals:
   a) were vaccinated in accordance with the Terrestrial Manual 30 days before introduction into the free country or zone; and
   b) were identified as having been vaccinated; and
   c) were kept in a WNF free country or zone for at least 15 days; and
   d) remained in the WNF free country or zone until shipment;

AND

4. if the animals were exported from a WNF free zone, either:
   a) did not transit through an infected country or infected zone during transportation to the place of shipment; or
   b) were protected from mosquito attacks at all times when transiting through an infected country or infected zone; or
   c) had been vaccinated in accordance with point 3 above.
Recommendations for importation from WNF seasonally free countries or zones

for ducks (under study), geese and birds other than poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. were kept during the seasonally free period in a WNF seasonally free country or zone since birth or for at least 30 days prior to shipment; or

2. were kept during the WNF seasonally free period in a WNF seasonally free country or zone for at least 15 days prior to shipment, and were subjected during the residence period in the country or zone to an agent identification test according to the Terrestrial Manual, with negative results, carried out on a sample collected at least 3 days after the commencement of the residence period and remained in the WNF seasonally free country or zone until shipment; or

3. were kept during the seasonally free period in a WNF seasonally free country or zone for at least 15 days prior to shipment, and were vaccinated in accordance with the Terrestrial Manual 30 days before introduction into the free country or zone against WNF, were identified as having been vaccinated and remained in the WNF seasonally free country or zone until shipment;

AND

4. if the animals were exported from a WNF seasonally free country or zone, either:
   a) did not transit through an infected country or infected zone during transportation to the place of shipment; or
   b) were protected from mosquito attacks at all times when transiting through an infected country or infected zone; or
   c) were vaccinated in accordance with point 3 above.

Recommendations for importation from WNF infected countries or infected zones

for ducks (under study) and geese

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. were protected from mosquito attacks for at least 30 days prior to shipment; or

2. were subjected to a serological test according to the Terrestrial Manual to detect WNV neutralizing antibodies with positive results; or

3. were protected from mosquito attacks for at least 15 days prior to shipment, and were subjected during that period to an agent identification test according to the Terrestrial Manual, with negative results, carried out on a sample collected at least 3 days after being introduced in the mosquito-free zone; or

4. were vaccinated at least 30 days before shipment in accordance with the Terrestrial Manual against WNV and were identified in the accompanying certification as having been vaccinated; or
5. are not vaccinated and a surveillance programme in accordance with Chapter X.X. has been in place in the source population for a period of 30 days immediately prior to shipment, and no evidence of WNV transmission has been detected;

AND

6. were protected from mosquito attacks during transportation to the place of shipment.

Article 8.16.8.

Recommendations for the importation from WNF infected countries or zones

for birds other than poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the birds showed no clinical sign of WNF on the day of shipment; and

2. the birds were kept in a quarantine station in a mosquito-free environment for 30 days prior to shipment and a statistically valid sample was subjected, with negative results, to an agent identification test according to the Terrestrial Manual at least 3 days after the commencement of the residence period.

Article 8.16.9.

Protecting animals from mosquito attacks

When transporting animals through WNF infected countries or infected zones, Veterinary Authorities should require strategies to protect susceptible animals from mosquito attacks during transport, taking into account the local ecology of the mosquitoes.

Potential risk management strategies include:

1. treating animals with insect repellents prior to and during transportation;

2. ensuring vehicles do not stop en route unless the animals are held behind insect proof netting;

3. surveillance for vectors at common stopping and offloading points to gain information on seasonal variations;

4. integrated pest management practices at holding, common stopping and offloading points;

5. using historical, ongoing and/or WNF modelling information to identify low risk ports and transport routes.
SECTION 9.

APIDAE

CHAPTER 9.1.

ACARAPISOSIS OF HONEY BEES

Article 9.1.1.

General provisions

For the purposes of this chapter, acarapisosis, acarine disease or tracheal mite infestation is a disease of the adult honey bee *Apis mellifera* L., and possibly of other *Apis* species (such as *Apis cerana*). It is caused by the Tarsonemid mite *Acarapis woodi* (Rennie). The mite is an internal obligate parasite of the respiratory system, living and reproducing mainly in the large prothoracic trachea of the bee. Early signs of infection normally go unnoticed, and only when infection is heavy does it become apparent; this is generally in the early spring. The infection spreads by direct contact from adult bee to adult bee, with newly emerged bees under 10 days old being the most susceptible. The mortality rate may range from moderate to high.

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 9.1.2.

Trade in commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any acarapisosis related conditions, regardless of the acarapisosis status of the honey bee population of the exporting country or zone:

1. honey bee semen and honey bee venom;
2. used equipment associated with beekeeping;
3. honey, beeswax, honey bee-collected pollen, propolis and royal jelly.

When authorising import or transit of other commodities listed in this chapter, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the acarapisosis status of the honey bee population of the exporting country or zone.
Article 9.1.3.

Determination of the acarapisosis status of a country or zone/compartment

The acarapisosis status of a country or zone/compartment (under study) can only be determined after considering the following criteria:

1. a risk assessment has been conducted, identifying all potential factors for acarapisosis occurrence and their historic perspective;
2. acarapisosis should be notifiable in the whole country or zone/compartment (under study) and all clinical signs suggestive of acarapisosis should be subjected to field and laboratory investigations;
3. an on-going awareness programme should be in place to encourage reporting of all cases suggestive of acarapisosis;
4. the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees should have current knowledge of, and authority over, all domesticated apiaries in the whole country.

Article 9.1.4.

Country or zone/compartment (under study) free from acarapisosis

1. Historically free status
   A country or zone/compartment (under study) may be considered free from acarapisosis after conducting a risk assessment as referred to in Article 9.1.3. but without formally applying a specific surveillance programme if the country or zone/compartment (under study) complies with the provisions of Chapter 1.4.

2. Free status as a result of an eradication programme
   A country or zone/compartment (under study) which does not meet the conditions of point 1 above may be considered free from acarapisosis after conducting a risk assessment as referred to in Article 9.1.3. and when:
   a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries existing in the country or zone/compartment (under study);
   b) acarapisosis is notifiable in the whole country or zone/compartment (under study), and any clinical cases suggestive of acarapisosis are subjected to field and laboratory investigations;
   c) for the 3 years following the last reported case of acarapisosis, annual surveys supervised by the Veterinary Authority, with negative results, have been carried out on a representative sample of apiaries in the country or zone/compartment (under study) to provide a confidence level of at least 95% of detecting acarapisosis if at least 1% of the apiaries were infected at a within- apiary prevalence rate of at least 5% of the hives; such surveys may be targeted towards apiaries, areas and seasons with a higher likelihood of disease;
   d) to maintain free status, an annual survey supervised by the Veterinary Authority, with negative results, is carried out on a representative sample of apiaries in the country or
zone/compartment (under study) to indicate that there has been no new cases, such surveys may be targeted towards areas with a higher likelihood of disease;

e) (under study) there is no self-sustaining feral population of A. mellifera or other possible host species in the country or zone/compartment (under study);

f) the importation of the commodities listed in this chapter into the country or zone/compartment (under study) is carried out in conformity with the recommendations of this chapter.

Article 9.1.5.

Recommendations for the importation of live queen honey bees, worker bees and drones with or without associated brood combs

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the bees come from a country or zone/compartment (under study) free from acarapisosis.

Article 9.1.6.

Recommendations for the importation of eggs, larvae and pupae of honey bees

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products:

1. were sourced from an officially free country or zone/compartment (under study); or

2. were examined by an official laboratory and declared free of all life stages of A. woodi; or

3. have originated from queens in a quarantine station and were examined microscopically and found free of all life stages of A. woodi.
CHAPTER 9.2.

AMERICAN FOULBROOD OF HONEY BEES

Article 9.2.1.

General provisions

For the purposes of this chapter, American foulbrood is a disease of the larval and pupal stages of the honey bee *Apis mellifera* and other *Apis* spp., and occurs in most countries where such bees are kept. *Paenibacillus larvae*, the causative organism, is a bacterium that can produce over one billion spores in each infected larva. The spores are very long-living and extremely resistant to heat and chemical agents, and only the spores are capable of inducing the disease.

Combs of infected apiaries may show distinctive clinical signs which can allow the disease to be diagnosed in the field. However, subclinical infections are common and require laboratory diagnosis.

For the purposes of the Terrestrial Code, the incubation period for American foulbrood shall be 15 days (not including the wintering period which may vary according to country).

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 9.2.2.

Trade in commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any American foulbrood related conditions, regardless of the American foulbrood status of the honey bee population of the exporting country or zone:

1. honey bee semen;
2. honey bee venom.

When authorising import or transit of other commodities listed in this chapter, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the American foulbrood status of the honey bee population of the exporting country or zone.

Article 9.2.3.

Determination of the American foulbrood status of a country or zone/compartment

The American foulbrood status of a country or zone/compartment (under study) can only be determined after considering the following criteria:

1. a risk assessment has been conducted, identifying all potential factors for American foulbrood occurrence and their historic perspective;
2. American foulbrood should be notifiable in the whole country or zone/compartment (under study) and all clinical signs suggestive of American foulbrood should be subjected to field and/or laboratory investigations.
3. an on-going awareness programme should be in place to encourage reporting of all cases suggestive of American foulbrood;

4. the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees should have current knowledge of, and authority over, all domesticated apiaries in the country.

Article 9.2.4.

Country or zone/compartment (under study) free from American foulbrood

1. Historically free status

A country or zone/compartment (under study) may be considered free from the disease after conducting a risk assessment as referred to in Article 9.2.3. but without formally applying a specific surveillance programme if the country or zone/compartment (under study) complies with the provisions of Chapter 1.4.

2. Free status as a result of an eradication programme

A country or zone/compartment (under study) which does not meet the conditions of point 1 above may be considered free from American foulbrood after conducting a risk assessment as referred to in Article 9.2.3. and when:

a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries existing in the country or zone/compartment (under study);

b) American foulbrood is notifiable in the whole country or zone/compartment (under study), and any clinical cases suggestive of American foulbrood are subjected to field and/or laboratory investigations;

c) for the 5 years following the last reported isolation of the American foulbrood agent, annual surveys supervised by the Veterinary Authority, with negative results, have been carried out on a representative sample of apiaries in the country or zone/compartment (under study) to provide a confidence level of at least 95% of detecting American foulbrood if at least 1% of the apiaries were infected at a within-apiary prevalence rate of at least 5% of the hives; such surveys may be targeted towards areas with the last reported isolation of the American foulbrood agent;

d) to maintain free status, an annual survey supervised by the Veterinary Authority, with negative results, is carried out on a representative sample of hives in the country or zone/compartment (under study) to indicate that there has been no new isolations; such surveys may be targeted towards areas with a higher likelihood of isolation;

e) (under study) there is no self-sustaining feral population of A. mellifera or other possible host species in the country or zone/compartment (under study);

f) all equipment associated with previously infected apiaries has been sterilised or destroyed;

g) the importation of the commodities listed in this chapter into the country or zone/compartment (under study) is carried out in conformity with the recommendations of this chapter.
Article 9.2.5.

**Recommendations for the importation of live queen honey bees, worker bees and drones with or without associated brood combs**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the bees come from a country or *zone/compartment* (under study) officially free from American foulbrood.

Article 9.2.6.

**Recommendations for the importation of eggs, larvae and pupae of honey bees**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the products:

1. were sourced from a free country or *zone/compartment* (under study); or
2. have been isolated from queens in a *quarantine station*, and all workers which accompanied the queen or a representative sample of eggs or larvae were examined for the presence of *P. larvae* by bacterial culture or PCR in accordance with the *Terrestrial Manual*.

Article 9.2.7.

**Recommendations for the importation of used equipment associated with beekeeping**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the equipment was sterilised under the supervision of the *Veterinary Authority* by either immersion in 1% sodium hypochlorite for at least 30 minutes (suitable only for non-porous materials such as plastic and metal), gamma irradiation using a cobalt-60 source at a dose rate of 10 kGy, or processing to ensure the destruction of both bacillary and spore forms of *P. larvae*, in conformity with one of the procedures referred to in Chapter X.X. (under study).

Article 9.2.8.

**Recommendations for the importation of honey, honey bee-collected pollen, beeswax, propolis and royal jelly**

*Veterinary Authorities of importing countries* officially free from American foulbrood should require the presentation of an *international veterinary certificate* attesting that the products:

1. were collected in a country or *zone/compartment* (under study) free from American foulbrood; or
2. have been processed to ensure the destruction of both bacillary and spore forms of *P. larvae*, in conformity with one of the procedures referred to in Chapter X.X. (under study).
CHAPTER 9.3.

EUROPEAN FOULBROOD OF HONEY BEES

Article 9.3.1.

General provisions

For the purposes of this chapter, European foulbrood is a disease of the larval and pupal stages of the honey bee *Apis mellifera* and other *Apis* spp., and occurs in most countries where such bees are kept. The causative agent is the non-sporulating bacterium *Melissococcus plutonius*. Subclinical infections are common and require laboratory diagnosis. Infection remains enzootic because of mechanical contamination of the honeycombs. Recurrences of disease can therefore be expected in subsequent years.

For the purposes of the *Terrestrial Code*, the incubation period for European foulbrood shall be 15 days (not including the wintering period which may vary according to country).

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 9.3.2.

Trade in commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any European foulbrood related conditions, regardless of the European foulbrood status of the honey bee population of the exporting country or zone:

1. honey bee semen;
2. honey bee venom.

When authorising import or transit of other commodities listed in this chapter, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the European foulbrood status of the honey bee population of the exporting country or zone.

Article 9.3.3.

Determination of the European foulbrood status of a country or zone/compartment

The European foulbrood status of a country or zone/compartment (under study) can only be determined after considering the following criteria:

1. a risk assessment has been conducted, identifying all potential factors for European foulbrood occurrence and their historic perspective;
2. European foulbrood should be notifiable in the whole country or zone/compartment (under study) and all clinical signs suggestive of European foulbrood should be subjected to field and laboratory investigations;
3. an on-going awareness programme should be in place to encourage reporting of all cases suggestive of European foulbrood;
4. the *Veterinary Authority* or other *Competent Authority* with responsibility for reporting and control of *diseases* of honey bees should have current knowledge of, and authority over, all *apiaries* in the whole country.

**Article 9.3.4.**

**Country or zone/compartment (under study) free from European foulbrood**

1. **Historically free status**

   A country or *zone/compartment* (under study) may be considered free from the *disease* after conducting a *risk assessment* as referred to in Article 9.3.3. but without formally applying a specific *surveillance* programme if the country or *zone/compartment* (under study) complies with the provisions of Chapter 1.4.

2. **Free status as a result of an eradication programme**

   A country or *zone/compartment* (under study) which does not meet the conditions of point 1 above may be considered free from European foulbrood after conducting a *risk assessment* as referred to in Article 9.3.3. and when:

   a) the *Veterinary Authority* or other *Competent Authority* with responsibility for reporting and control of *diseases* of honey bees has current knowledge of, and authority over, all domesticated *apiaries* existing in the country or *zone/compartment* (under study);

   b) European foulbrood is notifiable in the whole country or *zone/compartment* (under study), and any clinical cases suggestive of European foulbrood are subjected to field and *laboratory* investigations;

   c) for the 3 years following the last reported isolation of the European foulbrood agent, an annual survey supervised by the *Veterinary Authority*, with negative results, have been carried out on a representative sample of *apiaries* in the country or *zone/compartment* (under study) to provide a confidence level of at least 95% of detecting European foulbrood if at least 1% of the *apiaries* were infected at a within- *apiary* prevalence rate of at least 5% of the *hives*; such surveys may be targeted towards areas with the last reported isolation of the European foulbrood agent;

   d) to maintain free status, an annual survey supervised by the *Veterinary Authority*, with negative results, is carried out on a representative sample of *hives* in the country or *zone/compartment* (under study) to indicate that there has been no new isolations; such surveys may be targeted towards areas with a higher likelihood of isolation;

   e) (under study) there is no self-sustaining feral population of *A. mellifera* or other possible host species in the country or *zone/compartment* (under study);

   f) the importation of the *commodities* listed in this chapter into the country or *zone/compartment* (under study) is carried out in conformity with the recommendations of this chapter.

**Article 9.3.5.**

**Recommendations for the importation of live queen honey bees, worker bees and drones with or without associated brood combs**
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the bees come from a country or zone/compartment (under study) free from European foulbrood.

Article 9.3.6.

Recommendations for the importation of eggs, larvae and pupae of honey bees

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products:

1. were sourced from a free country or zone/compartment (under study); or
2. have been isolated from queens in a quarantine station, and all workers which accompanied the queen or a representative sample of eggs or larvae were examined for the presence of *M. plutonium* by bacterial culture or PCR in accordance with the Terrestrial Manual.

Article 9.3.7.

Recommendations for the importation of used equipment associated with beekeeping

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the equipment was sterilised under the supervision of the Veterinary Authority by either immersion in 0.5% sodium hypochlorite for at least 20 minutes (suitable only for non-porous materials such as plastic and metal), gamma irradiation using a cobalt-60 source at a dose rate of 10 kGy, or processing to ensure the destruction of *M. plutonium*, in conformity with one of the procedures referred to in Chapter X.X. (under study).

Article 9.3.8.

Recommendations for the importation of honey, honey bee-collected pollen, beeswax, propolis and royal jelly

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products:

1. were collected in a country or zone/compartment (under study) free from European foulbrood; or
2. have been processed to ensure the destruction of *M. plutonium*, in conformity with one of the procedures referred to in Chapter X.X. (under study).
CHAPTER 9.4.

SMALL HIVE BEETLE INFESTATION
(Aethina tumida)

Article 9.4.1.

General provisions

For the purposes of this chapter, small hive beetle (SHB) is an infestation of bee colonies by the beetle *Aethina tumida*, which is a free-living predator and scavenger affecting populations of the honey bee *Apis mellifera* L. It can also parasitise bumble bee *Bombus terrestris* colonies under experimental conditions, and although infestation has not been demonstrated in wild populations, *Bombus* spp. should also be considered to be susceptible to infestation.

The adult beetle is attracted to bee colonies to reproduce, although it can survive and reproduce independently in other natural environments, using other food sources, including certain types of fruit. Hence once it is established within a localised environment, it is extremely difficult to eradicate.

The life cycle of *A. tumida* begins with the adult beetle laying eggs within infested *hives*. These are usually laid in irregular masses in crevices or brood combs. After 2-6 days, the eggs hatch and the emerging larvae begin to feed voraciously on brood comb, bee eggs, pollen and honey within the hive. The SHB has a high reproductive potential. Each female can produce about 1,000 eggs in its 4 to 6 months of life. At maturation (approximately 10-29 days after hatching), the larvae exit the hive and burrow into soil around the hive entrance. Adult beetles emerge after an average of 3-4 weeks, although pupation can take between 8 and 60 days depending on temperature and moisture levels.

The life span of an adult beetle depends on environmental conditions such as temperature and humidity but, in practice, adult beetles can live for at least 6 months and, in favourable reproductive conditions, the female is capable of laying new egg batches every 5-12 weeks. The beetle is able to survive at least 2 weeks without food and 50 days on brood combs.

Early signs of infestation may go unnoticed, but the growth of the beetle population is rapid, leading to high bee mortality in the *hive*. Because *A. tumida* can be found and can thrive within the natural environment, and can fly up to 6-13 km from its nest site, it is capable of dispersing rapidly and directly colonising *hives*. Dispersal includes following or accompanying swarms. Spread of infestation does not require contact between adult bees. However, the movement of adult bees, honeycomb and other apiculture products and used equipment associated with bee-keeping may all cause infestations to spread to previously unaffected colonies.

Standards for diagnostic tests are described in the *Terrestrial Manual*. 

Standards for diagnostic tests are described in the *Terrestrial Manual*. 

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Article 9.4.2.

Trade in commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any small hive beetle infestation related conditions, regardless of the *A. tumida* status of the honey bee and bumble bee population of the exporting country or zone:

1. honey bee semen and honey bee venom;
2. packaged extracted honey, refined or rendered beeswax, propolis and frozen or dried royal jelly.

When authorising import or transit of other commodities listed in this chapter, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the *A. tumida* status of the honey bee and bumble bee population of the exporting country or zone.

Article 9.4.3.

Determination of the *A. tumida* status of a country or zone

The *A. tumida* status of a country or zone can only be determined after considering the following criteria:

1. *A. tumida* infestation should be notifiable in the whole country, and all signs suggestive of *A. tumida* infestation should be subjected to field and laboratory investigations;
2. on-going awareness and training programmes should be in place to encourage reporting of all cases suggestive of *A. tumida* infestation;
3. the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees should have current knowledge of, and authority over, all domesticated apiaries in the country.

Article 9.4.4.

Country or zone free from *A. tumida*

1. Historically free status

A country or zone may be considered free from the pest after conducting a risk assessment as referred to in Article 9.4.3. but without formally applying a specific surveillance programme if the country or zone complies with the provisions of Chapter 1.4.

2. Free status as a result of an eradication programme

A country or zone which does not meet the conditions of point 1 above may be considered free from *A. tumida* infestation after conducting a risk assessment as referred to in Article 9.4.3. and when:

a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries existing in the country or zone;

b) *A. tumida* infestation is notifiable in the whole country or zone, and any clinical cases suggestive of *A. tumida* infestation are subjected to field and laboratory investigations; a contingency plan is in place describing controls and inspection activities;
c) for the 5 years following the last reported case of *A. tumida* infestation, an annual survey supervised by the Veterinary Authority, with negative results, has been carried out on a representative sample of apiaries in the country or zone to provide a confidence level of at least 95% of detecting *A. tumida* infestation if at least 1% of the apiaries were infested at a within-apiary prevalence rate of at least 5% of the hives; such surveys may be targeted towards areas with a higher likelihood of infestation;

d) to maintain free status, an annual survey supervised by the Veterinary Authority, with negative results, is carried out on a representative sample of apiaries to indicate that there have been no new cases; such surveys may be targeted towards areas with a higher likelihood of infestation;

e) all equipment associated with previously infested apiaries has been destroyed, or cleaned and sterilised to ensure the destruction of *A. tumida* spp., in conformity with one of the procedures referred to in Chapter X.X. (under study);

f) the soil and undergrowth in the immediate vicinity of all infested apiaries has been treated with a soil drench or similar suitable treatment that is efficacious in destroying incubating *A. tumida* larvae and pupae;

g) the importation of the commodities listed in this chapter into the country or zone is carried out, in conformity with the recommendations of this chapter.

**Article 9.4.5.**

Recommendations for the importation of individual consignments containing a single live queen honey bee or queen bumble bee, accompanied by a small number of associated attendants (a maximum of 20 attendants per queen)

*Veterinary Authorities of importing countries* should require the presentation of an international veterinary certificate attesting that the bees come from a country or zone officially free from *A. tumida* infestation.

OR

*Veterinary Authorities of importing countries* should require the presentation of an international veterinary certificate including an attestation from the Veterinary Authority of the exporting third country stating that:

1. the bees come from hives or colonies which were inspected immediately prior to dispatch and show no signs or suspicion of the presence of *A. tumida* or its eggs, larvae or pupae; and

2. the bees come from an area of at least 100 km radius where no apiary has been subject to any restrictions associated with the occurrence of *A. tumida* for the previous 6 months; and

3. the bees and accompanying packaging presented for export have been thoroughly and individually inspected and do not contain *A. tumida* or its eggs, larvae or pupae; and

4. the consignment of bees is covered with fine mesh through which a live beetle cannot enter.

**Article 9.4.6.**

Recommendations for the importation of live worker bees, drone bees or bee colonies with or without associated brood combs or for live bumble bees
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the bees come from a country or zone officially free from *A. tumida* infestation; and
2. the bees and accompanying packaging presented for export have been inspected and do not contain *A. tumida* or its eggs, larvae or pupae; and
3. the consignment of bees is covered with fine mesh through which a live beetle cannot enter.

**Article 9.4.7.**

Recommendations for the importation of eggs, larvae and pupae of honey bees or bumble bees

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the products were sourced from a country or zone free from *A. tumida* infestation;

OR

2. the products have been bred and kept under a controlled environment within a recognised establishment which is supervised and controlled by the Veterinary Authority;
3. the establishment was inspected immediately prior to dispatch and all eggs, larvae and pupae show no clinical signs or suspicion of the presence of *A. tumida* or its eggs or larvae or pupae, and
4. the packaging material, containers, accompanying products and food are new and all precautions have been taken to prevent contamination with *A. tumida* or its eggs, larvae or pupae.

**Article 9.4.8.**

Recommendations for the importation of used equipment associated with beekeeping

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the equipment:
   
   EITHER
   
   a) comes from a country or zone free from *A. tumida* infestation; and
   b) contains no live honey bees or bee brood;

   OR
   
   c) contains no live honey bees or bee brood; and
   d) has been thoroughly cleaned, and treated to ensure the destruction of *A. tumida* spp., in conformity with one of the procedures referred to in Chapter X.X. (under study);

   AND

2. all precautions have been taken to prevent infestation/contamination.
**Recommendations for the importation of honey-bee collected pollen and beeswax (in the form of honeycomb)**

_Veterinary Authorities of importing countries_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the products:
   
   EITHER
   
   a) comes from a country or zone free from _A. tumida_ infestation; and
   
   b) contains no live honey bees or bee brood;
   
   OR
   
   c) contains no live honey bees or bee brood; and
   
   d) has been thoroughly cleaned, and treated to ensure the destruction of _A. tumida_ spp., in conformity with one of the procedures referred to in Chapter X.X. (under study);

   AND

2. all precautions have been taken to prevent infestation/contamination.

**Recommendations for the importation of comb honey**

_Veterinary Authorities of importing countries_ should require the presentation of an _international veterinary certificate_ attesting that the products:

1. comes from a country or zone free from _A. tumida_ infestation; and

2. contains no live honey bees or bee brood;

OR

3. were subjected to a treatment at a temperature of -12°C or lower in the core of the product during at least 24 hours.
CHAPTER 9.5.

TROPILAEELAPS INFESTATION OF HONEY BEES

Article 9.5.1.

General provisions

For the purposes of this chapter, Tropilaelaps infestation of the honey bee Apis mellifera L. is caused by the mites Tropilaelaps clareae, T. koenigerum, T. thaii and T. mercediae. The mite is an ectoparasite of brood of Apis mellifera L., Apis laboriosa and Apis dorsata, and cannot survive for periods of more than 7 days away from bee brood.

Early signs of infection normally go unnoticed, but the growth in the mite population is rapid leading to high hive mortality. The infection spreads by direct contact from adult bee to adult bee, and by the movement of infested bees and bee brood. The mite can also act as a vector for viruses of the honey bee.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 9.5.2.

Trade in commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any Tropilaelaps infestation related conditions, regardless of the Tropilaelaps status of the honey bee population of the exporting country or zone:

1. honey bee semen, honey bee eggs and honey bee venom;
2. extracted honey and beeswax (not in the form of honeycomb).

When authorising import or transit of other commodities listed in this chapter, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the Tropilaelaps status of the honey bee population of the exporting country or zone.

Article 9.5.3.

Determination of the Tropilaelaps status of a country or zone/compartment

The Tropilaelaps status of a country or zone/compartment (under study) can only be determined after considering the following criteria:

1. a risk assessment has been conducted, identifying all potential factors for Tropilaelaps occurrence and their historic perspective;

2. Tropilaelaps infestation should be notifiable in the whole country or zone/compartment (under study) and all clinical signs suggestive of Tropilaelaps infestation should be subjected to field and laboratory investigations;
3. an on-going awareness programme should be in place to encourage reporting of all cases suggestive of *Tropilaelaps* infestation;

4. the *Veterinary Authority* or other *Competent Authority* with responsibility for reporting and control of *diseases* of honey bees should have current knowledge of, and authority over, all domesticated *apiaries* in the country.

**Article 9.5.4.**

**Country or zone/compartment (under study) free from *Tropilaelaps* spp**

1. **Historically free status**

   A country or *zone/compartment* (under study) may be considered free from the *disease* after conducting a *risk assessment* as referred to in Article 9.5.3. but without formally applying a specific *surveillance* programme if the country or *zone/compartment* (under study) complies with the provisions of Chapter 1.4.

2. **Free status as a result of an eradication programme**

   A country or *zone/compartment* (under study) which does not meet the conditions of point 1 above may be considered free from *Tropilaelaps* infestation after conducting a *risk assessment* as referred to in Article 9.5.3. and when:

   a) the *Veterinary Authority* or other *Competent Authority* with responsibility for reporting and control of *diseases* of honey bees has current knowledge of, and authority over, all domesticated *apiaries* existing in the country or *zone/compartment* (under study);

   b) *Tropilaelaps* infestation is notifiable in the whole country or *zone/compartment* (under study), and any clinical cases suggestive of *Tropilaelaps* infestation are subjected to field and *laboratory* investigations;

   c) for the 3 years following the last reported *case* of *Tropilaelaps* infestation, an annual survey supervised by the *Veterinary Authority*, with negative results, have been carried out on a representative sample of *apiaries* in the country or *zone/compartment* (under study) to provide a confidence level of at least 95% of detecting *Tropilaelaps* infestation if at least 1% of the *apiaries* were infected at a within- *apiary* prevalence rate of at least 5% of the *hives*; such surveys may be targeted towards areas with a higher likelihood of infestation;

   d) to maintain free status, an annual survey supervised by the *Veterinary Authority*, with negative results, is carried out on a representative sample of *apiaries* in the country or *zone/compartment* (under study) to indicate that there has been no new *cases*; such surveys may be targeted towards areas with a higher likelihood of *disease*;

   e) (under study) there is no self-sustaining feral population of *A. mellifera*, *A. dorsata* or *A. laboriosa*, or other possible host species in the country or *zone/compartment* (under study);

   f) the importation of the *commodities* listed in this chapter into the country or *zone/compartment* (under study) is carried out, in conformity with the recommendations of this chapter.
Article 9.5.5.

Recommendations for the importation of live queen honey bees, worker bees and drones with associated brood combs

_Veterinary Authorities of importing countries_ should require the presentation of an _international veterinary certificate_ attesting that the bees come from a country or _zone/compartment_ (under study) officially free from _Tropilaelaps_ infestation.

Article 9.5.6.

Recommendations for the importation of live queen honey bees, worker bees and drones without associated brood combs

_Veterinary Authorities of importing countries_ should require the presentation of an _international veterinary certificate_ attesting that the bees have been held in isolation from brood and bees with access to brood, for a period of at least 7 days.

Article 9.5.7.

Recommendations for the importation of used equipment associated with beekeeping

_Veterinary Authorities of importing countries_ should require the presentation of an _international veterinary certificate_ attesting that the equipment:

1. comes from a country or _zone/compartment_ (under study) free from _Tropilaelaps_ infestation; or
2. contains no live honey bees or bee brood and has been held away from contact with live honey bees for at least 7 days prior to shipment; or
3. has been treated to ensure the destruction of _Tropilaelaps_ spp., in conformity with one of the procedures referred to in Chapter X.X. (under study).

Article 9.5.8.

Recommendations for the importation of honey-bee collected pollen, beeswax (in the form of honeycomb), comb honey and propolis

_Veterinary Authorities of importing countries_ should require the presentation of an _international veterinary certificate_ attesting that the products:

1. come from a country or _zone/compartment_ (under study) free from _Tropilaelaps_ infestation; or
2. contain no live honey bees or bee brood and has been held away from contact with live honey bees for at least 7 days prior to shipment; or
3. have been treated to ensure the destruction of _Tropilaelaps_ spp., in conformity with one of the procedures referred to in Chapter X.X. (under study).
CHAPTER 9.6.

VARROOSIS OF HONEY BEES

Article 9.6.1.

General provisions

For the purposes of this chapter, varroosis is a disease of the honey bee *Apis mellifera* L. It is caused by the Korea and Japan haplotypes of the mite *Varroa destructor*, the original hosts of which are the Korea and Japan haplotypes of *Apis cerana* (under study). The mite is an ectoparasite of adults and brood of *Apis mellifera* L. During its life cycle, sexual reproduction occurs inside the honey bee brood cells. Early signs of infection normally go unnoticed, and only when infection is heavy does it become apparent. The infection spreads by direct contact from adult bee to adult bee, and by the movement of infested bees and bee brood. The mite can also act as a vector for viruses of the honey bee.

The number of parasites steadily increases with increasing brood activity and the growth of the bee population, especially late in the season when clinical signs of infestation can first be recognised. The life span of an individual mite depends on temperature and humidity but, in practice, it can be said to last from some days to a few months.

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 9.6.2.

Trade in commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any varroosis related conditions, regardless of the varroosis status of the honey bee population of the exporting country or zone:

1. honey bee semen, honey bee eggs and honey bee venom;
2. extracted honey and beeswax (not in the form of honeycomb).

When authorising import or transit of other commodities listed in this chapter, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the varroosis status of the honey bee population of the exporting country or zone.

Article 9.6.3.

Determination of the varroosis status of a country or zone/compartment

The varroosis status of a country or zone/compartment (under study) can only be determined after considering the following criteria:

1. a risk assessment has been conducted, identifying all potential factors for varroosis occurrence and their historic perspective;
2. varroosis should be notifiable in the whole country or zone/compartment (under study) and all clinical signs suggestive of varroosis should be subjected to field and laboratory investigations;

3. an on-going awareness programme should be in place to encourage reporting of all cases suggestive of varroosis;

4. the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees should have current knowledge of, and authority over, all domesticated apiaries in the country.

Article 9.6.4.

Country or zone/compartment (under study) free from varroosis

1. Historically free status

A country or zone/compartment (under study) may be considered free from the disease after conducting a risk assessment as referred to in Article 9.6.3. but without formally applying a specific surveillance programme (historical freedom) if the country or zone/compartment (under study) complies with the provisions of Chapter 1.4.

2. Free status as a result of an eradication programme

A country or zone/compartment (under study) which does not meet the conditions of point 1 above may be considered free from varroosis after conducting a risk assessment as referred to in Article 9.6.3. and when:

a) the Veterinary Authority or other Competent Authority with responsibility for reporting and control of diseases of honey bees has current knowledge of, and authority over, all domesticated apiaries existing in the country or zone/compartment (under study);

b) varroosis is notifiable in the whole country or zone/compartment (under study), and any clinical cases suggestive of varroosis are subjected to field and laboratory investigations;

c) for the 3 years following the last reported case of varroosis, an annual survey supervised by the Veterinary Authority, with negative results, have been carried out on a representative sample of apiaries in the country or zone/compartment (under study) to provide a confidence level of at least 95% of detecting varroosis if at least 1% of the apiaries were infected at a within- apiary prevalence rate of at least 5% of the bees, such surveys may be targeted towards areas with a higher likelihood of disease;

d) to maintain free status, an annual survey supervised by the Veterinary Authority, with negative results, is carried out on a representative sample of apiaries in the country or zone/compartment (under study) to indicate that there has been no new cases, such surveys may be targeted towards areas with a higher likelihood of disease;

e) (under study) there is no self-sustaining feral population of A. mellifera, the Korea and Japan haplotypes of Apis cerana or other possible host species in the country or zone/compartment (under study);

f) the importation of the commodities listed in this chapter into the country or zone/compartment (under study) is carried out in conformity with the recommendations of this chapter.
Article 9.6.5.

**Recommendations for the importation of live queen honey bees, worker bees and drones with or without associated brood combs**

_Veterinary Authorities_ of importing countries should require the presentation of an international veterinary certificate attesting that the bees come from a country or zone/compartment (under study) officially free from varroosis.

Article 9.6.6.

**Recommendations for the importation of larvae and pupae of honey bees**

_Veterinary Authorities_ of importing countries should require the presentation of an international veterinary certificate attesting that the products:

1. were sourced from a free country or zone/compartment (under study); or
2. have originated from queens in a quarantine station and were inspected and found free of _Varroa destructor._

Article 9.6.7.

**Recommendations for the importation of used equipment associated with beekeeping**

_Veterinary Authorities_ of importing countries should require the presentation of an international veterinary certificate attesting that the equipment:

1. comes from a country or zone/compartment (under study) free from varroosis; or
2. contains no live honey bees or bee brood and has been held away from contact with live honey bees for at least 7 days prior to shipment; or
3. has been treated to ensure the destruction of _Varroa destructor_, in conformity with one of the procedures referred to in Chapter X.X. (under study).

Article 9.6.8.

**Recommendations for the importation of honey-bee collected pollen, beeswax (in the form of honeycomb), comb honey and propolis**

_Veterinary Authorities_ of importing countries should require the presentation of an international veterinary certificate attesting that the products:

1. come from a country or zone/compartment (under study) free from varroosis; or
2. contain no live honey bees or bee brood and has been held away from contact with live honey bees for at least 7 days prior to shipment; or
3. have been treated to ensure the destruction of _Varroa destructor_, in conformity with one of the procedures referred to in Chapter X.X. (under study).
SECTION 10.

AVES

CHAPTER 10.1.

AVIAN CHLAMYDIOSIS

Article 10.1.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 10.1.2.

Trade in commodities

Veterinary Authorities of countries free from avian chlamydiosis may prohibit importation or transit through their territory, from countries considered infected with avian chlamydiosis, of birds of the Psittacidae family.

Article 10.1.3.

Recommendations for the importation of birds of the Psittacidae family

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of avian chlamydiosis on the day of shipment;

2. were kept under veterinary supervision for the 45 days prior to shipment and were treated against avian chlamydiosis using chlortetracycline.
CHAPTER 10.2.

AVIAN INFECTIOUS BRONCHITIS

Article 10.2.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for avian infectious bronchitis shall be 50 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.2.2.

Recommendations for the importation of chickens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of avian infectious bronchitis on the day of shipment;
2. come from establishments which are recognised as being free from avian infectious bronchitis, based on the results of serological tests;
3. have not been vaccinated against avian infectious bronchitis; or
4. were vaccinated against avian infectious bronchitis (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.2.3.

Recommendations for the importation of day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1. come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.4.;
2. have not been vaccinated against avian infectious bronchitis; or
3. were vaccinated against avian infectious bronchitis (the nature of the vaccine used and the date of vaccination shall also be stated in the certificate);
4. are the progeny of parent flocks which:
   a) come from establishments and hatcheries which are recognised as being free from avian infectious bronchitis, based on the results of serological tests;
   b) come from establishments in which vaccination against avian infectious bronchitis is not practised on the parent stock; or
   c) come from establishments in which vaccination against avian infectious bronchitis is practised on the parent stock;
5. were shipped in clean and unused packages.

**Article 10.2.4.**

**Recommendations for the importation of hatching eggs of chickens**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the *hatching eggs*:

1. have been disinfected in conformity with the standards referred to in Chapter 6.4.;
2. come from *establishments* and/or hatcheries which are recognised as being free from avian infectious bronchitis and from hatcheries which comply with the standards referred to in Chapter 6.4.;
3. were shipped in clean and unused packages.
CHAPTER 10.3.

AVIAN INFECTIOUS LARYNGOTRACHEITIS

Article 10.3.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for avian infectious laryngotracheitis (ILT) shall be 14 days (chronic carriers occur).

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.3.2.

Recommendations for the importation of chickens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of ILT on the day of shipment;
2. come from establishments which are recognised as being free from ILT, based on the results of serological tests;
3. have not been vaccinated against ILT; or
4. were vaccinated against ILT (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.3.3.

Recommendations for the importation of day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1. come from establishments and/or hatcheries which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.4.;
2. have not been vaccinated against ILT; or
3. were vaccinated against ILT (the nature of the vaccine used and the date of vaccination should also be stated in the certificate);
4. are the progeny of parent flocks which:
   a) come from establishments and/or hatcheries which are recognised as being free from ILT, based on the results of serological tests;
   b) come from establishments in which vaccination against ILT is not practised on the parent stock; or
   c) come from establishments in which vaccination against ILT is practised on the parent stock;
5. were shipped in clean and unused packages.

Article 10.3.4.

Recommendations for the importation of hatching eggs of chickens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1. have been disinfected in conformity with the standards referred to in Chapter 6.4.;
2. come from establishments and/or hatcheries which are recognised as being free from ILT and from hatcheries which comply with the standards referred to in Chapter 6.4.;
3. were shipped in clean and unused packages.
CHAPTER 10.4.

AVIAN INFLUENZA

Article 10.4.1.

General provisions

1. For the purposes of international trade, avian influenza in its notifiable form (NAI) is defined as an infection of poultry caused by any influenza A virus of the H5 or H7 subtypes or by any AI virus with an intravenous pathogenicity index (IVPI) greater than 1.2 (or as an alternative at least 75% mortality) as described below. NAI viruses can be divided into highly pathogenic notifiable avian influenza (HPNAI) and low pathogenicity notifiable avian influenza (LPNAI):

   a) HPNAI viruses have an IVPI in 6-week-old chickens greater than 1.2 or, as an alternative, cause at least 75% mortality in 4-to-8-week-old chickens infected intravenously. H5 and H7 viruses which do not have an IVPI of greater than 1.2 or cause less than 75% mortality in an intravenous lethality test should be sequenced to determine whether multiple basic amino acids are present at the cleavage site of the haemagglutinin molecule (HA0); if the amino acid motif is similar to that observed for other HPNAI isolates, the isolate being tested should be considered as HPNAI;

   b) LPNAI are all influenza A viruses of H5 and H7 subtype that are not HPNAI viruses.

2. Poultry is defined as ‘all domesticated birds, including backyard poultry, used for the production of meat or eggs for consumption, for the production of other commercial products, for restocking supplies of game, or for breeding these categories of birds, as well as fighting cocks used for any purpose’.

Birds that are kept in captivity for any reason other than those reasons referred to in the preceding paragraph, including those that are kept for shows, races, exhibitions, competitions or for breeding or selling these categories of birds as well as pet birds, are not considered to be poultry.

3. For the purposes of international trade, this chapter deals not only with the occurrence of clinical signs caused by NAI virus, but also with the presence of infection with NAI virus in the absence of clinical signs.

4. For the purposes of international trade, a Member should not impose immediate bans on the trade in poultry commodities in response to a notification, according to Article 1.2.3. of the Terrestrial Code, of infection with HPAI and LPAI virus in birds other than poultry, including wild birds.

5. Antibodies to H5 or H7 subtype of NAI virus, which have been detected in poultry and are not a consequence of vaccination, have to be immediately investigated. In the case of isolated serological positive results, NAI infection may be ruled out on the basis of a thorough epidemiological and laboratory investigation that does not demonstrate further evidence of NAI infection.

6. The following defines the occurrence of infection with NAI virus:

   a) HPNAI virus has been isolated and identified as such or viral RNA specific for HPNAI has been detected in poultry or a product derived from poultry; or
b) LPNAI virus has been isolated and identified as such or viral RNA specific for LPNAI has been detected in poultry or a product derived from poultry.

For the purposes of the Terrestrial Code, ‘NAI free establishment’ means an establishment in which the poultry have shown no evidence of NAI infection, based on surveillance in accordance with Articles 10.4.27. to 10.4.33.

For the purposes of the Terrestrial Code, the incubation period for NAI shall be 21 days.

Standards for diagnostic tests, including pathogenicity testing, are described in the Terrestrial Manual. Any vaccine used should comply with the standards described in the Terrestrial Manual.

Article 10.4.2.

Determination of the NAI status of a country, zone or compartment

The NAI status of a country, a zone or a compartment can be determined on the basis of the following criteria:

1. NAI is notifiable in the whole country, an on-going NAI awareness programme is in place, and all notified suspect occurrences of NAI are subjected to field and, where applicable, laboratory investigations;

2. appropriate surveillance is in place to demonstrate the presence of infection in the absence of clinical signs in poultry, and the risk posed by birds other than poultry; this may be achieved through a NAI surveillance programme in accordance with Articles 10.4.27. to 10.4.33.;

3. consideration of all epidemiological factors for NAI occurrence and their historical perspective.

Article 10.4.3.

NAI free country, zone or compartment

A country, zone or compartment may be considered free from NAI when it has been shown that neither HPNAI nor LPNAI infection in poultry has been present in the country, zone or compartment for the past 12 months, based on surveillance in accordance with Articles 10.4.27. to 10.4.33.

If infection has occurred in poultry in a previously free country, zone or compartment, NAI free status can be regained:

1. In the case of HPNAI infections, 3 months after a stamping-out policy (including disinfection of all affected establishments) is applied, providing that surveillance in accordance with Articles 10.4.27. to 10.4.33. has been carried out during that three-month period.

2. In the case of LPNAI infections, poultry may be kept for slaughter for human consumption subject to conditions specified in Article 10.4.19. or a stamping-out policy may be applied; in either case, 3 months after the disinfection of all affected establishments, providing that surveillance in accordance with Articles 10.4.27. to 10.4.33. has been carried out during that three-month period.
Article 10.4.4.

HPNAI free country, zone or compartment

A country, zone or compartment may be considered free from HPNAI when:

1. it has been shown that HPNAI infection in poultry has not been present in the country, zone or compartment for the past 12 months, although its LPNAI status may be unknown; or

2. when, based on surveillance in accordance with Articles 10.4.27. to 10.4.33., it does not meet the criteria for freedom from NAI but any NAI virus detected has not been identified as HPNAI virus.

The surveillance may need to be adapted to parts of the country or existing zones or compartments depending on historical or geographical factors, industry structure, population data, or proximity to recent outbreaks.

If infection has occurred in poultry in a previously free country, zone or compartment, HPNAI free status can be regained 3 months after a stamping-out policy (including disinfection of all affected establishments) is applied, providing that surveillance in accordance with Articles 10.4.27. to 10.4.33. has been carried out during that three-month period.

Article 10.4.5.

Recommendations for importation from a NAI free country, zone or compartment

for live poultry (other than day-old poultry)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the poultry showed no clinical sign of NAI on the day of shipment;

2. the poultry were kept in a NAI free country, zone or compartment since they were hatched or for at least the past 21 days;

3. the poultry are transported in new or appropriately sanitized containers;

4. if the poultry have been vaccinated against NAI, it has been done in accordance with the provisions of the Terrestrial Manual and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

Article 10.4.6.

Recommendations for the importation of live birds other than poultry

Regardless of the NAI status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. on the day of shipment, the birds showed no clinical sign of infection with a virus which would be considered NAI in poultry;

2. the birds were kept in isolation approved by the Veterinary Services since they were hatched or for at least the 21 days prior to shipment and showed no clinical sign of infection with a virus which would be considered NAI in poultry during the isolation period;
3. a statistically valid sample of the birds, selected in accordance with the provisions of Article 10.4.29., was subjected to a diagnostic test within 14 days prior to shipment to demonstrate freedom from infection with a virus which would be considered NAI in poultry;

4. the birds are transported in new or appropriately sanitized containers;

5. if the birds have been vaccinated against NAI, it has been done in accordance with the provisions of the *Terrestrial Manual* and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

Article 10.4.7.

**Recommendations for importation from a NAI free country, zone or compartment for day-old live poultry**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the *poultry* were kept in a NAI free country, zone or compartment since they were hatched;

2. the *poultry* were derived from parent *flocks* which had been kept in a NAI free country, zone or compartment for at least 21 days prior to and at the time of the collection of the eggs;

3. the *poultry* are transported in new or appropriately sanitized containers;

4. if the *poultry* or the parent *flocks* have been vaccinated against NAI, it has been done in accordance with the provisions of the *Terrestrial Manual* and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

Article 10.4.8.

**Recommendations for importation from a HPNAI free country, zone or compartment for day-old live poultry**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the *poultry* were kept in a HPNAI free country, zone or compartment since they were hatched;

2. the *poultry* were derived from parent *flocks* which had been kept in a NAI free establishment for at least 21 days prior to and at the time of the collection of the eggs;

3. the *poultry* are transported in new or appropriately sanitized containers;

4. if the *poultry* or the parent *flocks* have been vaccinated against NAI, it has been done in accordance with the provisions of the *Terrestrial Manual* and the nature of the vaccine used and the date of vaccination have been attached to the certificate.
Article 10.4.9.

Recommendations for the importation of day-old live birds other than poultry

Regardless of the NAI status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. on the day of shipment, the birds showed no clinical signs of infection with a virus which would be considered NAI in poultry;
2. the birds were hatched and kept in isolation approved by the Veterinary Services;
3. the parent flock birds were subjected to a diagnostic test at the time of the collection of the eggs to demonstrate freedom from infection with NAIV;
4. the birds are transported in new or appropriately sanitized containers;
5. if the birds or parent flocks have been vaccinated against NAI, it has been done in accordance with the provisions of the Terrestrial Manual and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

Article 10.4.10.

Recommendations for importation from a NAI free country, zone or compartment for hatching eggs of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the eggs came from a NAI free country, zone or compartment;
2. the eggs were derived from parent flocks which had been kept in a NAI free country, zone or compartment for at least 21 days prior to and at the time of the collection of the eggs;
3. the eggs are transported in new or appropriately sanitized packaging materials;
4. if the parent flocks have been vaccinated against NAI, it has been done in accordance with the provisions of the Terrestrial Manual and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

Article 10.4.11.

Recommendations for importation from a HPNAI free country, zone or compartment for hatching eggs of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the eggs came from a HPNAI free country, zone or compartment;
2. the eggs were derived from parent flocks which had been kept in a HPNAI establishment for at least 21 days prior to and at the time of the collection of the eggs;
3. the eggs have had their surfaces sanitized (in accordance with Chapter 6.4.);
4. the eggs are transported in new or appropriately sanitized packaging materials;
5. if the parent *flocks* have been vaccinated against NAI, it has been done in accordance with the provisions of the *Terrestrial Manual* and the nature of the vaccine used and the date of vaccination have been attached to the *certificate*.

Article 10.4.12.

**Recommendations for the importation of hatching eggs from birds other than poultry**

Regardless of the NAI status of the country of origin, *Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the parent *flock* birds were subjected to a diagnostic test 7 days prior to and at the time of the collection of the eggs to demonstrate freedom from infection with NAIV;
2. the eggs have had their surfaces sanitized (in accordance with Chapter 6.4.);
3. the eggs are transported in new or appropriately sanitized packaging materials;
4. if the parent *flocks* have been vaccinated against NAI, it has been done in accordance with the provisions of the *Terrestrial Manual* and the nature of the vaccine used and the date of vaccination have been attached to the *certificate*.

Article 10.4.13.

**Recommendations for importation from a NAI free country, zone or compartment**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the eggs were produced and packed in a NAI free country, *zone or compartment*;
2. the eggs are transported in new or appropriately sanitized packaging materials.

Article 10.4.14.

**Recommendations for importation from a HPNAI free country, zone or compartment**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the eggs were produced and packed in a HPNAI free country, *zone or compartment*;
2. the eggs have had their surfaces sanitized (in accordance with Chapter 6.4.);
3. the eggs are transported in new or appropriately sanitized packaging materials.

Article 10.4.15.

**Recommendations for importation of egg products of poultry**
Regardless of the NAI status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the commodity is derived from eggs which meet the requirements of Articles 10.4.13. or 10.4.14.; or
2. the commodity has been processed to ensure the destruction of NAI virus in accordance with Article 10.4.25.;

AND

3. the necessary precautions were taken to avoid contact of the commodity with any source of NAI virus.

Article 10.4.16.

Recommendations for importation from a NAI free country, zone or compartment

for poultry semen

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor poultry:

1. showed no clinical sign of NAI on the day of semen collection;
2. were kept in a NAI free country, zone or compartment for at least the 21 days prior to and at the time of semen collection.

Article 10.4.17.

Recommendations for the importation from a HPNAI free country, zone or compartment

for poultry semen

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor poultry:

1. showed no clinical sign of HPNAI on the day of semen collection;
2. were kept in a HPNAI free country, zone or compartment for at least the 21 days prior to and at the time of semen collection.

Article 10.4.18.

Recommendations for the importation of semen of birds other than poultry

Regardless of the NAI status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor birds:

1. were kept in isolation approved by the Veterinary Services for at least the 21 days prior to semen collection;
2. showed no clinical sign of infection with a virus which would be considered NAI in poultry during the isolation period;
3. were tested within 14 days prior to semen collection and shown to be free of NAI infection.
Article 10.4.19.

Recommendations for importation from either a NAI or HPNAI free country, zone or compartment for fresh meat of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from poultry:

1. which have been kept in a country, zone or compartment free from HPNAI since they were hatched or for at least the past 21 days;
2. which have been slaughtered in an approved abattoir in a country, zone or compartment free from HPNAI and have been subjected to ante-mortem and post-mortem inspections in accordance with Chapter 6.2. and have been found free of any signs suggestive of NAI.

Article 10.4.20.

Recommendations for the importation of meat products of poultry

Regardless of the NAI status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the commodity is derived from fresh meat which meet the requirements of Article 10.4.19.; or
2. the commodity has been processed to ensure the destruction of NAI virus in accordance with Article 10.4.26.;

AND

3. the necessary precautions were taken to avoid contact of the commodity with any source of NAI virus.

Article 10.4.21.

Recommendations for the importation of products of poultry origin, other than feather meal and poultry meal, intended for use in animal feeding, or for agricultural or industrial use

Regardless of the NAI status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities were processed in a NAI free country, zone or compartment from poultry which were kept in a NAI free country, zone or compartment from the time they were hatched until the time of slaughter or for at least the 21 days preceding slaughter; or
2. these commodities have been processed to ensure the destruction of NAI virus (under study);

AND

3. the necessary precautions were taken to avoid contact of the commodity with any source of NAI virus.

Article 10.4.22.

Recommendations for the importation of feathers and down of poultry
Regardless of the NAI status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities originated from poultry as described in Article 10.4.19. and were processed in a NAI free country, zone or compartment; or
2. these commodities have been processed to ensure the destruction of NAI virus (under study); AND
3. the necessary precautions were taken to avoid contact of the commodity with any source of NAI virus.

Article 10.4.23.

Recommendations for the importation of feathers and down of birds other than poultry

Regardless of the NAI status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities have been processed to ensure the destruction of NAI virus (under study); and
2. the necessary precautions were taken to avoid contact of the commodity with any source of NAI virus.

Article 10.4.24.

Recommendations for the importation of feather meal and poultry meal

Regardless of the NAI status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities were processed in a NAI free country, zone or compartment from poultry which were kept in a NAI free country, zone or compartment from the time they were hatched until the time of slaughter or for at least the 21 days preceding slaughter; or
2. these commodities have been processed either:
   a) with moist heat at a minimum temperature of 118ºC for minimum of 40 minutes; or
   b) with a continuous hydrolysing process under at least 3.79 bar of pressure with steam at a minimum temperature of 122ºC for a minimum of 15 minutes; or
   c) with an alternative rendering process that ensures that the internal temperature throughout the product reaches at least 74ºC;

AND

3. the necessary precautions were taken to avoid contact of the commodity with any source of NAI virus.

Article 10.4.25.

Procedures for the inactivation of the AI virus in eggs and egg products

The following times for industry standard temperatures are suitable for the inactivation of AI virus present in eggs and egg products:
The listed temperatures are indicative of a range that achieves a 7-log kill. Where scientifically documented, variances from these times and temperatures may also be suitable when they achieve the inactivation of the virus.

**Article 10.4.26.**

**Procedures for the inactivation of the AI virus in meat**

The following times for industry standard temperatures are suitable for the inactivation of AI virus present in *meat*.

<table>
<thead>
<tr>
<th>Core temperature (°C)</th>
<th>Time</th>
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</thead>
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<td>Whole egg</td>
<td>60</td>
</tr>
<tr>
<td>Whole egg blends</td>
<td>60</td>
</tr>
<tr>
<td>Whole egg blends</td>
<td>61.1</td>
</tr>
<tr>
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<td>55.6</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td>56.7</td>
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<tr>
<td>10% salted yolk</td>
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<tr>
<td>Dried egg white</td>
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</tr>
<tr>
<td>Dried egg white</td>
<td>54.4</td>
</tr>
</tbody>
</table>

The listed temperatures are indicative of a range that achieves a 7-log kill. Where scientifically documented, variances from these times and temperatures may also be suitable when they achieve the inactivation of the virus.

**Article 10.4.27.**

**Surveillance: introduction**

Articles 10.4.27. to 10.4.33. define the principles and provide a guide on the *surveillance* for NAI complementary to Chapter 1.4., applicable to Members seeking to determine their NAI status. This may be for the entire country, *zone* or *compartment*. Guidance for Members seeking free status following an *outbreak* and for the maintenance of NAI status is also provided.

The presence of avian influenza viruses in wild birds creates a particular problem. In essence, no Member can declare itself free from avian influenza (AI) in wild birds. However, the definition of NAI in this chapter refers to the *infection in poultry* only, and Articles 10.4.27. to 10.4.33. were developed under this definition.

The impact and epidemiology of NAI differ widely in different regions of the world and therefore it is impossible to provide specific recommendations for all situations. *Surveillance* strategies...
employed for demonstrating freedom from NAI at an acceptable level of confidence will need to be adapted to the local situation. Variables such as the frequency of contacts of poultry with wild birds, different biosecurity levels and production systems and the commingling of different susceptible species including domestic waterfowl require specific surveillance strategies to address each specific situation. It is incumbent upon the Member to provide scientific data that explains the epidemiology of NAI in the region concerned and also demonstrates how all the risk factors are managed. There is therefore considerable latitude available to Members to provide a well-reasoned argument to prove that absence of NAI virus (NAIV) infection is assured at an acceptable level of confidence.

Surveillance for NAI should be in the form of a continuing programme designed to establish that the country, zone or compartment, for which application is made, is free from NAIV infection.

Article 10.4.28.

Surveillance: general conditions and methods

1. A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. In particular:
   a) a formal and ongoing system for detecting and investigating outbreaks of disease or NAI infection should be in place;
   b) a procedure should be in place for the rapid collection and transport of samples from suspect cases of NAI to a laboratory for NAI diagnosis as described in the Terrestrial Manual;
   c) a system for recording, managing and analysing diagnostic and surveillance data should be in place.

2. The NAI surveillance programme should:
   a) include an early warning system throughout the production, marketing and processing chain for reporting suspicious cases. Farmers and workers, who have day-to-day contact with poultry, as well as diagnosticians, should report promptly any suspicion of NAI to the Veterinary Authority. They should be supported directly or indirectly (e.g. through private veterinarians or veterinary para-professionals) by government information programmes and the Veterinary Authority. All suspected cases of NAI should be investigated immediately. As suspicion cannot always be resolved by epidemiological and clinical investigation alone, samples should be taken and submitted to a laboratory for appropriate tests. This requires that sampling kits and other equipment are available for those responsible for surveillance. Personnel responsible for surveillance should be able to call for assistance from a team with expertise in NAI diagnosis and control. In cases where potential public health implications are suspected, notification to the appropriate public health authorities is essential;
   b) implement, when relevant, regular and frequent clinical inspection, serological and virological testing of high-risk groups of animals, such as those adjacent to a NAI infected country, zone or compartment, places where birds and poultry of different origins are mixed, such as live bird markets, poultry in close proximity to waterfowl or other potential sources of NAIV.

An effective surveillance system will periodically identify suspicious cases that require follow-up and investigation to confirm or exclude that the cause of the condition is NAIV. The rate at which such suspicious cases are likely to occur will differ between epidemiological situations and cannot
therefore be predicted reliably. Applications for freedom from NAIV infection should, in consequence, provide details of the occurrence of suspicious cases and how they were investigated and dealt with. This should include the results of laboratory testing and the control measures to which the animals concerned were subjected during the investigation (quarantine, movement stand-still orders, etc).

Article 10.4.29.

**Surveillance strategies**

1. **Introduction**

The target population for surveillance aimed at identification of disease and infection should cover all the susceptible poultry species within the country, zone or compartment. Active and passive surveillance for NAI should be ongoing. The frequency of active surveillance should be at least every 6 months. Surveillance should be composed of random and targeted approaches using molecular, virological, serological and clinical methods.

The strategy employed may be based on randomised sampling requiring surveillance consistent with demonstrating the absence of NAIV infection at an acceptable level of confidence. Random surveillance is conducted using serological tests described in the *Terrestrial Manual*. Positive serological results should be followed up with molecular or virological methods.

Targeted surveillance (e.g. based on the increased likelihood of infection in particular localities or species) may be an appropriate strategy. Virological and serological methods should be used concurrently to define the NAI status of high risk populations.

A Member should justify the surveillance strategy chosen as adequate to detect the presence of NAIV infection in accordance with Chapter 1.4. and the prevailing epidemiological situation, including cases of HPAI detected in any birds. It may, for example, be appropriate to target clinical surveillance at particular species likely to exhibit clear clinical signs (e.g. chickens). Similarly, virological and serological testing could be targeted to species that may not show clinical signs (e.g. ducks).

If a Member wishes to declare freedom from NAIV infection in a specific zone or compartment, the design of the survey and the basis for the sampling process would need to be aimed at the population within the zone or compartment.

For random surveys, the design of the sampling strategy will need to incorporate epidemiologically appropriate design prevalence. The sample size selected for testing will need to be large enough to detect infection if it were to occur at a predetermined minimum rate. The sample size and expected disease prevalence determine the level of confidence in the results of the survey. The Member should justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence in particular clearly needs to be based on the prevailing or historical epidemiological situation.

Irrespective of the survey approach selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained. Ideally, the sensitivity and specificity of the tests used should be validated for the vaccination/infection history and the different species in the target population.

Irrespective of the testing system employed, surveillance system design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the
rate at which these false positives are likely to occur can be calculated in advance. There needs to be an effective procedure for following up positives to ultimately determine with a high level of confidence, whether they are indicative of infection or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as flocks which may be epidemiologically linked to it.

The principles involved in surveillance for disease/infection are technically well defined. The design of surveillance programmes to prove the absence of NAIV infection/circulation needs to be carefully followed to avoid producing results that are either insufficiently reliable, or excessively costly and logistically complicated. The design of any surveillance programme, therefore, requires inputs from professionals competent and experienced in this field.

2. Clinical surveillance

Clinical surveillance aims at the detection of clinical signs of NAI at the flock level. Whereas significant emphasis is placed on the diagnostic value of mass serological screening, surveillance based on clinical inspection should not be underrated. Monitoring of production parameters, such as increased mortality, reduced feed and water consumption, presence of clinical signs of a respiratory disease or a drop in egg production, is important for the early detection of NAIV infection. In some cases, the only indication of LPNAIV infection may be a drop in feed consumption or egg production.

Clinical surveillance and laboratory testing should always be applied in series to clarify the status of NAI suspects detected by either of these complementary diagnostic approaches. Laboratory testing may confirm clinical suspicion, while clinical surveillance may contribute to confirmation of positive serology. Any sampling unit within which suspicious animals are detected should have restrictions imposed upon it until NAI infection is ruled out.

Identification of suspect flocks is vital to the identification of sources of NAIV and to enable the molecular, antigenic and other biological characteristics of the virus to be determined. It is essential that NAIV isolates are sent regularly to the regional Reference Laboratory for genetic and antigenic characterization.

3. Virological surveillance

Virological surveillance using tests described in the Terrestrial Manual should be conducted:

a) to monitor at risk populations;

b) to confirm clinically suspect cases;

c) to follow up positive serological results;

d) to test 'normal' daily mortality, to ensure early detection of infection in the face of vaccination or in establishments epidemiologically linked to an outbreak.

4. Serological surveillance

Serological surveillance aims at the detection of antibodies against NAIV. Positive NAIV antibody test results can have four possible causes:

a) natural infection with NAIV;

b) vaccination against NAI;

c) maternal antibodies derived from a vaccinated or infected parent flock are usually found in the yolk and can persist in progeny for up to 4 weeks;

d) false positive results due to the lack of specificity of the test.

It may be possible to use serum collected for other survey purposes for NAI surveillance. However, the principles of survey design described in these recommendations and the
requirement for a statistically valid survey for the presence of NAIV should not be compromised.

The discovery of clusters of seropositive flocks may reflect any of a series of events, including but not limited to the demographics of the population sampled, vaccinal exposure or infection. As clustering may signal infection, the investigation of all instances should be incorporated in the survey design. Clustering of positive flocks is always epidemiologically significant and therefore should be investigated.

If vaccination cannot be excluded as the cause of positive serological reactions, diagnostic methods to differentiate antibodies due to infection or vaccination should be employed.

The results of random or targeted serological surveys are important in providing reliable evidence that no NAIV infection is present in a country, zone or compartment. It is therefore essential that the survey be thoroughly documented.

5. Virological and serological surveillance in vaccinated populations

The surveillance strategy is dependent on the type of vaccine used. The protection against AI is haemagglutinin subtype specific. Therefore, two broad vaccination strategies exist: 1) inactivated whole AI viruses, and 2) haemagglutinin expression-based vaccines.

In the case of vaccinated populations, the surveillance strategy should be based on virological and/or serological methods and clinical surveillance. It may be appropriate to use sentinel birds for this purpose. These birds should be unvaccinated, AI virus antibody free birds and clearly and permanently identified. Sentinel birds should be used only if no appropriate laboratory procedures are available. The interpretation of serological results in the presence of vaccination is described in Article 10.4.33.

Article 10.4.30.

Documentation of NAI or HPNAI free status

1. Members declaring freedom from NAI or HPNAI for the country, zone or compartment: additional surveillance procedures

In addition to the general conditions described in above mentioned articles, a Member declaring freedom from NAI or HPNAI for the entire country, or a zone or a compartment should provide evidence for the existence of an effective surveillance programme. The strategy and design of the surveillance programme will depend on the prevailing epidemiological circumstances and should be planned and implemented according to general conditions and methods described in this Chapter, to demonstrate absence of NAIV or HPNAIV infection, during the preceding 12 months in susceptible poultry populations (vaccinated and non-vaccinated). This requires the support of a laboratory able to undertake identification of NAIV or HPNAIV infection through virus detection and antibody tests described in the Terrestrial Manual. This surveillance may be targeted to poultry population at specific risks linked to the types of production, possible direct or indirect contact with wild birds, multi-age flocks, local trade patterns including live bird markets, use of possibly contaminated surface water, and the presence of more than one species on the holding and poor biosecurity measures in place.

2. Additional requirements for countries, zones or compartments that practise vaccination

Vaccination to prevent the transmission of HPNAI virus may be part of a disease control programme. The level of flock immunity required to prevent transmission will depend on the flock size, composition (e.g. species) and density of the susceptible poultry population. It is
therefore impossible to be prescriptive. The vaccine should also comply with the provisions stipulated for NAI vaccines in the Terrestrial Manual. Based on the epidemiology of NAI in the country, zone or compartment, it may be that a decision is reached to vaccinate only certain species or other poultry subpopulations.

In all vaccinated flocks there is a need to perform virological and serological tests to ensure the absence of virus circulation. The use of sentinel poultry may provide further confidence of the absence of virus circulation. The tests have to be repeated at least every 6 months or at shorter intervals according to the risk in the country, zone or compartment.

Evidence to show the effectiveness of the vaccination programme should also be provided.

Article 10.4.31.

Countries, zones or compartments declaring that they have regained freedom from NAI or HPNAI following an outbreak: additional surveillance procedures

In addition to the general conditions described in the above-mentioned articles, a Member declaring that it has regained country, zone or compartment freedom from NAI or HPNAI virus infection should show evidence of an active surveillance programme depending on the epidemiological circumstances of the outbreak to demonstrate the absence of the infection. This will require surveillance incorporating virus detection and antibody tests described in the Terrestrial Manual. The use of sentinel birds may facilitate the interpretation of surveillance results.

A Member declaring freedom of country, zone or compartment after an outbreak of NAI or HPNAI (with or without vaccination) should report the results of an active surveillance programme in which the NAI or HPNAI susceptible poultry population undergoes regular clinical examination and active surveillance planned and implemented according to the general conditions and methods described in these recommendations. The surveillance should at least give the confidence that can be given by a randomized representative sample of the populations at risk.

Article 10.4.32.

NAI free establishments within HPNAI free compartments: additional surveillance procedures

The declaration of NAI free establishments requires the demonstration of absence of NAIV infection. Birds in these establishments should be randomly tested using virus detection or isolation tests, and serological methods, following the general conditions of these recommendations. The frequency of testing should be based on the risk of infection and at a maximum interval of 21 days.

Article 10.4.33.

The use and interpretation of serological and virus detection tests

Poultry infected with NAI virus produce antibodies to haemagglutinin (HA), neuraminidase (NA), nonstructural proteins (NSPs), nucleoprotein/matrix (NP/M) and the polymerase complex proteins. Detection of antibodies against the polymerase complex proteins will not be covered in this chapter. Tests for NP/M antibodies include direct and blocking ELISA, and agar gel
immunodiffusion (AGID) tests. Tests for antibodies against NA include the neuraminidase inhibition (NI), indirect fluorescent antibody and direct and blocking ELISA tests. For the HA, antibodies are detected in haemagglutination inhibition (HI), ELISA and neutralization (SN) tests. The HI test is reliable in avian species but not in mammals. The SN test can be used to detect subtype specific antibodies to the haemagglutinin and is the preferred test for mammals and some avian species. The AGID test is reliable for detection of NP/M antibodies in chickens and turkeys, but not in other avian species. As an alternative, blocking ELISA tests have been developed to detect NP/M antibodies in all avian species.

The HI and NI tests can be used to subtype AI viruses into 16 haemagglutinin and 9 neuraminidase subtypes. Such information is helpful for epidemiological investigations and in categorization of AI viruses.

*Poultry* can be vaccinated with a variety of AI vaccines including inactivated whole AI virus vaccines, and haemagglutinin expression-based vaccines. Antibodies to the haemagglutinin confer subtype specific protection. Various strategies can be used to differentiate vaccinated from infected birds including serosurveillance in unvaccinated sentinel birds or specific serological tests in the vaccinated birds.

AI virus infection of unvaccinated birds including sentinels is detected by antibodies to the NP/M, subtype specific HA or NA proteins, or NSP. *Poultry* vaccinated with inactivated whole AI vaccines containing an influenza virus of the same H sub-type but with a different neuraminidase may be tested for field exposure by applying serological tests directed to the detection of antibodies to the NA of the field virus. For example, birds vaccinated with H7N3 in the face of a H7N1 epidemic may be differentiated from infected birds (DIVA) by detection of subtype specific NA antibodies of the N1 protein of the field virus. Alternatively, in the absence of DIVA, inactivated vaccines may induce low titres of antibodies to NSP and the titre in infected birds would be markedly higher. Encouraging results have been obtained experimentally with this system, but it has not yet been validated in the field. In *poultry* vaccinated with haemagglutinin expression-based vaccines, antibodies are detected to the specific HA, but not any of the other AI viral proteins. *Infection* is evident by antibodies to the NP/M or NSP, or the specific NA protein of the field virus. Vaccines used should comply with the standards of the *Terrestrial Manual*.

All *flocks* with seropositive results should be investigated. Epidemiological and supplementary laboratory investigation results should document the status of NAI infection/circulation for each positive *flock*.

A confirmatory test should have a higher specificity than the screening test and sensitivity at least equivalent than that of the screening test.

Information should be provided on the performance characteristics and validation of tests used.

1. **The follow-up procedure in case of positive test results if vaccination is used**

   In case of vaccinated populations, one has to exclude the likelihood that positive test results are indicative of virus circulation. To this end, the following procedure should be followed in the investigation of positive serological test results derived from *surveillance* conducted on NAI-vaccinated *poultry*. The investigation should examine all evidence that might confirm or refute the hypothesis that the positive results to the serological tests employed in the initial survey were not due to virus circulation. All the epidemiological information should be substantiated, and the results should be collated in the final report.

   Knowledge of the type of vaccine used is crucial in developing a serological based strategy to differentiate infected from vaccinated *animals*.

   a) Inactivated whole AI virus vaccines can use either homologous or heterologous neuraminidase subtypes between the vaccine and field strains. If *poultry* in the population...
have antibodies to NP/M and were vaccinated with inactivated whole AI virus vaccine, the following strategies should be applied:

i) sentinel birds should remain NP/M antibody negative. If positive for NP/M antibodies, indicating AI virus infection, specific HI tests should be performed to identify H5 or H7 AI virus infection;

ii) if vaccinated with inactivated whole AI virus vaccine containing homologous NA to field virus, the presence of antibodies to NSP could be indicative of infection. Sampling should be initiated to exclude the presence of NAIV by either virus isolation or detection of virus specific genomic material or proteins;

iii) if vaccinated with inactivated whole AI virus vaccine containing heterologous NA to field virus, presence of antibodies to the field virus NA or NSP would be indicative of infection. Sampling should be initiated to exclude the presence of NAIV by either virus isolation or detection of virus specific genomic material or proteins.

b) Haemagglutinin expression-based vaccines contain the HA protein or gene homologous to the HA of the field virus. Sentinel birds as described above can be used to detect AI infection. In vaccinated or sentinel birds, the presence of antibodies against NP/M, NSP or field virus NA is indicative of infection. Sampling should be initiated to exclude the presence of NAIV by either virus isolation or detection of virus specific genomic material or proteins.

2. The follow-up procedure in case of positive test results indicative of infection for determination of infection due to HPNAI or LPNAI virus

The detection of antibodies indicative of a NAI virus infection as indicated in point a)i) above will result in the initiation of epidemiological and virological investigations to determine if the infections are due to HPNAI or LPNAI viruses.

Virological testing should be initiated in all antibody-positive and at risk populations. The samples should be evaluated for the presence of AI virus, by virus isolation and identification, and/or detection of influenza A specific proteins or nucleic acids (Figure 2). Virus isolation is the gold standard for detecting infection by AI virus and the method is described in the Terrestrial Manual. All AI virus isolates should be tested to determine HA and NA subtypes, and in vivo tested in chickens and/or sequencing of HA proteolytic cleavage site of H5 and H7 subtypes for determination of classification as HPNAI, LPNAI or LPAI (not notifiable) viruses. As an alternative, nucleic acid detection tests have been developed and validated; these tests have the sensitivity of virus isolation, but with the advantage of providing results within a few hours. Samples with detection of H5 and H7 HA subtypes by nucleic acid detection methods should either be submitted for virus isolation, identification, and in vivo testing in chickens, or sequencing of nucleic acids for determination of proteolytic cleavage site as HPNAI or LPNAI viruses. The antigen detection systems, because of low sensitivity, are best suited for screening clinical field cases for infection by Type A influenza virus looking for NP/M proteins. NP/M positive samples should be submitted for virus isolation, identification and pathogenicity determination.

Laboratory results should be examined in the context of the epidemiological situation. Corollary information needed to complement the serological survey and assess the possibility of viral circulation includes but is not limited to:

a) characterization of the existing production systems;

b) results of clinical surveillance of the suspects and their cohorts;

c) quantification of vaccinations performed on the affected sites;
d) sanitary protocol and history of the affected *establishments*;

e) control of *animal identification* and movements;

f) other parameters of regional significance in historic NAIV transmission.

The entire investigative process should be documented as standard operating procedure within the epidemiological *surveillance* programme.
Fig. 1. Schematic representation of laboratory tests for determining evidence of NAI infection through or following serological surveys

**Key:**
- AGID: Agar gel immunodiffusion
- DIVA: Differentiating infected from vaccinated animals
- ELISA: Enzyme-linked immunosorbant assay
- HA: Haemagglutinin
- HI: Haemagglutination inhibition
- NA: Neuraminidase
- NP/M: Nucleoprotein and matrix protein
- NSP: Nonstructural protein
- S: No evidence of NAIV
The above diagrams indicate the tests which are recommended for use in the investigation of poultry flocks.

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
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</thead>
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<tr>
<td>AGID</td>
<td>Agar gel immunodiffusion</td>
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<td>Differentiating infected from vaccinated animals</td>
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CHAPTER 10.5.

AVIAN MYCOPLASMOSIS
(Mycoplasma gallisepticum)

Article 10.5.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 10.5.2.

Establishment free from avian mycoplasmosis

To qualify as free from avian mycoplasmosis, an establishment should satisfy the following requirements:

1. it is under official veterinary control;
2. it contains no bird which has been vaccinated against avian mycoplasmosis;
3. 5% of the birds, with a maximum of 100 birds of different age groups present in the establishment, are subjected to the serum-agglutination test with negative results at the age of 10, 18 and 26 weeks, and thereafter at 4-week intervals (the results of at least the last two tests carried out on adult birds should be negative);
4. all birds introduced into the flocks come from an establishment free from avian mycoplasmosis.

Article 10.5.3.

Recommendations for the importation of chickens and turkeys

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of avian mycoplasmosis on the day of shipment;
2. come from an establishment free from avian mycoplasmosis; and/or
3. were kept in a quarantine station for the 28 days prior to shipment and were subjected to a diagnostic test for avian mycoplasmosis with negative results, on two occasions, at the beginning and at the end of the 28-day period.

Article 10.5.4.

Recommendations for the importation of day-old birds
Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1. come from establishments free from avian mycoplasmosis and from hatcheries which comply with the standards referred to in Chapter 6.4.;
2. were shipped in clean and unused packages.

Article 10.5.5.

Recommendations for the importation of hatching eggs of chickens and turkeys

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1. have been disinfected in conformity with the standards referred to in Chapter 6.4.;
2. come from establishments free from avian mycoplasmosis and from hatcheries which comply with the standards referred to in Chapter 6.4.;
3. were shipped in clean and unused packages.
CHAPTER 10.6.

AVIAN TUBERCULOSIS

Article 10.6.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 10.6.2.

Recommendations for the importation of birds for breeding or rearing

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of avian tuberculosis on the day of shipment;

2. come from establishments which are regularly inspected by the Veterinary Authority and which are recognised as being free from avian tuberculosis.

Article 10.6.3.

Recommendations for the importation of birds for slaughter

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of avian tuberculosis on the day of shipment;

2. come from establishments which are regularly inspected by the Veterinary Authority and are recognised as being free from avian tuberculosis; or

3. come from establishments in which no case of avian tuberculosis has been reported;

4. are not being eliminated as part of an eradication programme against avian tuberculosis.

Article 10.6.4.

Recommendations for the importation of wild avian species destined for zoological gardens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that prior to shipment, the birds showed no clinical sign of avian tuberculosis and, as far as can be determined, had not been exposed to avian tuberculosis.
Article 10.6.5.

Recommendations for the importation of hatching eggs

*Veterinary Authorities* of importing countries should require the presentation of an *international veterinary certificate* attesting that the *hatching eggs*:

1. come from *establishments* and/or hatcheries which are regularly inspected by the *Veterinary Authority*;
2. come from *establishments* and/or hatcheries which are recognised as being free from avian tuberculosis;
3. were shipped in clean and unused packages.
CHAPTER 10.7.

DUCK VIRUS ENTERITIS

Article 10.7.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for duck virus enteritis (DVE) shall be 7 days (chronic carriers occur).

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.7.2.

Recommendations for the importation of ducks

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of DVE on the day of shipment;
2. come from establishments which are regularly inspected by the Veterinary Authority;
3. come from establishments which are recognised as being free from DVE;
4. have not been vaccinated against DVE; or
5. were vaccinated against DVE (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.7.3.

Recommendations for the importation of day-old ducks

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1. come from establishments and/or hatcheries which are regularly inspected by the Veterinary Authority;
2. have not been vaccinated against DVE; or
3. were vaccinated against DVE (the nature of the vaccine used and the date of vaccination should also be stated in the certificate);
4. are the progeny of parent flocks which:
   a) come from establishments and/or hatcheries which are recognised as being free from DVE;
   b) come from establishments and/or hatcheries in which vaccination against DVE is not practised on the parent stock; or
c) come from *establishments* and/or hatcheries in which vaccination against DVE is practised on the parent stock;

5. were shipped in clean and unused packages.

**Article 10.7.4.**

**Recommendations for the importation of hatching eggs of ducks**

*Veterinary Authorities* of importing countries should require the presentation of an *international veterinary certificate* attesting that the *hatching eggs*:

1. have been disinfected in conformity with the standards referred to in Chapter 6.4.;
2. come from *establishments* and/or hatcheries which are regularly inspected by the *Veterinary Authority*;
3. were shipped in clean and unused packages.
CHAPTER 10.8.

DUCK VIRUS HEPATITIS

Article 10.8.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for duck virus hepatitis (DVH) shall be 7 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.8.2.

Recommendations for the importation of ducks

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of DVH on the day of shipment;
2. come from establishments which are recognised as being free from DVH;
3. have not been vaccinated against DVH; or
4. were vaccinated against DVH (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.8.3.

Recommendations for the importation of day-old ducks

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1. come from establishments and/or hatcheries which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.4.;
2. have not been vaccinated against DVH; or
3. were vaccinated against DVH (the nature of the vaccine used and the date of vaccination should also be stated in the certificate);
4. are the progeny of parent flocks which:
   a) come from establishments and/or hatcheries which are recognised as being free from DVH;
   b) come from establishments and/or hatcheries in which vaccination against DVH is not practised on the parent stock; or
   c) come from establishments and/or hatcheries in which vaccination against DVH is practised on the parent stock;
5. were shipped in clean and unused packages.

Article 10.8.4.

Recommendations for the importation of hatching eggs of ducks

**Veterinary Authorities of importing countries** should require the presentation of an **international veterinary certificate** attesting that the **hatching eggs**:

1. have been disinfected in conformity with the standards referred to in Chapter 6.4.;
2. come from **establishments** and/or hatcheries which are recognised as being free from DVH and from hatcheries which comply with the standards referred to in Chapter 6.4.;
3. were shipped in clean and unused packages.
CHAPTER 10.9.

FOWL CHOLERA

Article 10.9.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for fowl cholera (FC) shall be 14 days (chronic carriers occur).

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.9.2.

Recommendations for the importation of domestic birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of FC on the day of shipment;
2. come from establishments which are regularly inspected by the Veterinary Authority;
3. come from establishments which are recognised as being free from FC;
4. have not been vaccinated against FC; or
5. were vaccinated against FC (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.9.3.

Recommendations for the importation of day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1. come from establishments and/or hatcheries which are regularly inspected by the Veterinary Authority;
2. have not been vaccinated against FC; or
3. were vaccinated against FC (the nature of the vaccine used and the date of vaccination shall also be stated in the certificate);
4. are the progeny of parent flocks which:
   a) come from establishments and/or hatcheries which are recognised as being free from FC;
   b) come from establishments and/or hatcheries in which vaccination against FC is not practised on the parent stock; or
   c) come from establishments and/or hatcheries in which vaccination against FC is practised on the parent stock;
5. were shipped in clean and unused packages.

Article 10.9.4.

Recommenda
tions for the importation of hatching eggs of domestic birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1. have been disinfected in conformity with the standards referred to in Chapter 6.4;
2. come from establishments and/or hatcheries which are regularly inspected by the Veterinary Authority;
3. were shipped in clean and unused packages.
CHAPTER 10.10.

FOWL TYPHOID AND PULLORUM DISEASE

Article 10.10.1.

General provisions

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 10.10.2.

Recommendations for the importation of domestic birds

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the birds:

1. showed no clinical sign of fowl typhoid and pullorum disease on the day of shipment;
2. come from *establishments* which are recognised as being free from fowl typhoid and pullorum disease; and/or
3. have been subjected to a diagnostic test for fowl typhoid and pullorum disease with negative results; and/or
4. were kept in a *quarantine station* for not less than 21 days prior to shipment.

Article 10.10.3.

Recommendations for the importation of day-old birds

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the *day-old birds*:

1. come from *establishments* and/or hatcheries which are recognised as being free from fowl typhoid and pullorum disease and from hatcheries which comply with the standards referred to in Chapter 6.4.;
2. were shipped in clean and unused packages.

Article 10.10.4.

Recommendations for the importation of hatching eggs of domestic birds

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the *hatching eggs*:

1. have been disinfected in conformity with the standards referred to in Chapter 6.4.;
2. come from *establishments* and/or hatcheries which are recognised as being free from fowl typhoid and pullorum disease and from hatcheries which comply with the standards referred to in Chapter 6.4.;
3. were shipped in clean and unused packages.
CHAPTER 10.11.

INFECTIOUS BURSAL DISEASE
(Gumboro disease)

Article 10.11.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for infectious bursal disease shall be 7 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.11.2.

Recommendations for the importation of domestic birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of infectious bursal disease on the day of shipment;
2. come from an establishment which is regularly inspected by the Veterinary Authority;
3. have not been vaccinated against infectious bursal disease and come from an establishment free from infectious bursal disease as demonstrated by the AGP test; or
4. were vaccinated against infectious bursal disease (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.11.3.

Recommendations for importation from countries considered infected with infectious bursal disease

for day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1. come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.4.;
2. have not been vaccinated against infectious bursal disease; or
3. were vaccinated against infectious bursal disease (the nature of the vaccine used and the date of vaccination should also be stated in the certificate);
4. are the progeny of parent flocks which come from establishments:
   a) which are recognised as being free from infectious bursal disease as demonstrated by the AGP test;
b) in which vaccination against infectious bursal disease is not practised on the parent stock; or

c) in which vaccination against infectious bursal disease is practised on the parent stock;

5. were shipped in clean and unused packages.

Article 10.11.4.

Recommendations for the importation of hatching eggs of domestic birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1. have been disinfected in conformity with the standards referred to in Chapter 6.4.;

2. come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.4.;

3. were shipped in clean and unused packages.
CHAPTER 10.12.

MAREK'S DISEASE

Article 10.12.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for Marek's disease (MD) shall be 4 months.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 10.12.2.

Recommendations for the importation of chickens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

1. showed no clinical sign of Marek's disease on the day of shipment;
2. come from an establishment which is regularly inspected by the Veterinary Authority;
3. have not been vaccinated against MD and come from an establishment which has been free from MD for at least the past 2 years; or
4. were vaccinated against MD (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

Article 10.12.3.

Recommendations for the importation of day-old birds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the day-old birds:

1. come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.4.;
2. were vaccinated against MD (the nature of the vaccine used and the date of vaccination should also be stated in the certificate);
3. were shipped in clean and unused packages.

Article 10.12.4.

Recommendations for the importation of hatching eggs of chickens

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the hatching eggs:

1. have been disinfected in conformity with the standards referred to in Chapter 6.4.;
2. come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.4.;
3. come from establishments in which vaccination against MD is practised (the nature of the vaccine used and the date of vaccination should also be stated in the certificate);
4. were shipped in clean and unused packages.

Article 10.12.5.

Recommendations for the importation of meat-meals and feather-meals

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that these products have been processed using heat treatment to ensure the destruction of the MD virus.

Article 10.12.6.

Recommendations for the importation of feathers and down

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that these products have been processed to ensure the destruction of the MD virus.
CHAPTER 10.13.

NEWCASTLE DISEASE

Article 10.13.1.

General provisions

1. For the purposes of international trade, Newcastle disease (ND) is defined as an infection of poultry caused by a virus (NDV) of avian paramyxovirus serotype 1 (APMV-1) that meets one of the following criteria for virulence:

   a) the virus has an intracerebral pathogenicity index (ICPI) in day-old chicks (Gallus gallus) of 0.7 or greater; or

   b) multiple basic amino acids have been demonstrated in the virus (either directly or by deduction) at the C-terminus of the F2 protein and phenylalanine at residue 117, which is the N-terminus of the F1 protein. The term 'multiple basic amino acids' refers to at least three arginine or lysine residues between residues 113 and 116. Failure to demonstrate the characteristic pattern of amino acid residues as described above would require characterisation of the isolated virus by an ICPI test.

   In this definition, amino acid residues are numbered from the N-terminus of the amino acid sequence deduced from the nucleotide sequence of the F0 gene, 113–116 corresponds to residues –4 to –1 from the cleavage site.

2. Poultry is defined as ‘all domesticated birds, including backyard poultry, used for the production of meat or eggs for consumption, for the production of other commercial products, for restocking supplies of game, or for breeding these categories of birds, as well as fighting cocks used for any purpose’.

   Birds that are kept in captivity for any reason other than those reasons referred to in the preceding paragraph, including those that are kept for shows, races, exhibitions, competitions, or for breeding or selling these categories of birds as well as pet birds, are not considered to be poultry.

3. This chapter deals with NDV infection of poultry as defined in point 2 above, in the presence or absence of clinical signs. For the purposes of international trade, a Member should not impose immediate bans on the trade in poultry commodities in response to a notification, according to Article 1.2.3. of the Terrestrial Code, of infection with NDV in birds other than poultry, including wild birds.

4. The occurrence of infection with NDV is defined as the isolation and identification of NDV as such or the detection of viral RNA specific for NDV.

5. For the purposes of the Terrestrial Code, the incubation period for ND shall be 21 days.

6. Standards for diagnostic tests, including pathogenicity testing, are described in the Terrestrial Manual. When the use of ND vaccines is appropriate, those vaccines should comply with the standards described in the Terrestrial Manual.
Determination of the ND status of a country, zone or compartment

The ND status of a country, a zone or a compartment can be determined on the basis of the following criteria:

1. ND is notifiable in the whole country, an on-going ND awareness programme is in place, and all notified suspect occurrences of ND are subjected to field and, where applicable, laboratory investigations;
2. appropriate surveillance is in place to demonstrate the presence of NDV infection in the absence of clinical signs in poultry, this may be achieved through an ND surveillance programme in accordance with Articles 10.13.22. to 10.13.26.;
3. consideration of all epidemiological factors for ND occurrence and their historical perspective.

ND free country, zone or compartment

A country, zone or compartment may be considered free from ND when it has been shown that NDV infection in poultry has not been present in the country, zone or compartment for the past 12 months, based on surveillance in accordance with Articles 10.13.22. to 10.13.26.

If infection has occurred in poultry in a previously free country, zone or compartment, ND free status can be regained three months after a stamping-out policy (including disinfection of all affected establishments) is applied, providing that surveillance in accordance with Articles 10.13.22. to 10.13.26. has been carried out during that three-month period.

Recommendations for importation from an ND free country, zone or compartment as defined in Article 10.13.3.

for live poultry (other than day-old poultry)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the poultry showed no clinical sign suggestive of ND on the day of shipment;
2. the poultry were kept in an ND free country, zone or compartment since they were hatched or for at least the past 21 days;
3. the poultry are transported in new or appropriately sanitized containers;
4. if the poultry have been vaccinated against ND, it has been done in accordance with the provisions of the Terrestrial Manual and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

Recommendations for the importation of live birds other than poultry
Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an **international veterinary certificate** attesting that:

1. the birds showed no clinical sign suggestive of infection by NDV on the day of shipment;
2. the birds were kept in isolation approved by the Veterinary Services since they were hatched or for at least the 21 days prior to shipment and showed no clinical sign of infection during the isolation period;
3. a statistically valid sample of the birds, selected in accordance with the provisions of Article 10.13.24., was subjected to a diagnostic test within 14 days prior to shipment to demonstrate freedom from infection with NDV;
4. the birds are transported in new or appropriately sanitized containers;
5. if the birds have been vaccinated against ND, it has been done in accordance with the provisions of the Terrestrial Manual and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

**Article 10.13.6.**

**Recommendations for importation from an ND free country, zone or compartment**

for day-old live poultry

*Veterinary Authorities* should require the presentation of an **international veterinary certificate** attesting that:

1. the poultry were hatched and kept in an ND free country, zone or compartment since they were hatched;
2. the poultry were derived from parent flocks which had been kept in an ND free country, zone or compartment for at least 21 days prior to and at the time of the collection of the eggs;
3. the poultry are transported in new or appropriately sanitized containers;
4. if the poultry or parent flocks have been vaccinated against ND, it has been done in accordance with the provisions of the Terrestrial Manual and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

**Article 10.13.7.**

**Recommendations for the importation of day-old live birds other than poultry**

Regardless of the ND status of the country of origin, *Veterinary Authorities* should require the presentation of an **international veterinary certificate** attesting that:

1. the birds showed no clinical sign suggestive of infection by NDV on the day of shipment;
2. the birds were hatched and kept in isolation approved by the Veterinary Services;
3. the parent flock birds were subjected to a diagnostic test at the time of the collection of the eggs to demonstrate freedom from infection with NDV;
4. the birds are transported in new or appropriately sanitized containers;
5. if the birds or parent flocks have been vaccinated against ND, it has been done in accordance with the provisions of the Terrestrial Manual and the nature of the vaccine used and the date of vaccination have been attached to the certificate.
Recommendations for importation from an ND free country, zone or compartment

for hatching eggs of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the eggs came from an ND free country, zone or compartment;
2. the eggs were derived from parent flocks which had been kept in an ND free country, zone or compartment for at least 21 days prior to and at the time of the collection of the eggs;
3. the eggs are transported in new or appropriately sanitized packaging materials;
4. if the parent flocks have been vaccinated against ND, it has been done in accordance with the provisions of the Terrestrial Manual and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

Recommendations for the importation of hatching eggs from birds other than poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the parent flock birds were subjected to a diagnostic test 7 days prior to and at the time of the collection of the eggs to demonstrate freedom from infection with NDV;
2. the eggs have had their surfaces sanitized (in accordance with Chapter 6.4.);
3. the eggs are transported in new or appropriately sanitized packaging materials;
4. if the parent flocks have been vaccinated against ND, it has been done in accordance with the provisions of the Terrestrial Manual and the nature of the vaccine used and the date of vaccination have been attached to the certificate.

Recommendations for importation from an ND free country, zone or compartment

for eggs for human consumption

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the eggs were produced and packed in an ND free country, zone or compartment;
2. the eggs are transported in new or appropriately sanitized packaging materials.
Article 10.13.11.

Recommendations for importation of egg products of poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the commodity is derived from eggs which meet the requirements of Article 10.13.10.; or

2. the commodity has been processed to ensure the destruction of NDV in accordance with Article 10.13.20.;

AND

3. the necessary precautions were taken to avoid contact of the egg products with any source of NDV.

Article 10.13.12.

Recommendations for importation from an ND free country, zone or compartment

for poultry semen

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor poultry:

1. showed no clinical sign suggestive of ND on the day of semen collection;

2. were kept in an ND free country, zone or compartment for at least the 21 days prior to and at the time of semen collection.

Article 10.13.13.

Recommendations for the importation of semen of birds other than poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor birds:

1. were kept in isolation approved by the Veterinary Services for at least the 21 days prior to and on the day of semen collection;

2. showed no clinical sign suggestive of infection with NDV during the isolation period and on the day of semen collection;

3. were subjected to a diagnostic test within 14 days prior to semen collection to demonstrate freedom from infection with NDV.


Recommendations for importation from an ND free country, zone or compartment
for fresh meat of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from poultry:

1. which have been kept in an ND free country, zone or compartment since they were hatched or for at least the past 21 days;

2. which have been slaughtered in an approved abattoir in an ND free country, zone or compartment and have been subjected to ante-mortem and post-mortem inspections in accordance with Chapter 6.2. and have been found free of any sign suggestive of ND.

Article 10.13.15.

Recommendations for importation of meat products of poultry

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the commodity is derived from fresh meat which meet the requirements of Article 10.13.14.; or

2. the commodity has been processed to ensure the destruction of NDV in accordance with Article 10.13.21.;

AND

3. the necessary precautions were taken to avoid contact of the commodity with any source of NDV.

Article 10.13.16.

Recommendations for the importation of products of poultry origin, other than feather meal and poultry meal, intended for use in animal feeding, or for agricultural or industrial use

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities were processed in a ND free country, zone or compartment from poultry which were kept in a ND free country, zone or compartment from the time they were hatched until the time of slaughter or for at least the 21 days preceding slaughter; or

2. these commodities have been processed to ensure the destruction of NDV (under study);

AND

3. the necessary precautions were taken to avoid contact of the commodity with any source of NDV.
Article 10.13.17.

Recommendations for the importation of feathers and down of poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities originated from poultry as described in Article 10.13.14. and were processed in a ND free country, zone or compartment; or

2. these commodities have been processed to ensure the destruction of NDV (under study);

AND

3. the necessary precautions were taken to avoid contact of the commodity with any source of NDV.

Article 10.13.18.

Recommendations for the importation of feathers and down of birds other than poultry

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities have been processed to ensure the destruction of NDV (under study); and

2. the necessary precautions were taken to avoid contact of the commodity with any source of NDV.

Article 10.13.19.

Recommendations for the importation of feather meal and poultry meal

Regardless of the ND status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities were processed in a ND free country, zone or compartment from poultry which were kept in a ND free country, zone or compartment from the time they were hatched until the time of slaughter or for at least the 21 days preceding slaughter; or

2. these commodities have been processed either:
   a) with moist heat at a minimum temperature of 118°C for minimum of 40 minutes; or
   b) with a continuous hydrolysing process under at least 3.79 bar of pressure with steam at a minimum temperature of 122°C for a minimum of 15 minutes; or
   c) with an alternative rendering process that ensures that the internal temperature throughout the product reaches at least 74°C for a minimum of 280 seconds;

AND

3. the necessary precautions were taken to avoid contact of the commodity with any source of ND virus.
Article 10.13.20.

**Procedures for the inactivation of the ND virus in eggs and egg products**

The following times and temperatures are suitable for the inactivation of ND virus present in eggs and egg products:

<table>
<thead>
<tr>
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<th>Core temperature (°C)</th>
<th>Time</th>
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<tbody>
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<td>1,596 seconds</td>
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<tr>
<td>Whole egg</td>
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<td>674 seconds</td>
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<td>Dried egg white</td>
<td>57</td>
<td>50.4 hours</td>
</tr>
</tbody>
</table>

The listed temperatures are indicative of a range that achieves a 7-log kill. Where scientifically documented, variances from these times and temperatures may also be suitable when they achieve the inactivation of the virus.

Article 10.13.21.

**Procedures for the inactivation of the ND virus in meat**

The following times for industry standard temperatures are suitable for the inactivation of ND virus present in meat.

<table>
<thead>
<tr>
<th></th>
<th>Core temperature (°C)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poultry meat</td>
<td>65.0</td>
<td>840 seconds</td>
</tr>
<tr>
<td></td>
<td>70.0</td>
<td>574 seconds</td>
</tr>
<tr>
<td></td>
<td>74.0</td>
<td>280 seconds</td>
</tr>
<tr>
<td></td>
<td>80.0</td>
<td>203 seconds</td>
</tr>
</tbody>
</table>

The listed temperatures are indicative of a range that achieves a 7-log kill. Where scientifically documented, variances from these times and temperatures may also be suitable when they achieve the inactivation of the virus.

Article 10.13.22.

**Surveillance: introduction**

Articles 10.13.22. to 10.13.26. define the principles and provide a guide on the surveillance for ND as defined in Article 10.13.1. and is complementary to Chapter 1.4. It is applicable to Members seeking to determine their ND status. This may be for the entire country, zone or compartment. Guidance for Members seeking free status following an outbreak and for the maintenance of ND status is also provided.
Surveillance for ND is complicated by the known occurrence of avian paramyxovirus serotype 1 (APMV-1) infections in many bird species, both domestic and wild, and the widespread utilization of ND vaccines in domestic poultry.

The impact and epidemiology of ND differ widely in different regions of the world and therefore it is not possible to provide specific recommendations for all situations. Therefore, surveillance strategies employed for demonstrating freedom from ND at an acceptable level of confidence will need to be adapted to the local situation. Variables such as the frequency of contacts of poultry with wild birds, different biosecurity levels, production systems and the commingling of different susceptible species require specific surveillance strategies to address each specific situation. It is incumbent upon the Member to provide scientific data that explains the epidemiology of ND in the region concerned and also demonstrates how all the risk factors are managed. There is, therefore, considerable latitude available to Members to provide a well-reasoned argument to prove freedom from NDV infection.

Surveillance for ND should be in the form of a continuing programme designed to establish that the country, zone or compartment, for which application is made, is free from NDV infection.

Article 10.13.23.

Surveillance: general conditions and methods

1. A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. In particular there should be in place:
   a) a formal and ongoing system for detecting and investigating outbreaks of disease or NDV infection;
   b) a procedure for the rapid collection and transport of samples from suspect cases of ND to a laboratory for ND diagnosis as described in the Terrestrial Manual;
   c) a system for recording, managing and analysing diagnostic and surveillance data.

2. The ND surveillance programme should:
   a) include an early warning system throughout the production, marketing and processing chain for reporting suspicious cases. Farmers and workers, who have day-to-day contact with poultry, as well as diagnosticians, should report promptly any suspicion of ND to the Veterinary Authority. They should be supported directly or indirectly (e.g. through private veterinarians or veterinary para-professionals) by government information programmes and the Veterinary Authority. All suspected cases of ND should be investigated immediately. As suspicion cannot be resolved by epidemiological and clinical investigation alone, samples should be taken and submitted to a laboratory for appropriate tests. This requires that sampling kits and other equipment are available to those responsible for surveillance. Personnel responsible for surveillance should be able to call for assistance from a team with expertise in ND diagnosis and control;
   b) implement, when relevant, regular and frequent clinical, virological and serological surveillance of high risk groups of poultry within the target population (e.g. those adjacent to an ND infected country, zone, compartment, places where birds and poultry of different origins are mixed, or other sources of NDV).

An effective surveillance system may identify suspicious cases that require follow-up and investigation to confirm or exclude that the cause of the condition is due to NDV infection. The rate at which such suspicious cases are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. Applications for freedom from NDV infection should
provide details of the occurrence of suspicious cases and how they were investigated and dealt with. This should include the results of laboratory testing and the control measures to which the animals concerned were subjected during the investigation (quarantine, movement stand-still orders, etc.).

Article 10.13.24.

Surveillance strategies

1. Introduction

Any surveillance programme requires inputs from professionals competent and experienced in this field and should be thoroughly documented. The design of surveillance programmes to prove the absence of NDV infection / circulation needs to be carefully followed to avoid producing results that are either unreliable, or excessively costly and logistically complicated.

If a Member wishes to declare freedom from NDV infection in a country, zone or compartment, the subpopulation used for the surveillance for the disease / infection should be representative of all poultry within the country, zone or compartment. Multiple surveillance methods should be used concurrently to accurately define the true ND status of poultry populations. Active and passive surveillance for ND should be ongoing with the frequency of active surveillance being appropriate to the disease situation in the country. Surveillance should be composed of random and/or targeted approaches, dependent on the local epidemiological situation and using clinical, virological and serological methods as described in the Terrestrial Manual. If alternative tests are used they should have been validated as fit-for-purpose in accordance with OIE standards. A Member should justify the surveillance strategy chosen as adequate to detect the presence of NDV infection in accordance with Chapter 1.4. and the prevailing epidemiological situation.

In surveys, the sample size selected for testing should be statistically justified to detect infection at a predetermined target prevalence. The sample size and expected prevalence determine the level of confidence in the results of the survey. The survey design and frequency of sampling should be dependent on the historical and current local epidemiological situation. The Member should justify the choice of survey design and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4.

Targeted surveillance (e.g. based on the increased likelihood of infection in a population) may be an appropriate strategy.

It may, for example, be appropriate to target clinical surveillance at particular species likely to exhibit clear clinical signs (e.g. unvaccinated chickens). Similarly, virological and serological testing could target species that may not show clinical signs (Article 10.13.2.) of ND and are not routinely vaccinated (e.g. ducks). Surveillance may also target poultry populations at specific risk, for example direct or indirect contact with wild birds, multi-age flocks, local trade patterns including live poultry markets, the presence of more than one species on the holding and poor biosecurity measures in place. In situations where wild birds have been shown to play a role in the local epidemiology of ND, surveillance of wild birds may be of value in alerting Veterinary Services to the possible exposure of poultry and, in particular, of free ranging poultry.

The sensitivity and specificity of the diagnostic tests are key factors in the choice of survey design, which should anticipate the occurrence of false positive and false negative reactions. Ideally, the sensitivity and specificity of the tests used should be validated for the vaccination / infection history and for the different species in the target population. If the characteristics of
the testing system are known, the rate at which these false reactions are likely to occur can be calculated in advance. There needs to be an effective procedure for following up positives to ultimately determine with a high level of confidence, whether they are indicative of infection or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as flocks which may be epidemiologically linked to it.

The results of active and passive surveillance are important in providing reliable evidence that no NDV infection is present in a country, zone or compartment.

2. Clinical surveillance

Clinical surveillance aims to detect clinical signs suggestive of ND at the flock level and should not be underestimated as an early indication of infection. Monitoring of production parameters (e.g. a drop in feed or water consumption or egg production) is important for the early detection of NDV infection in some populations, as there may be no, or mild clinical signs, particularly if they are vaccinated. Any sampling unit within which suspicious animals are detected should be considered as infected until evidence to the contrary is produced. Identification of infected flocks is vital to the identification of sources of NDV.

A presumptive diagnosis of clinical ND in suspect infected populations should always be confirmed by virological testing in a laboratory. This will enable the molecular, antigenic and other biological characteristics of the virus to be determined.

It is desirable that NDV isolates are sent promptly to an OIE Reference Laboratory for archiving and further characterization if required.

3. Virological surveillance

Virological surveillance should be conducted using tests described in the Terrestrial Manual to:

a) monitor at risk populations;

b) confirm suspect clinical cases;

c) follow up positive serological results in unvaccinated populations or sentinel birds;

d) test ‘normal’ daily mortalities (if warranted by an increased risk e.g. infection in the face of vaccination or in establishments epidemiologically linked to an outbreak).

4. Serological surveillance

Where vaccination is carried out, serological surveillance is of limited value. Serological surveillance cannot be used to discriminate between NDV and other APMV-1. Test procedures and interpretations of results are as described in the Terrestrial Manual. Positive NDV antibody test results can have five possible causes:

a) natural infection with APMV-1;

b) vaccination against ND;

c) exposure to vaccine virus;

d) maternal antibodies derived from a vaccinated or infected parent flock are usually found in the yolk and can persist in progeny for up to 4 weeks;

e) non-specific test reactions.

It may be possible to use serum collected for other survey purposes for ND surveillance. However, the principles of survey design described in these recommendations and the
requirement for a statistically valid survey for the presence of NDV should not be compromised.

Discovery of seropositive, unvaccinated flocks should be investigated further by conducting a thorough epidemiological investigation. Since seropositive results are not necessarily indicative of infection, virological methods should be used to confirm the presence of NDV in such populations. Until validated strategies and tools to differentiate vaccinated animals from those infected with field APMV-1 are available, serological tools should not be used to identify NDV infection in vaccinated populations.

5. Use of sentinel poultry

There are various applications of the use of sentinel poultry as a surveillance tool to detect virus circulation. They may be used to monitor vaccinated populations or species which are less susceptible to the development of clinical disease for the circulation of virus. Sentinel poultry should be immunologically naïve and may be used in vaccinated flocks. In case of the use of sentinel poultry, the structure and organisation of the poultry sector, the type of vaccine used and local epidemiological factors will determine the type of production systems where sentinels should be placed, the frequency of placement and monitoring of the sentinels.

Sentinel poultry should be in close contact with, but should be identified to be clearly differentiated from, the target population. Sentinel poultry should be observed regularly for evidence of clinical disease and any disease incidents investigated by prompt laboratory testing. The species to be used as sentinels should be proven to be highly susceptible to infection and ideally develop clear signs of clinical disease. Where the sentinel poultry do not necessarily develop overt clinical disease a programme of regular active testing by virological and serological tests should be used (the development of clinical disease may be dependent on the sentinel species used or use of live vaccine in the target population that may infect the sentinel poultry). The testing regime and the interpretation of the results will depend on the type of vaccine used in the target population. Sentinel birds should be used only if no appropriate laboratory procedures are available.

Article 10.13.25.

Documentation of ND free status: additional surveillance procedures

The requirements for a country, zone or compartment to declare freedom from ND are given in Article 10.13.3.

A Member declaring freedom of a country, zone or compartment (with or without vaccination) should report the results of a surveillance programme in which the ND susceptible poultry population undergoes regular surveillance planned and implemented according to the general conditions and methods described in these recommendations.

1. Members declaring freedom from ND for the country, zone or compartment

In addition to the general conditions described in the Terrestrial Code, a Member declaring freedom from ND for the entire country, or a zone or a compartment should provide evidence for the existence of an effective surveillance programme. The surveillance programme should be planned and implemented according to general conditions and methods described in this chapter to demonstrate absence of NDV infection in poultry during the preceding 12 months.
2. Additional requirements for countries, zones or compartments that practice vaccination

Vaccination against ND may be used as a component of a disease prevention and control programme. The vaccine used should comply with the provisions of the *Terrestrial Manual*.

In vaccinated populations there is a need to perform *surveillance* to ensure the absence of NDV circulation. The use of sentinel *poultry* may provide further confidence of the absence of virus circulation. The *surveillance* should be repeated at least every 6 months or at shorter intervals according to the risk in the country, *zone* or *compartment*, or evidence to show the effectiveness of the vaccination programme is regularly provided.

**Article 10.13.26.**

**Countries, zones or compartments regaining freedom from ND following an outbreak: additional surveillance procedures**

A Member regaining country, *zone* or *compartment* freedom from ND should show evidence of an active *surveillance* programme depending on the epidemiological circumstances of the *outbreak* to demonstrate the absence of the *infection*.

A Member declaring freedom of a country, *zone* or *compartment* after an *outbreak* of ND (with or without vaccination) should report the results of a *surveillance* programme in which the ND susceptible *poultry* population undergoes regular *surveillance* planned and implemented according to the general conditions and methods described in these recommendations.
SECTION 11.

BOVIDAE

CHAPTER 11.1.

BOVINE ANAPLASMOSIS

Article 11.1.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.1.2.

Recommendations for importation from countries considered infected with bovine anaplasmosis

for cattle

Veterinary Authorities of free countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of bovine anaplasmosis on the day of shipment; and

2. were, since birth, kept in a zone known to be free of bovine anaplasmosis for the previous 2 years;

OR

3. showed no clinical sign of bovine anaplasmosis on the day of shipment; and

4. were subjected to a diagnostic test for bovine anaplasmosis with negative results during 30 days prior to shipment; and

5. were treated with an effective drug such as oxytetracycline for 5 consecutive days at a dose of 22 mg/kg (under study);

AND

in either of the above cases:

6. were treated with an acaricide and, if necessary, a repellant against biting insects prior to shipment and were completely free of ticks.
CHAPTER 11.2.

BOVINE BABESIOSIS

Article 11.2.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.2.2.

Recommendations for importation from countries considered infected with bovine babesiosis

for cattle

Veterinary Authorities of free countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of bovine babesiosis on the day of shipment; and
2. were, since birth, resident in a zone known to be free of bovine babesiosis for the previous 2 years;

OR

3. showed no clinical sign of bovine babesiosis on the day of shipment; and
4. were subjected to a diagnostic test for bovine babesiosis with negative results during 30 days prior to shipment; and
5. were treated with an effective drug such as imidocarb as a single dose injection at 2 mg/kg or amicarbalide at 10 mg/kg (under study);

AND

in either of the above cases:

6. were treated with an acaricide prior to shipment and were completely free of ticks.
CHAPTER 11.3.

BOVINE BRUCELLOSIS

Article 11.3.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.3.2.

Country or zone free from bovine brucellosis

To qualify as free from bovine brucellosis, a country or zone shall satisfy the following requirements:

1. bovine brucellosis or any suspicion thereof is notifiable in the country;
2. the entire cattle population of a country or zone is under official veterinary control and it has been ascertained that the rate of brucellosis infection does not exceed 0.2% of the cattle herds in the country or zone under consideration;
3. the serological tests for bovine brucellosis are periodically conducted in each herd, with or without the ring test;
4. no animal has been vaccinated against bovine brucellosis for at least the past 3 years;
5. all reactors are slaughtered;
6. animals introduced into a free country or zone shall only come from herds officially free from bovine brucellosis or from herds free from bovine brucellosis. This condition may be waived for animals which have not been vaccinated and which, prior to entry into the herd, were isolated and were subjected to the serological tests for bovine brucellosis with negative results on two occasions, with an interval of 30 days between each test. These tests are not considered valid in female animals which have calved during the past 14 days.

In a country where all herds of cattle have qualified as officially free from bovine brucellosis and where no reactor has been found for the past 5 years, the system for further control may be decided by the country concerned.

Article 11.3.3.

Herd officially free from bovine brucellosis

To qualify as officially free from bovine brucellosis, a herd of cattle shall satisfy the following requirements:

1. it is under official veterinary control;
2. it contains no animal which has been vaccinated against bovine brucellosis during at least the past 3 years;
3. it only contains animals which have not showed evidence of bovine brucellosis infection during the past 6 months, all suspect cases (such as animals which have prematurely calved) having been subjected to the necessary laboratory investigations;

4. all cattle over the age of one year (except castrated males) were subjected to serological tests with negative results on two occasions, at an interval of 12 months between each test; this requirement is maintained even if the entire herd is normally tested every year or testing is conducted in conformity with other requirements established by the Veterinary Authority of the country concerned;

5. additions to the herd shall only come from herds officially free from bovine brucellosis. This condition may be waived for animals which have not been vaccinated, come from a herd free from bovine brucellosis, provided that negative results were shown following a buffered Brucella antigen test and the complement fixation test during the 30 days prior to entry into the herd. Any recently calved or calving animal should be retested after 14 days, as tests are not considered valid in female animals which have calved during the past 14 days.

Article 11.3.4.

Herd free from bovine brucellosis

To qualify as free from bovine brucellosis, a herd of cattle shall satisfy the following requirements:

1. it is under official veterinary control;
2. it is subjected to either a vaccination or a non-vaccination regime;
3. if a live vaccine is used in female cattle, vaccination should be carried out between 3 and 6 months of age, in which case these female cattle should be identified with a permanent mark;
4. all cattle over the age of one year are controlled as provided in point 4 of the definition of a herd of cattle officially free from bovine brucellosis; however, cattle under 30 months of age which have been vaccinated using a live vaccine before reaching 6 months of age, may be subjected to a buffered Brucella antigen test with a positive result, with the complement fixation test giving a negative result;
5. all cattle introduced into the herd come from a herd officially free from bovine brucellosis or from a herd free from bovine brucellosis, or from a country or zone free from bovine brucellosis. This condition may be waived for animals which have been isolated and which, prior to entry into the herd, were subjected to the serological tests for bovine brucellosis with negative results on two occasions, with an interval of 30 days between each test. These tests are not considered valid in female animals which have calved during the past 14 days.

Article 11.3.5.

Recommendations for the importation of cattle for breeding or rearing (except castrated males)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of bovine brucellosis on the day of shipment;
2. were kept in a herd in which no clinical sign of bovine brucellosis was officially reported during the 6 months prior to shipment;
3. were kept in a country or zone free from bovine brucellosis, or were from a herd officially free from bovine brucellosis and were subjected to a serological test for bovine brucellosis with negative results during the 30 days prior to shipment; or

4. were kept in a herd free from bovine brucellosis and were subjected to buffered Brucella antigen and complement fixation tests with negative results during the 30 days prior to shipment;

if the cattle come from a herd other than those mentioned above:

5. were isolated prior to shipment and were subjected to a serological test for bovine brucellosis with negative results on two occasions, with an interval of not less than 30 days between each test, the second test being performed during the 15 days prior to shipment. These tests are not considered valid in female animals which have calved during the past 14 days.

Article 11.3.6.

Recommendations for the importation of cattle for slaughter (except castrated males)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of bovine brucellosis on the day of shipment;
2. are not being eliminated as part of an eradication programme against bovine brucellosis;
3. were kept in a country or zone free from bovine brucellosis; or
4. were kept in a herd officially free from bovine brucellosis; or
5. were kept in a herd free from bovine brucellosis; or
6. were subjected to a serological test for bovine brucellosis with negative results during the 30 days prior to shipment.

Article 11.3.7.

Recommendations for the importation of bovine semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. when the semen is from an artificial insemination centre, the testing programme includes the buffered Brucella antigen and complement fixation tests;
2. when the semen is not from an artificial insemination centre, the donor animals:
   a) were kept in a country or zone free from bovine brucellosis; or
   b) were kept in a herd officially free from bovine brucellosis, showed no clinical sign of bovine brucellosis on the day of collection of the semen and were subjected to a buffered Brucella antigen test with negative results during the 30 days prior to collection; or
   c) were kept in a herd free from bovine brucellosis, showed no clinical sign of bovine brucellosis on the day of collection and were subjected to the buffered Brucella antigen and complement fixation tests with negative results during the 30 days prior to collection; or
3. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 11.3.8.

Recommendations for the importation of in vivo derived bovine embryos

_Veterinary Authorities of importing countries_ should require the presentation of an _international veterinary certificate_ attesting that the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 11.3.9.

Recommendations for the importation of in vitro produced bovine embryos/oocytes

_Veterinary Authorities of importing countries_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor females:
   a) were kept in a country or _zone_ free from bovine brucellosis; or
   b) were kept in a _herd_ officially free from bovine brucellosis and were subjected to tests as prescribed in Chapter 1.3.;
2. the oocytes were fertilised with semen meeting the conditions referred to in Chapters 4.5. and 4.6.;
3. the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.8. and 4.9., as relevant.
CHAPTER 11.4.

BOVINE GENITAL CAMPYLOBACTERIOSIS

Article 11.4.1.

General provisions

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 11.4.2.

Recommendations for the importation of female bovines for breeding

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the animals are virgin heifers; or
2. the animals were kept in a *herd* in which no case of bovine genital campylobacteriosis has been declared; and/or
3. for animals which have been mated, the culture of vaginal mucus for the presence of the causal agent of bovine genital campylobacteriosis proved negative.

Article 11.4.3.

Recommendations for the importation of bulls for breeding

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the animals:
   a) have never been used for natural service; or
   b) have only mated virgin heifers; or
   c) were kept in an *establishment* in which no case of bovine genital campylobacteriosis has been declared;
2. the semen and preputial specimen cultures and/or the associated tests for the presence of the causal agent of bovine genital campylobacteriosis were negative.

Article 11.4.4.

Recommendations for the importation of bovine semen

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor animals:
   a) have never been used for natural service; or
b) have only mated virgin heifers; or

c) were kept in an establishment or artificial insemination centre where no case of bovine genital campylobacteriosis has been reported;

2. the culture of semen and preputial specimens for the presence of the causal agent of bovine genital campylobacteriosis proved negative.
CHAPTER 11.5.

BOVINE SPONGIFORM ENCEPHALOPATHY

Article 11.5.1.

General provisions and safe commodities

The recommendations in this chapter are intended to manage the human and animal health risks associated with the presence of the bovine spongiform encephalopathy (BSE) agent in cattle (Bos taurus and B. indicus) only.

1. When authorising import or transit of the following commodities and any products made from these commodities and containing no other tissues from cattle, Veterinary Authorities should not require any BSE related conditions, regardless of the BSE risk status of the cattle population of the exporting country, zone or compartment:

   a) milk and milk products;

   b) semen and in vivo derived cattle embryos collected and handled in accordance with the recommendations of the International Embryo Transfer Society;

   c) hides and skins;

   d) gelatine and collagen prepared exclusively from hides and skins;

   e) tallow with maximum level of insoluble impurities of 0.15% in weight and derivatives made from this tallow;

   f) dicalcium phosphate (with no trace of protein or fat);

   g) deboned skeletal muscle meat (excluding mechanically separated meat) from cattle which were not subjected to a stunning process prior to slaughter, with a device injecting compressed air or gas into the cranial cavity or to a pithing process, and which passed ante-mortem and post-mortem inspections and which has been prepared in a manner to avoid contamination with tissues listed in Article 11.5.14.;

   h) blood and blood by-products, from cattle which were not subjected to a stunning process, prior to slaughter, with a device injecting compressed air or gas into the cranial cavity, or to a pithing process.

2. When authorising import or transit of other commodities listed in this chapter, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the BSE risk status of the cattle population of the exporting country, zone or compartment.

3. When authorising import of commodities according to the conditions prescribed in this chapter, the risk status of an importing country is not affected by the BSE risk status of the exporting country, zone or compartment.

Standards for diagnostic tests are described in the Terrestrial Manual.
The BSE risk status of the cattle population of a country, zone or compartment

The BSE risk status of the cattle population of a country, zone or compartment should be determined on the basis of the following criteria:

1. the outcome of a risk assessment, based on the provisions of the Terrestrial Code, identifying all potential factors for BSE occurrence and their historic perspective. Members should review the risk assessment annually to determine whether the situation has changed.

   a) Release assessment

   Release assessment consists of assessing, through consideration of the following, the likelihood that the BSE agent has either been introduced into the country, zone or compartment via commodities potentially contaminated with it, or is already present in the country, zone or compartment:

   i) the presence or absence of the BSE agent in the indigenous ruminant population of the country, zone or compartment and, if present, evidence regarding its prevalence;

   ii) production of meat-and-bone meal or greaves from the indigenous ruminant population;

   iii) imported meat-and-bone meal or greaves;

   iv) imported cattle, sheep and goats;

   v) imported animal feed and feed ingredients;

   vi) imported products of ruminant origin for human consumption, which may have contained tissues listed in Article 11.5.14. and may have been fed to cattle;

   vii) imported products of ruminant origin intended for in vivo use in cattle.

   The results of surveillance and other epidemiological investigations into the disposition of the commodities identified above should be taken into account in carrying out the assessment.

   b) Exposure assessment

   If the release assessment identifies a risk factor, an exposure assessment should be conducted, consisting of assessing the likelihood of cattle being exposed to the BSE agent, through a consideration of the following:

   i) recycling and amplification of the BSE agent through consumption by cattle of meat-and-bone meal or greaves of ruminant origin, or other feed or feed ingredients contaminated with these;

   ii) the use of ruminant carcasses (including from fallen stock), by-products and slaughterhouse waste, the parameters of the rendering processes and the methods of animal feed manufacture;

   iii) the feeding or not of ruminants with meat-and-bone meal and greaves derived from ruminants, including measures to prevent cross-contamination of animal feed;

   iv) the level of surveillance for BSE conducted on the cattle population up to that time and the results of that surveillance;

2. on-going awareness programme for veterinarians, farmers, and workers involved in transportation, marketing and slaughter of cattle to encourage reporting of all cases showing
clinical signs consistent with BSE in target sub-populations as defined in Articles 11.5.20. to 11.5.22.;

3. the compulsory notification and investigation of all cattle showing clinical signs consistent with BSE;

4. the examination carried out in accordance with the Terrestrial Manual in a laboratory of brain or other tissues collected within the framework of the aforementioned surveillance and monitoring system.

When the risk assessment demonstrates negligible risk, the Member should conduct Type B surveillance in accordance with Articles 11.5.20. to 11.5.22.

When the risk assessment fails to demonstrate negligible risk, the Member should conduct Type A surveillance in accordance with Articles 11.5.20. to 11.5.22.

Article 11.5.3.

Negligible BSE risk

Commodities from the cattle population of a country, zone or compartment pose a negligible risk of transmitting the BSE agent if the following conditions are met:

1. a risk assessment, as described in point 1 of Article 11.5.2., has been conducted in order to identify the historical and existing risk factors, and the Member has demonstrated that appropriate specific measures have been taken for the relevant period of time defined below to manage each identified risk;

2. the Member has demonstrated that Type B surveillance in accordance with Articles 11.5.20. to 11.5.22. is in place and the relevant points target, in accordance with Table 1, has been met;

3. EITHER:

   a) there has been no case of BSE or, if there has been a case, every case of BSE has been demonstrated to have been imported and has been completely destroyed, and

      i) the criteria in points 2 to 4 of Article 11.5.2. have been complied with for at least 7 years; and

      ii) it has been demonstrated through an appropriate level of control and audit, including that of cross contamination, that for at least 8 years neither meat-and-bone meal nor greaves derived from ruminants has been fed to ruminants;

   OR

   b) if there has been an indigenous case, every indigenous case was born more than 11 years ago; and

      i) the criteria in points 2 to 4 of Article 11.5.2. have been complied with for at least 7 years; and

      ii) it has been demonstrated through an appropriate level of control and audit, including that of cross contamination, that for at least 8 years neither meat-and-bone meal nor greaves derived from ruminants has been fed to ruminants;

      iii) all BSE cases, as well as:

          - all cattle which, during their first year of life, were reared with the BSE cases during their first year of life, and which investigation showed consumed the same potentially contaminated feed during that period, or
if the results of the investigation are inconclusive, all cattle born in the same herd as, and within 12 months of the birth of, the BSE cases, if alive in the country, zone or compartment, are permanently identified, and their movements controlled, and, when slaughtered or at death, are completely destroyed.

The Member or zone will be included in the list of negligible risk only after the submitted evidence has been accepted by the OIE. Retention on the list requires that the information for the previous 12 months on surveillance results and feed controls be re-submitted annually and changes in the epidemiological situation or other significant events should be reported to the OIE according to the requirements in Chapter 1.1.

Article 11.5.4.

Controlled BSE risk

Commodities from the cattle population of a country, zone or compartment pose a controlled risk of transmitting the BSE agent if the following conditions are met:

1. a risk assessment, as described in point 1 of Article 11.5.2., has been conducted in order to identify the historical and existing risk factors, and the Member has demonstrated that appropriate measures are being taken to manage all identified risks, but these measures have not been taken for the relevant period of time;

2. the Member has demonstrated that Type A surveillance in accordance with Articles 11.5.20. to 11.5.22. has been carried out and the relevant points target, in accordance with Table 1, has been met; Type B surveillance may replace Type A surveillance once the relevant points target is met;

3. EITHER:

   a) there has been no case of BSE or, if there has been a case, every case of BSE has been demonstrated to have been imported and has been completely destroyed, the criteria in points 2 to 4 of Article 11.5.2. are complied with, and it can be demonstrated through an appropriate level of control and audit, including that of cross contamination, that neither meat-and-bone meal nor greaves derived from ruminants has been fed to ruminants, but at least one of the following two conditions applies:

      i) the criteria in points 2 to 4 of Article 11.5.2. have not been complied with for 7 years;

      ii) it cannot be demonstrated that controls over the feeding of meat-and-bone meal or greaves derived from ruminants to ruminants have been in place for 8 years;

   OR

   b) there has been an indigenous case of BSE, the criteria in points 2 to 4 of Article 11.5.2. are complied with, and it can be demonstrated through an appropriate level of control and audit, including that of cross contamination, that neither meat-and-bone meal nor greaves derived from ruminants has been fed to ruminants;

and all BSE cases, as well as:

- all cattle which, during their first year of life, were reared with the BSE cases during their first year of life, and which investigation showed consumed the same potentially contaminated feed during that period, or
if the results of the investigation are inconclusive, all cattle born in the same herd as, and within 12 months of the birth of, the BSE case, if alive in the country, zone or compartment, are permanently identified, and their movements controlled, and, when slaughtered or at death, are completely destroyed.

The Member or zone will be included in the list of controlled risk only after the submitted evidence has been accepted by the OIE. Retention on the list requires that the information for the previous 12 months on surveillance results and feed controls be re-submitted annually and changes in the epidemiological situation or other significant events should be reported to the OIE according to the requirements in Chapter 1.1.

Article 11.5.5.

Undetermined BSE risk

The cattle population of a country, zone or compartment poses an undetermined BSE risk if it cannot be demonstrated that it meets the requirements of another category.

Article 11.5.6.

Recommendations for the importation of bovine commodities from a country, zone or compartment posing a negligible BSE risk

For all commodities from cattle not listed in point 1 of Article 11.5.1.

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the country, zone or compartment complies with the conditions in Article 11.5.3.

Article 11.5.7.

Recommendations for the importation of cattle from a country, zone or compartment posing a negligible BSE risk but where there has been an indigenous case

For cattle selected for export

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. are identified by a permanent identification system in such a way as to demonstrate that they are not exposed cattle as described in point 3b)(iii) of Article 11.5.3.;

2. were born after the date from which the ban on the feeding of ruminants with meat-and-bone meal and greaves derived from ruminants had been effectively enforced.

Article 11.5.8.

Recommendations for the importation of cattle from a country, zone or compartment posing a controlled BSE risk
for cattle

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the country, zone or compartment complies with the conditions referred to in Article 11.5.4.;
2. cattle selected for export are identified by a permanent identification system in such a way as to demonstrate that they are not exposed cattle as described in point 3b) of Article 11.5.4.;
3. cattle selected for export were born after the date from which the ban on the feeding of ruminants with meat-and-bone meal and greaves derived from ruminants was effectively enforced.

Article 11.5.9.

Recommendations for the importation of cattle from a country, zone or compartment posing an undetermined BSE risk for cattle

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the feeding of ruminants with meat-and-bone meal and greaves derived from ruminants has been banned and the ban has been effectively enforced;
2. all BSE cases, as well as:
   a) all cattle which, during their first year of life, were reared with the BSE cases during their first year of life, and, which investigation showed consumed the same potentially contaminated feed during that period, or
   b) if the results of the investigation are inconclusive, all cattle born in the same herd as, and within 12 months of the birth of, the BSE cases, if alive in the country, zone or compartment, are permanently identified, and their movements controlled, and, when slaughtered or at death, are completely destroyed;
3. cattle selected for export:
   a) are identified by a permanent identification system in such a way as to demonstrate that they are not exposed cattle as demonstrated in point 2 above;
   b) were born at least 2 years after the date from which the ban on the feeding of ruminants with meat-and-bone meal and greaves derived from ruminants was effectively enforced.

Article 11.5.10.

Recommendations for the importation of meat and meat products from a country, zone or compartment posing a negligible BSE risk for fresh meat and meat products from cattle (other than those listed in point 1 of Article 11.5.1.)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the country, zone or compartment complies with the conditions in Article 11.5.3.;
2. the cattle from which the fresh meat and meat products were derived passed ante-mortem and post-mortem inspections;

3. in countries with negligible BSE risk where there have been indigenous cases, the cattle from which the fresh meat and meat products were derived were born after the date from which the ban on the feeding of ruminants with meat-and-bone meal and greaves derived from ruminants had been effectively enforced.

Article 11.5.11.

Recommendations for the importation of meat and meat products from a country, zone or compartment posing a controlled BSE risk

for fresh meat and meat products from cattle (other than those listed in point 1 of Article 11.5.1.)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the country, zone or compartment complies with the conditions referred to in Article 11.5.4.;

2. the cattle from which the fresh meat and meat products were derived passed ante-mortem and post-mortem inspections;

3. cattle from which the fresh meat and meat products destined for export were derived were not subjected to a stunning process, prior to slaughter, with a device injecting compressed air or gas into the cranial cavity, or to a pithing process;

4. the fresh meat and meat products were produced and handled in a manner which ensures that such products do not contain and are not contaminated with:
   a) the tissues listed in points 1 and 2 of Article 11.5.14.,
   b) mechanically separated meat from the skull and vertebral column from cattle over 30 months of age.

Article 11.5.12.

Recommendations for the importation of meat and meat products from a country, zone or compartment posing an undetermined BSE risk

for fresh meat and meat products from cattle (other than those listed in point 1 of Article 11.5.1.)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the cattle from which the fresh meat and meat products originate:
   a) have not been fed meat-and-bone meal or greaves derived from ruminants;
   b) passed ante-mortem and post-mortem inspections;
   c) were not subjected to a stunning process, prior to slaughter, with a device injecting compressed air or gas into the cranial cavity, or to a pithing process;

2. the fresh meat and meat products were produced and handled in a manner which ensures that such products do not contain and are not contaminated with:
   a) the tissues listed in points 1 and 3 of Article 11.5.14.,
   b) nervous and lymphatic tissues exposed during the deboning process,
c) mechanically separated meat from the skull and vertebral column from cattle over 12 months of age.

Article 11.5.13.

Recommendations on ruminant-derived meat-and-bone meal or greaves

1. Ruminant-derived meat-and-bone meal or greaves, or any commodities containing such products, which originate from a country, zone or compartment defined in Article 11.5.3., but where there has been an indigenous case of BSE, should not be traded if such products were derived from cattle born before the date from which the ban on the feeding of ruminants with meat-and-bone meal and greaves derived from ruminants had been effectively enforced.

2. Ruminant-derived meat-and-bone meal or greaves, or any commodities containing such products, which originate from a country, zone or compartment defined in Articles 11.5.4. and 11.5.5. should not be traded between countries.

Article 11.5.14.

Recommendations on commodities that should not be traded

1. From cattle of any age originating from a country, zone or compartment defined in Articles 11.5.4. and 11.5.5., the following commodities, and any commodity contaminated by them, should not be traded for the preparation of food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices: tonsils and distal ileum. Protein products, food, feed, fertilisers, cosmetics, pharmaceuticals or medical devices prepared using these commodities (unless covered by other Articles in this chapter) should also not be traded.

2. From cattle that were at the time of slaughter over 30 months of age originating from a country, zone or compartment defined in Article 11.5.4., the following commodities, and any commodity contaminated by them, should not be traded for the preparation of food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices: brains, eyes, spinal cord, skull and vertebral column. Protein products, food, feed, fertilisers, cosmetics, pharmaceuticals or medical devices prepared using these commodities (unless covered by other Articles in this chapter) should also not be traded.

3. From cattle that were at the time of slaughter over 12 months of age originating from a country, zone or compartment defined in Article 11.5.5., the following commodities, and any commodity contaminated by them, should not be traded for the preparation of food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices: brains, eyes, spinal cord, skull and vertebral column. Protein products, food, feed, fertilisers, cosmetics, pharmaceuticals or medical devices prepared using these commodities (unless covered by other Articles in this chapter) should also not be traded.
Article 11.5.15.

Recommendations for the importation of gelatine and collagen prepared from bones and intended for food or feed, cosmetics, pharmaceuticals including biologicals, or medical devices

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the commodities came from a country, zone or compartment posing a negligible BSE risk; or
2. they originate from a country, zone or compartment posing a controlled or undetermined BSE risk and are derived from cattle which have passed ante-mortem and post-mortem inspections; and that
   a) vertebral columns from cattle over 30 months of age at the time of slaughter and skulls have been excluded;
   b) the bones have been subjected to a process which includes all of the following steps:
      i) degreasing,
      ii) acid demineralisation,
      iii) acid or alkaline treatment,
      iv) filtration,
      v) sterilisation at $>138^\circ$C for a minimum of 4 seconds,
   or to an equivalent or better process in terms of infectivity reduction (such as high pressure heating).

Article 11.5.16.

Recommendations for the importation of tallow (other than as defined in Article 11.5.1.) intended for food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the tallow came from a country, zone or compartment posing a negligible BSE risk; or
2. it originates from a country, zone or compartment posing a controlled BSE risk, is derived from cattle which have passed ante-mortem and post-mortem inspections, and has not been prepared using the tissues listed in points 1 and 2 of Article 11.5.14.

Article 11.5.17.

Recommendations for the importation of dicalcium phosphate (other than as defined in Article 11.5.1.) intended for food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1. the dicalcium phosphate came from a country, zone or compartment posing a negligible BSE risk; or
2. it originates from a country, zone or compartment posing a controlled or undetermined BSE risk and is a by-product of bone gelatine produced according to Article 11.5.15.

Article 11.5.18.

Recommendations for the importation of tallow derivatives (other than those made from tallow as defined in Article 11.5.1) intended for food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:
1. the tallow derivatives originate from a country, zone or compartment posing a negligible BSE risk; or
2. they are derived from tallow meeting the conditions referred to in Article 11.5.16.; or
3. they have been produced by hydrolysis, saponification or transesterification using high temperature and pressure.

Article 11.5.19.

Procedures for the reduction of BSE infectivity in meat-and-bone meal

The following procedure should be used to reduce the infectivity of any transmissible spongiform encephalopathy agents which may be present during the production of meat-and-bone meal containing ruminant proteins.

1. The raw material should be reduced to a maximum particle size of 50 mm before heating.
2. The raw material should be heated under saturated steam conditions to a temperature of not less than 133°C for a minimum of 20 minutes at an absolute pressure of 3 bar.

Article 11.5.20.

Surveillance: introduction

1. Depending on the risk category of a country, zone or compartment with regard to bovine spongiform encephalopathy (BSE), surveillance for BSE may have one or more goals:
   a) detecting BSE, to a pre-determined design prevalence, in a country, zone or compartment;
   b) monitoring the evolution of BSE in a country, zone or compartment;
   c) monitoring the effectiveness of a feed ban and/or other risk mitigation measures, in conjunction with auditing;
   d) supporting a claimed BSE status;
   e) gaining or regaining a higher BSE status.
2. When the BSE agent is present in a country or zone, the cattle population will comprise the following sectors, in order of decreasing size:
   a) cattle not exposed to the infective agent;
   b) cattle exposed but not infected;
   c) infected cattle, which may lie within one of three stages in the progress of BSE:
      i) the majority will die or be killed before reaching a stage at which BSE is detectable by current methods;
      ii) some will progress to a stage at which BSE is detectable by testing before clinical signs appear;
      iii) the smallest number will show clinical signs.

3. The BSE status of a country, zone or compartment cannot be determined only on the basis of a surveillance programme but should be determined in accordance with all the factors listed in Article 11.5.2. The surveillance programme should take into account the diagnostic limitations associated with the above sectors and the relative distributions of infected cattle among them.

4. With respect to the distribution and expression of the BSE agent within the sectors described above, the following four subpopulations of cattle have been identified for surveillance purposes:
   a) cattle over 30 months of age displaying behavioural or clinical signs consistent with BSE (clinical suspects);
   b) cattle over 30 months of age that are non-ambulatory, recumbent, unable to rise or to walk without assistance; cattle over 30 months of age sent for emergency slaughter or condemned at ante-mortem inspection (casualty or emergency slaughter or downer cattle);
   c) cattle over 30 months of age which are found dead or killed on farm, during transport or at an abattoir (fallen stock);
   d) cattle over 36 months of age at routine slaughter.

5. A gradient is used to describe the relative value of surveillance applied to each subpopulation. Surveillance should focus on the first subpopulation, but investigation of other subpopulations will help to provide an accurate assessment of the BSE situation in the country, zone or compartment. This approach is consistent with Articles 11.5.20. to 11.5.22.

6. When establishing a surveillance strategy, authorities need to take into account the inherent difficulties of obtaining samples on farm, and overcome them. These difficulties include higher cost, the necessity to educate and motivate owners, and counteracting potentially negative socio-economic implications.

Article 11.5.21.

Surveillance: description of cattle subpopulations

1. Cattle over 30 months of age displaying behavioural or clinical signs consistent with BSE (clinical suspects)

   Cattle affected by illnesses that are refractory to treatment, and displaying progressive behavioural changes such as excitability, persistent kicking when milked, changes in
hierarchical status, hesitation at doors, gates and barriers, as well as those displaying progressive neurological signs without signs of infectious illness are candidates for examination. These behavioural changes, being very subtle, are best identified by those who handle animals on a daily basis. Since BSE causes no pathognomonic clinical signs, all Members with cattle populations will observe individual animals displaying clinical signs consistent with BSE. It should be recognised that cases may display only some of these signs, which may also vary in severity, and such animals should still be investigated as potential BSE affected animals. The rate at which such suspicious cases are likely to occur will differ among epidemiological situations and cannot therefore be predicted reliably.

This subpopulation is the one exhibiting the highest prevalence. The accurate recognition, reporting and classification of such animals will depend on the ongoing owner/veterinarian awareness programme. This and the quality of the investigation and laboratory examination systems (Article 11.5.2.), implemented by the Veterinary Services, are essential for the credibility of the surveillance system.

2. Cattle over 30 months of age that are non-ambulatory, recumbent, unable to rise or to walk without assistance; cattle over 30 months of age sent for emergency slaughter or condemned at ante-mortem inspection (casualty or emergency slaughter, or downer cattle).

These cattle may have exhibited some of the clinical signs listed above which were not recognised as being consistent with BSE. Experience in Members where BSE has been identified indicates that this subpopulation is the one demonstrating the second highest prevalence. For that reason, it is the second most appropriate population to target in order to detect BSE.

3. Cattle over 30 months of age which are found dead or killed on farm, during transport or at an abattoir (fallen stock)

These cattle may have exhibited some of the clinical signs listed above prior to death, but were not recognised as being consistent with BSE. Experience in Members where BSE has been identified indicates that this subpopulation is the one demonstrating the third highest prevalence.

4. Cattle over 36 months of age at routine slaughter

Experience in Members where BSE has been identified indicates that this subpopulation is the one demonstrating the lowest prevalence. For that reason, it is the least appropriate population to target in order to detect BSE. However, sampling in this subpopulation may be an aide in monitoring the progress of the epizootic and the efficacy of control measures applied, because it offers continuous access to a cattle population of known class, age structure and geographical origin. Testing of routine slaughter cattle 36 months of age or less is of relatively very little value (Table 2).

Article 11.5.22.

Surveillance activities

In order to implement efficiently a surveillance strategy for BSE, a Member should use documented records or reliable estimates of the age distribution of the adult cattle population and the number of cattle tested for BSE stratified by age and by subpopulation within the country, zone or compartment.

The approach assigns ‘point values’ to each sample, based on the subpopulation from which it was collected and the likelihood of detecting infected cattle in that subpopulation. The number of
points a sample is assigned is determined by the subpopulation from which the sample is collected and the age of the animal sampled. The total points accumulation is then periodically compared to the target number of points for a country, zone or compartment.

A surveillance strategy should be designed to ensure that samples are representative of the herd of the country, zone or compartment, and include consideration of demographic factors such as production type and geographic location, and the potential influence of culturally unique husbandry practices. The approach used and the assumptions made should be fully documented, and the documentation retained for 7 years.

The points targets and surveillance point values in this chapter were obtained by applying the following factors to a statistical model:

a) the design prevalence for Type A or Type B surveillance;

b) a confidence level of 95%;

c) the pathogenesis, and pathological and clinical expression of BSE:
   i) sensitivity of diagnostic methods used;
   ii) relative frequency of expression by age;
   iii) relative frequency of expression within each subpopulation;
   iv) interval between pathological change and clinical expression;

d) demographics of the cattle population, including age distribution;

e) influence of BSE on culling or attrition of animals from the cattle population via the four subpopulations;

f) percentage of infected animals in the cattle population which are not detected.

Although the procedure accepts very basic information about a cattle population, and can be used with estimates and less precise data, careful collection and documentation of the data significantly enhance their value. Since samples from clinical suspect animals provide many times more information than samples from healthy or dead-of-unknown-cause animals, careful attention to the input data can substantially decrease the procedure’s cost and the number of samples needed. The essential input data are:

g) cattle population numbers stratified by age;

h) the number of cattle tested for BSE stratified by age and by subpopulation.

This chapter utilises Tables 1 and 2 to determine a desired surveillance points target and the point values of surveillance samples collected.

Within each of the subpopulations above in a country, zone or compartment, a Member may wish to target cattle identifiable as imported from countries or zones not free from BSE and cattle which have consumed potentially contaminated feedstuffs from countries or zones not free from BSE.

All clinical suspects should be investigated, regardless of the number of points accumulated. In addition, animals from the other subpopulations should be tested.

1. Type A surveillance

   The application of Type A surveillance will allow the detection of BSE around a design prevalence of at least one case per 100,000 in the adult cattle population in the country, zone or compartment of concern, at a confidence level of 95%. 

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2. **Type B surveillance**

The application of Type B surveillance will allow the detection of BSE around a design prevalence of at least one case per 50,000 in the adult cattle population in the country, zone or compartment of concern, at a confidence level of 95%.

Type B surveillance may be carried out by countries, zones or compartments of negligible BSE risk status (Article 11.5.3.) to confirm the conclusions of the risk assessment, for example by demonstrating the effectiveness of the measures mitigating any risk factors identified, through surveillance targeted to maximise the likelihood of identifying failures of such measures.

Type B surveillance may also be carried out by countries, zones or compartments of controlled BSE risk status (Article 11.5.4.), following the achievement of the relevant points target using Type A surveillance, to maintain confidence in the knowledge gained through Type A surveillance.

3. **Selecting the points target**

The surveillance points target should be selected from Table 1, which shows target points for adult cattle populations of different sizes. The size of the adult cattle population of a country, zone or compartment may be estimated or may be set at one million because, for statistical reasons, one million is the point beyond which sample size does not further increase with population size.

<table>
<thead>
<tr>
<th>Adult cattle population size (24 months and older)</th>
<th>Type A surveillance</th>
<th>Type B surveillance</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 1,000,000</td>
<td>300,000</td>
<td>150,000</td>
</tr>
<tr>
<td>800,000-1,000,000</td>
<td>240,000</td>
<td>120,000</td>
</tr>
<tr>
<td>600,000-800,000</td>
<td>180,000</td>
<td>90,000</td>
</tr>
<tr>
<td>400,000-600,000</td>
<td>120,000</td>
<td>60,000</td>
</tr>
<tr>
<td>200,000-400,000</td>
<td>60,000</td>
<td>30,000</td>
</tr>
<tr>
<td>100,000-200,000</td>
<td>30,000</td>
<td>15,000</td>
</tr>
<tr>
<td>50,000-100,000</td>
<td>15,000</td>
<td>7,500</td>
</tr>
<tr>
<td>25,000-50,000</td>
<td>7,500</td>
<td>3,750</td>
</tr>
</tbody>
</table>

4. **Determining the point values of samples collected**

Table 2 can be used to determine the point values of the surveillance samples collected. The approach assigns point values to each sample according to the likelihood of detecting infection based on the subpopulation from which the sample was collected and the age of the animal sampled. This approach takes into account the general principles of surveillance described in Chapter 1.4. and the epidemiology of BSE.

Because precise aging of the animals that are sampled may not be possible, Table 2 combines point values into five age categories. The point estimates for each category were determined as an average for the age range comprising the group. The age groups were selected on their relative likelihoods of expressing BSE according to scientific knowledge of the incubation of the disease and the world BSE experience. Samples may be collected from any combination of subpopulations and ages but should reflect the demographics of the cattle herd of the country,
In addition, Members should sample at least three of the four subpopulations.

Table 2. **Surveillance point values for samples collected from animals in the given subpopulation and age category**

<table>
<thead>
<tr>
<th>Surveillance subpopulation</th>
<th>Routine slaughter</th>
<th>Fallen stock</th>
<th>Casualty slaughter</th>
<th>Clinical suspect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &gt; 1 year and &lt; 2 years</td>
<td>0.2</td>
<td>0.4</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Age ≥ 2 years and &lt; 4 years (young adult)</td>
<td>0.1</td>
<td>0.2</td>
<td>260</td>
<td></td>
</tr>
<tr>
<td>Age ≥ 4 years and &lt; 7 years (middle adult)</td>
<td>0.2</td>
<td>0.9</td>
<td>780</td>
<td></td>
</tr>
<tr>
<td>Age ≥ 7 years and &lt; 9 years (older adult)</td>
<td>0.1</td>
<td>0.4</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Age ≥ 9 years (aged)</td>
<td>0.0</td>
<td>0.1</td>
<td>0.2</td>
<td>45</td>
</tr>
</tbody>
</table>

If a country, zone or compartment determines, based on the demographics and epidemiological characteristics of its cattle population, that precise classification of the subpopulations ‘casualty or emergency slaughter, or downer cattle’ and ‘fallen stock’ is not possible, these subpopulations may be combined. In such a case, the surveillance point values accorded to the combined subpopulation would be that of ‘fallen stock’.

The total points for samples collected may be accumulated over a period of a maximum of 7 consecutive years to achieve the target number of points determined in Table 1. Surveillance points remain valid for 7 years (the 95th percentile of the incubation period).

**Article 11.5.23.**

**BSE risk assessment: introduction**

The first step in determining the BSE risk status of the cattle population of a country or zone is to conduct a risk assessment (reviewed annually), based on Section 2. of this Terrestrial Code, identifying all potential factors for BSE occurrence and their historic perspective.

1. **Release assessment**

   Release assessment consists of assessing the likelihood that a BSE agent has been introduced via the importation of the following commodities potentially contaminated with a BSE agent:
   a) meat-and-bone meal or greaves;
   b) live animals;
   c) animal feed and feed ingredients;
   d) products of animal origin for human consumption.
2. Exposure assessment

Exposure assessment consists of assessing the likelihood of exposure of the BSE agent to cattle, through a consideration of the following:

a) epidemiological situation concerning BSE agents in the country or zone;

b) recycling and amplification of the BSE agent through consumption by cattle of meat-and-bone meal or greaves of ruminant origin, or other feed or feed ingredients contaminated with these;

c) the origin and use of ruminant carcasses (including fallen stock), by-products and slaughterhouse waste, the parameters of the rendering processes and the methods of animal feed manufacture;

d) implementation and enforcement of feed bans, including measures to prevent cross-contamination of animal feed; thorough epidemiological investigations of any indigenous case born after the date of the implementation of feed bans should be conducted.

The following recommendations are intended to assist Veterinary Services in conducting such a risk assessment. They provide guidance on the issues that need to be addressed when conducting a country-based assessment of BSE risk. They apply equally to self-assessment in preparation of dossiers for categorisation of countries. The recommendations are supported by greater detail in the questionnaire used for the submission of data for country assessment.

Article 11.5.24.

The potential for the release of the BSE agent through the importation of meat-and-bone meal or greaves

This point is irrelevant if the exposure assessment outlined below in Article 11.5.27. indicates that meat-and-bone meal or greaves has not been fed, either deliberately or accidentally, in the past 8 years. Nevertheless, documentation should be provided on the control systems (including relevant legislation) in place to ensure that meat-and-bone meal or greaves has not been fed to ruminants.

Assumption: That meat-and-bone meal or greaves of ruminant origin plays the only significant role in BSE transmission.

Question to be answered: Has meat-and-bone meal, greaves, or feedstuffs containing either been imported within the past 8 years? If so, where from and in what quantities?

Rationale: Knowledge of the origin of meat-and-bone meal, greaves or feedstuffs containing either meat-and-bone meal or greaves, is necessary to assess the risk of release of BSE agent. Meat-and-bone meal and greaves originating in countries of high BSE risk pose a higher release risk than that from low risk countries. Meat-and-bone meal and greaves originating in countries of unknown BSE risk pose an unknown release risk.

Evidence required:

- Documentation to support claims that meat-and-bone meal, greaves or feedstuffs containing either meat-and-bone meal or greaves have not been imported, OR

- Where meat-and-bone meal, greaves or feedstuffs containing them have been imported, documentation of country of origin and, if different, the country of export.
- Documentation on annual volume, by country of origin, of meat, greaves or feedstuffs containing them imported during the past 8 years.
- Documentation describing the composition (on a species and class of stock basis) of the imported meat-and-bone meal, greaves or feedstuffs containing them.
- Documentation, from the country of production, supporting why the rendering processes used to produce meat-and-bone meal, greaves or feedstuffs containing them would have inactivated, or significantly reduced the titre of BSE agent, should it be present.
- Documentation describing the fate of imported meat-and-bone meal and greaves.

Article 11.5.25.

The potential for the release of the BSE agent through the importation of live animals potentially infected with BSE

Assumptions:
- Countries which have imported ruminants from countries infected with BSEs are more likely to experience BSE.
- Cattle pose the only known risk although other species are under study.
- Animals imported for breeding may pose a greater risk than animals imported for slaughter because of the hypothetical risk of maternal transmission and because they are kept to a greater age than animals imported for slaughter.
- Risk is influenced by the date at which imports occurred, relative to the BSE status of the country of origin.
- Risk is proportional to volume of imports (Article 2.1.3).

Question to be answered: Have live animals been imported within the past 7 years?

Rationale: The release risks are dependent on:
- country of origin and its BSE status, which will change as more data become available; this may result from the detection of clinical disease, or following active surveillance, or assessment of geographical BSE risk;
- feeding and management of the animals in the country of origin;
- use to which the commodity has been put as apart from representing risk of developing clinical disease, the slaughter, rendering and recycling in meat-and-bone meal of imported animals represents a potential route of exposure of indigenous livestock even if meat-and-bone meal and greaves, or feedstuffs containing them, have not been imported;
- species;
- dairy versus meat breeds, where there are differences in exposure in the country of origin because feeding practices result in greater exposure of one category;
- age at slaughter.

Evidence required:
- Documentation on the country of origin of imports. This should identify the country of breeding of animals, the length of time they lived in that country and of any other country in which they have resided during their lifetime.
- Documentation describing origins, species and volume of imports.
- Documentation describing the fate of imported animals, including their age at slaughter.
- Documentation demonstrating that risks are periodically reviewed in light of evolving knowledge on the BSE status of the country of origin.

Article 11.5.26.

The potential for the release of the BSE agent through the importation of products of animal origin potentially infected with BSE

Assumptions:
- Semen, embryos, hides and skins or milk are not considered to play a role in the transmission of BSE.
- Countries which have imported products of animal origin from countries with BSE are more likely to experience BSE.
- Risk is influenced by the date at which imports occurred, relative to the BSE status of the country of origin.
- Risk is proportional to volume of imports (Article 2.1.3.).

Question to be answered: What products of animal origin have been imported within the past 7 years?

Rationale: The release risks are dependent on:
- the species of origin of the animal products and whether these products contain tissues known to contain BSE infectivity (Article 11.5.14.);
- country of origin and its BSE status, which will change as more data become available; this may result from the detection of clinical disease, or following active surveillance, or assessment of geographical BSE risk;
- feeding and management of the animals in the country of origin;
- use to which the commodity has been put as apart from representing risk of developing clinical disease, the slaughter, rendering and recycling in meat-and-bone meal of imported animals represents a potential route of exposure of indigenous livestock even if meat-and-bone meal and greaves, or feedstuffs containing them, have not been imported;
- species;
- dairy versus meat breeds, where there are differences in exposure in the country of origin because feeding practices result in greater exposure of one category;
- age at slaughter.

Evidence required:
- Documentation on the country of origin of imports. This should identify the country of breeding of animals, the length of time they lived in that country and of any other country in which they have resided during their lifetime.
- Documentation describing origins, species and volume of imports.
- Documentation describing the end use of imported animal products, and the disposal of waste.
- Documentation demonstrating that risks are periodically reviewed in light of evolving knowledge on the BSE status of the country of origin.

Article 11.5.27.

The potential for the exposure of cattle to the BSE agent through consumption of meat-and-bone meal or greaves of ruminant origin

Assumptions:
- That the consumption by bovines of meat-and-bone meal or greaves of ruminant origin plays the only significant role in BSE transmission.
- That commercially-available products of animal origin used in animal feeds may contain meat-and-bone meal or greaves of ruminant origin.
- Milk and blood are not considered to play a role in the transmission of BSE.

Question to be answered: Has meat-and-bone meal or greaves of ruminant origin been fed to cattle within the past 8 years (see Articles 11.5.3. and 11.5.4.)?

Rationale: If cattle have not been fed products of animal origin (other than milk or blood) potentially containing meat-and-bone meal or greaves of ruminant origin within the past 8 years, meat-and-bone meal and greaves can be dismissed as a risk.

Article 11.5.28.

The origin of animal waste, the parameters of the rendering processes and the methods of animal feed production

Assumptions:
- BSE has a long incubation period and insidious onset of signs, so cases may escape detection.
- Pre-clinical BSE infectivity cannot reliably be detected by any method and may enter rendering, in particular if specified risk materials are not removed.
- Tissues most likely to contain high titres of BSE infectivity (brain, spinal cord, eyes) may not be harvested for human consumption and may be rendered.
- BSE may manifest in sudden death, chronic disease, or recumbency, and may be presented as fallen stock or materials condemned as unfit for human consumption.
- BSE agent survival in rendering is affected by the method of processing. Adequate rendering processes are described in Article 11.5.19.
- BSE agent is present at much higher titres in central nervous system and reticulo-endothelial tissues (so-called ‘Specified Risk Materials’, or SRM).

Question to be answered: How has animal waste been processed over the past 8 years?

Rationale: If potentially infected animals or contaminated materials are rendered, there is a risk that the resulting meat-and-bone meal could retain BSE infectivity.

Where meat-and-bone meal is utilized in the production of any animal feeds, the risk of cross-contamination exists.
Evidence required:
- Documentation describing the collection and disposal of fallen stock and materials condemned as unfit for human consumption.
- Documentation describing the definition and disposal of specified risk material, if any.
- Documentation describing the rendering process and parameters used to produce meat-and-bone meal and greaves.
- Documentation describing methods of animal feed production, including details of ingredients used, the extent of use of meat-and-bone meal in any livestock feed, and measures that prevent cross-contamination of cattle feed with ingredients used in monogastric feed.
- Documentation describing monitoring and enforcement of the above.

Article 11.5.29.

Conclusions of the risk assessment

The overall risk of BSE in the cattle population of a country or zone is proportional to the level of known or potential exposure to BSE infectivity and the potential for recycling and amplification of the infectivity through livestock feeding practices. For the risk assessment to conclude that the cattle population of a country or zone is free from BSE risk, it should have demonstrated that appropriate measures have been taken to manage any risks identified.

1 See point 4) of Article 11.6.21.
2 See point 3) of Article 11.6.21.
3 See point 2) of Article 11.6.21.
4 See point 1) of Article 11.6.21.
CHAPTER 11.6.

BOVINE TUBERCULOSIS

Article 11.6.1.

General provisions

The recommendations in this chapter are intended to manage the human and animal health risks associated with *Mycobacterium bovis* (*M. bovis*) infection in domestic (permanently captive and owned free-range) bovines including cattle (*Bos taurus*, *B. indicus* and *B. grunniens*), water buffaloes (*Bubalus bubalis*) and wood bison (*Bison bison* and *B. bisonis*).

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 11.6.2.

Country or zone free from bovine tuberculosis

To qualify as free from bovine tuberculosis, a country or zone should satisfy the following requirements:

1. *M. bovis* infection in domestic (permanently captive and owned free-range) bovines including cattle, water buffalo and wood bison is a notifiable disease in the country;
2. an on-going awareness programme should be in place to encourage reporting of all cases suggestive of bovine tuberculosis;
3. regular and periodic testing of all cattle, water buffalo, and wood bison herds demonstrated that *M. bovis* infection was not present in at least 99.8% of the herds and 99.9% of the cattle, water buffalo and wood bison in the country or zone for 3 consecutive years;
4. a surveillance programme should be in place to detect bovine tuberculosis in the country or zone through ante-mortem and post-mortem inspection as described in Chapter 6.2.;
5. if the surveillance programme described in points 3 and 4 above demonstrated that *M. bovis* infection was not present in at least 99.8% of the herds and 99.9% of the cattle, water buffalo and wood bison in the country or zone for 5 consecutive years, surveillance may be maintained through ante-mortem and post-mortem inspection as described in Chapter 6.2.;
6. cattle, water buffalo and wood bison introduced into a country or zone free from bovine tuberculosis should be accompanied by a certificate from an *Official Veterinarian* attesting that they come from a country, zone, compartment or herd free from bovine tuberculosis or comply with the relevant provisions in Article 11.6.5. or in Article 11.6.6.
Compartment free from bovine tuberculosis

To qualify as a compartment free from bovine tuberculosis, all cattle, water buffalo or wood bison in a compartment should be certified by the Veterinary Authority as satisfying the following requirements:

1. the cattle, water buffalo and wood bison:
   a) showed no sign of bovine tuberculosis or lesions at ante-mortem or post-mortem inspection for at least 3 consecutive years;
   b) were over 6 weeks of age at the time of the first test and have shown a negative result to at least two tuberculin tests carried out at an interval of a minimum of 6 months, the first test being performed at least 6 months following the slaughter of the last affected animal;
   c) met one of the following conditions:
      i) showed a negative result to twice yearly tuberculin test to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is more than 1% of all herds in the country or zone during the last 2 years; or
      ii) showed a negative result to an annual tuberculin test to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is more than 0.2% but not more than 1% of all herds in the country or zone during the last 2 years; or
      iii) showed a negative result to a tuberculin test every 3 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is not more than 0.2% of all herds in the country or zone during the last 4 years; or
      iv) showed a negative result to a tuberculin test every 4 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is not more than 0.1% of all herds in the country or zone during the last 6 years;

2. cattle, water buffalo and wood bison introduced into the compartment come from a herd free from bovine tuberculosis. This condition may be waived for animals which have been isolated for at least 90 days and which, prior to entry into the compartment, were subjected to at least two tuberculin tests carried out at a 6-month interval with negative results with the second tuberculin test performed during the 30 days prior to entry into the compartment;

3. cattle, water buffalo and wood bison in a compartment free from bovine tuberculosis are protected from contact with wildlife reservoirs of bovine tuberculosis and are managed under a common biosecurity plan protecting them from contamination with M. bovis, and the compartment has been approved by the Veterinary Authority in accordance with Chapters 4.3. and 4.4.
Herd free from bovine tuberculosis

To qualify as free from bovine tuberculosis, a herd of cattle, water buffalo, or wood bison should satisfy the following requirements:

1. the herd is in a country, zone or compartment free from bovine tuberculosis and is certified free by the Veterinary Authority; or

2. cattle, water buffalo and wood bison in the herd:
   a) showed no signs of bovine tuberculosis or lesions at ante-mortem or post-mortem inspection for at least one year;
   b) were over 6 weeks of age at the time of the first test and have shown a negative result to at least two tuberculin tests carried out at a minimal interval of 6 months; in case of regaining of free status after an outbreak, the first test should be performed at least 6 months following the death of the last affected animal;
   c) to maintain the free status, met one of the following conditions:
      i) showed a negative result to an annual tuberculin test to ensure the continuing absence of bovine tuberculosis; or
      ii) showed a negative result to a tuberculin test every 2 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is not more than 1% of all herds in the country or zone during the last 2 years; or
      iii) showed a negative result to a tuberculin test every 3 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is not more than 0.2% of all herds in the country or zone during the last 4 years; or
      iv) showed a negative result to a tuberculin test every 4 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is not more than 0.1% of all herds in the country or zone during the last 6 years;

3. cattle, water buffalo and wood bison introduced into the herd come from a herd free from bovine tuberculosis. This condition may be waived for animals which have been isolated for at least 90 days and which, prior to entry into the herd, were subjected to at least two tuberculin tests carried out at a 6-month interval with negative results with the second tuberculin test performed during the 30 days prior to entry into the herd.

Recommendations for the importation of cattle, water buffalo and wood bison for breeding or rearing

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no signs of bovine tuberculosis on the day of shipment;

2. originate from a herd free from bovine tuberculosis that is in a country, zone or compartment free from bovine tuberculosis; or
3. were subjected to the tuberculin test for bovine tuberculosis with negative results during the 30 days prior to shipment and come from a herd free from bovine tuberculosis; or
4. have been isolated for at least 90 days prior to entry into the herd including protection from contact with wildlife reservoirs of bovine tuberculosis and were subjected to at least two tuberculin tests carried out at a six-month interval with negative results with the second tuberculin test performed during the 30 days prior to entry into the herd.

**Article 11.6.6.**

**Recommendations for the importation of cattle, water buffalo and wood bison for slaughter**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the animals:

1. showed no signs of bovine tuberculosis on the day of shipment;
2. originated from a herd free from bovine tuberculosis or were subjected to a tuberculin test for bovine tuberculosis with negative results during the 30 days prior to shipment;
3. were not being eliminated as part of an eradication programme against bovine tuberculosis.

**Article 11.6.7.**

**Recommendations for the importation of semen of cattle, water buffalo and wood bison**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor animals showed no signs of bovine tuberculosis on the day of collection of the semen and either:
   a) were kept in an *artificial insemination centre* free from bovine tuberculosis in a country, zone or compartment free from bovine tuberculosis and which only accepts animals from free herds in a free country, zone or compartment; or
   b) showed negative results to tuberculin tests carried out annually and were kept in a herd free from bovine tuberculosis;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

**Article 11.6.8.**

**Recommendations for the importation of embryos/ova of cattle, water buffalo and wood bison**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor females and all other susceptible animals in the herd of origin showed no signs of bovine tuberculosis during the 24 hours prior to embryo collection; and either
   a) originated from a herd free from bovine tuberculosis in a country, zone or compartment free from bovine tuberculosis; or
b) were kept in a herd free from bovine tuberculosis, and were subjected to a tuberculin test for bovine tuberculosis with negative results during an isolation period of 30 days in the establishment of origin prior to collection;

2. the embryos/ova were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

Article 11.6.9.

Recommendations for the importation of fresh meat and meat products of cattle, water buffalo, and wood bison

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the entire consignment of meat comes from animals which have been subjected to ante-mortem and post-mortem inspections as described in Chapter 6.2.

Article 11.6.10.

Recommendations for the importation of milk and milk products of cattle, water buffalo and wood bison

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the consignment:

1. has been derived from animals in a herd free from bovine tuberculosis; or

2. was subjected to pasteurization; or

3. was subjected to a combination of control measures with equivalent performance as described in the Codex Alimentarius Code of Hygienic Practice for Milk and Milk Products.
CHAPTER 11.7.

BOVINE TUBERCULOSIS OF FARmed Cervidae

Article 11.7.1.

General provisions

The recommendations in this chapter are intended to manage the human and animal health risks associated with Mycobacterium bovis (M. bovis) infection in domestic (permanently captive and owned free-range) farmed cervidae (red deer, wapiti, sika, samba, rusa, fallow deer, white-tailed, black-tailed and mule deer [Cervus elephas, C. canadensis, C. nippon, C. unicolor unicolor, C. timorensis, Dama dama dama, Odocoileus virginianus borealis, Odocoileus hemionus columbianus and Odocoileus hemionus hemionus]). The chapter does not address the management of tuberculosis in wild cervid populations.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.7.2.

Country or zone free from bovine tuberculosis of farmed cervidae

To qualify as free from bovine tuberculosis of farmed cervidae, a country or zone should satisfy the following requirements:

1. M. bovis infection in domestic bovines and in farmed cervidae as specified in Article 11.7.1. is a notifiable disease in the country;
2. an on-going awareness programme should be in place to encourage reporting of all cases suggestive of tuberculosis;
3. regular and periodic testing of all herds of farmed cervidae has demonstrated that M. bovis infection was not present in at least 99.8% of the herds and 99.9% of the farmed cervidae in the country or zone for 3 consecutive years;
4. a surveillance programme should be in place to detect bovine tuberculosis in the country or zone through ante-mortem and post-mortem inspection as described in 6.2.;
5. if the surveillance programme described in points 3 and 4 above demonstrated that M. bovis infection was not present in at least 99.8% of the herds and 99.9% of the farmed cervidae in the country or zone for 5 consecutive years, surveillance may be maintained through ante-mortem and post-mortem inspection as described in Chapter 6.2.;
6. farmed cervidae introduced into a country or zone free from bovine tuberculosis should be accompanied by a certificate from an Official Veterinarian attesting that they come from a country, zone, compartment or herd free from bovine tuberculosis or comply with the relevant provisions in Article 11.7.5. or in Article 11.7.6.
Compartment free from bovine tuberculosis of farmed cervidae

To qualify as a compartment free from bovine tuberculosis of farmed cervidae, the Veterinary Authority should be able to certify that the following requirements are satisfied:

1. all farmed cervidae:
   a) showed no sign of bovine tuberculosis or lesions at ante-mortem or post-mortem inspection for at least 3 consecutive years;
   b) were over 6 weeks of age at the time of the first test and have shown a negative result to at least two tuberculin tests carried out at an interval of a minimum of 6 months, the first test being performed at least 6 months following the slaughter of the last affected animal;
   c) met one of the following conditions:
      i) showed a negative result to a twice yearly tuberculin test to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is more than 1% of all herds in the country or zone during the last 2 years; or
      ii) showed a negative result to an annual tuberculin test to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is more than 0.2% but not more than 1% of all herds in the country or zone during the last 2 years; or
      iii) showed a negative result to a tuberculin test every 3 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is not more than 0.2% of all herds in the country or zone during the last 4 years; or
      iv) showed a negative result to a tuberculin test every 4 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of herds confirmed as infected with tuberculosis is not more than 0.1% of all herds in the country or zone during the last 6 years;

2. farmed cervidae introduced into the compartment come from a herd free from bovine tuberculosis. This condition may be waived for animals which have been isolated for at least 90 days and which, prior to entry into the compartment, were subjected to at least two tuberculin tests carried out at a 6-month interval with negative results with the second tuberculin test performed during the 30 days prior to entry into the compartment;

3. farmed cervidae in a compartment free from bovine tuberculosis are protected from contact with wildlife reservoirs of bovine tuberculosis and are managed under a common biosecurity plan protecting them from contamination with M. bovis, and the compartment has been approved by the Veterinary Authority in accordance with Chapters 4.3. and 4.4.
Chapter 11.7. - Bovine tuberculosis of farmed cervidae

Article 11.7.4.

Herd free from bovine tuberculosis of farmed cervidae

To qualify as free from bovine tuberculosis, a **herd** of farmed cervidae should satisfy the following requirements:

1. the **herd** is in a country, a **zone** or a **compartment** free from bovine tuberculosis and is certified free by the **Veterinary Authority**; or

2. farmed cervidae in the **herd**:

   a) showed no sign of bovine tuberculosis or lesions at ante-mortem or post-mortem inspection for at least 3 consecutive years;

   b) were over 6 weeks of age at the time of the first test and have shown a negative result to at least two tuberculin tests carried out at a minimum interval of 6 months; the first test should performed at least 6 months following the **slaughter** of the last affected **animal**;

   c) to maintain the free status, met one of the following conditions:

      i) showed a negative result to an annual tuberculin test to ensure the continuing absence of bovine tuberculosis; or

      ii) showed a negative result to a tuberculin test every 2 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of **herds** confirmed as infected with tuberculosis is not more than 1% of all **herds** in the country or **zone** during the last 2 years; or

      iii) showed a negative result to a tuberculin test every 3 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of **herds** confirmed as infected with tuberculosis is not more than 0.2% of all **herds** in the country or **zone** during the last 4 years; or

      iv) showed a negative result to a tuberculin test every 4 years to ensure the continuing absence of bovine tuberculosis if the annual percentage of **herds** confirmed as infected with tuberculosis is not more than 0.1% of all **herds** in the country or **zone** during the last 6 years;

3. farmed cervidae introduced into the **herd** come from a **herd** free from bovine tuberculosis. This condition may be waived for **animals** which have been isolated for at least 90 days and which, prior to entry into the **herd**, were subjected to at least two tuberculin tests carried out at a 6-month interval with negative results with the second tuberculin test performed during the 30 days prior to entry into the **herd**.

Article 11.7.5.

Recommendations for the importation of farmed cervidae for breeding or rearing

**Veterinary Authorities** of **importing countries** should require the presentation of an **international veterinary certificate** attesting that the **animals**:

1. showed no signs of bovine tuberculosis on the day of shipment;

2. originate from a **herd** free from bovine tuberculosis of farmed cervidae that is in a country, **zone** or **compartment** free from bovine tuberculosis of farmed cervidae; or
3. were subjected to the tuberculin test for bovine tuberculosis with negative results during the 30 days prior to shipment and come from a herd free from bovine tuberculosis of farmed cervidae; or

4. have been isolated for at least 90 days prior to entry into the herd including protection from contact with wildlife reservoirs of bovine tuberculosis and were subjected to at least two tuberculin tests carried out at a six-month interval with negative results with the second tuberculin test performed during the 30 days prior to entry into the herd.

Article 11.7.6.

Recommendations for the importation of farmed cervidae for slaughter

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no signs of bovine tuberculosis on the day of shipment;

2. originated from a herd free from bovine tuberculosis of farmed cervidae or were subjected to a tuberculin test for bovine tuberculosis with negative results during the 30 days prior to shipment;

3. were not being eliminated as part of an eradication programme against bovine tuberculosis.

Article 11.7.7.

Recommendations for the importation of semen of farmed cervidae

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the donor animals showed no signs of bovine tuberculosis in any species on the day of collection of the semen; and either:
   a) were kept in a herd free from bovine tuberculosis in a country, zone or compartment free from bovine tuberculosis of farmed cervidae, and which only accepts animals from free herds in a free country, zone or compartment; or
   b) showed negative results to tuberculin tests carried out annually and were kept in a herd free from bovine tuberculosis;

2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.
Article 11.7.8.

Recommendations for the importation of embryos/ova of farmed cervidae

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor females and all other susceptible *animals* in the *herd* of origin showed no signs of bovine tuberculosis during the 24 hours prior to embryo collection; and either
   a) originated from a *herd* free from bovine tuberculosis of farmed cervidae in a country, *zone* or *compartment* free from bovine tuberculosis; or
   b) were kept in a *herd* free from bovine tuberculosis of farmed cervidae and were subjected to a tuberculin test for bovine tuberculosis with negative results during an isolation period of 30 days in the *establishment* of origin prior to collection;

2. the embryos/ova were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

Article 11.7.9.

Recommendations for the importation of fresh meat and meat products of farmed cervidae

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the entire consignment of *meat* comes from *animals* which have been subjected to ante-mortem and post-mortem inspections as described in Chapter 6.2.
CHAPTER 11.8.

CONTAGIOUS BOVINE PLEUROPNEUMONIA

Article 11.8.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for contagious bovine pleuropneumonia (CBPP) shall be 6 months.

For the purpose of this chapter, a case of CBPP means an animal infected with Mycoplasma mycoides subsp. mycoides SC (Mm m SC), and freedom from CBPP means freedom from Mm m SC infection.

For the purpose of this chapter, susceptible animals include cattle (Bos indicus and B. taurus) and water buffalo (Bubalus bubalis).

For the purposes of international trade, this chapter deals not only with the occurrence of clinical signs caused by Mm m SC, but also with the presence of infection with Mm m SC in the absence of clinical signs.

The following defines the occurrence of Mm m SC infection:

1. Mm m SC has been isolated and identified as such from an animal, embryos, oocytes or semen; or
2. antibodies to Mm m SC antigens which are not the consequence of vaccination, or Mm m SC DNA, have been identified in one or more animals showing pathological lesions consistent with infection with Mm m SC with or without clinical signs, and epidemiological links to a confirmed outbreak of CBPP in susceptible animals.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

When authorising import or transit of the commodities listed in this chapter, with the exception of those listed in Article 11.8.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the CBPP status of the domestic cattle and water buffalo population of the exporting country, zone or compartment.

Article 11.8.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any CBPP related conditions, regardless of the CBPP status of the domestic cattle and water buffalo population of the exporting country, zone or compartment:

1. milk and milk products;
2. hides and skins;
3. meat and meat products (excluding lung).
Article 11.8.3.

**CBPP free country, zone or compartment**

To qualify for inclusion in the existing list of CBPP free countries, a Member should:

1. have a record of regular and prompt animal disease reporting;
2. send a declaration to the OIE stating that:
   a) there has been no outbreak of CBPP during the past 24 months;
   b) no evidence of CBPP infection has been found during the past 24 months;
   c) no vaccination against CBPP has been carried out during the past 24 months,
   and supply documented evidence that surveillance for CBPP in accordance with this chapter is in operation and that regulatory measures for the prevention and control of CBPP have been implemented;
3. not have imported since the cessation of vaccination any animals vaccinated against CBPP.

The country will be included in the list only after the submitted evidence has been accepted by the OIE. Retention on the list requires that the information 2a), 2b), 2c) and 3 above be re-submitted annually and changes in the epidemiological situation or other significant events should be reported to the OIE according to the requirements in Chapter 1.1.

Article 11.8.4.

**Recovery of free status**

When a CBPP outbreak occurs in a CBPP free country, zone or compartment, one of the following waiting periods is required to regain the status of CBPP free country, zone or compartment:

1. 12 months after the last case where a stamping-out policy and serological surveillance and strict movement control are applied in accordance with this chapter;
2. if vaccination was used, 12 months after the slaughter of the last vaccinated animal.

Where a stamping-out policy is not practised, the above waiting periods do not apply but Article 11.8.3. applies.

Article 11.8.5.

**CBPP infected country or zone**

When the requirements for acceptance as a CBPP free country or zone are not fulfilled, a country or zone shall be considered as infected.

Article 11.8.6.

**Recommendations for importation from CBPP free countries, zones or compartments**
for domestic cattle and water buffaloes

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_ showed no clinical sign of CBPP on the day of shipment.

**Article 11.8.7.**

**Recommendations for importation from CBPP infected countries or zones**

for domestic cattle and water buffaloes for slaughter

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals:_

1. showed no clinical sign of CBPP on the day of shipment;
2. originate from an establishment where no case of CBPP was officially reported for the past 6 months, and
3. are transported directly to the _slaughterhouse_ in sealed _vehicles._

**Article 11.8.8.**

**Recommendations for importation from CBPP free countries, zones or compartments**

for bovine semen

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor _animals:_
   a) showed no clinical sign of CBPP on the day of collection of the semen;
   b) were kept in a CBPP free country since birth or for at least the past 6 months;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

**Article 11.8.9.**

**Recommendations for importation from CBPP infected countries or zones**

for bovine semen

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor _animals:_
   a) showed no clinical sign of CBPP on the day of collection of the semen;
   b) were subjected to the complement fixation test for CBPP with negative results, on two occasions, with an interval of not less than 21 days and not more than 30 days between each test, the second test being performed within 14 days prior to collection;
   c) were isolated from other domestic bovidae from the day of the first complement fixation test until collection;
d) were kept since birth, or for the past 6 months, in an establishment where no case of CBPP was reported during that period, and that the establishment was not situated in a CBPP infected zone;
e) AND EITHER:
   i) have not been vaccinated against CBPP;
   OR
   ii) were vaccinated using a vaccine complying with the standards described in the Terrestrial Manual not more than 4 months prior to collection; in this case, the condition laid down in point b) above is not required;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 11.8.10.

Recommendations for importation from CBPP free countries, zones or compartments

for in vivo derived or in vitro produced embryos/oocytes of bovidae

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1. the donor animals:
   a) showed no clinical sign of CBPP on the day of collection of the embryos/oocytes;
   b) were kept in a CBPP free country since birth or for at least the past 6 months;
2. the oocytes were fertilised with semen meeting the conditions of Article 11.8.8.;
3. the embryos/oocytes was collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

Article 11.8.11.

Recommendations for importation from CBPP infected countries or zones

for in vivo derived or in vitro produced embryos/oocytes of bovidae

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1. the donor animals:
   a) showed no clinical sign of CBPP on the day of collection of the embryos/oocytes;
   b) were subjected to the complement fixation test for CBPP with negative results, on two occasions, with an interval of not less than 21 days and not more than 30 days between each test, the second test being performed within 14 days prior to collection;
   c) were isolated from other domestic bovidae from the day of the first complement fixation test until collection;
   d) were kept since birth, or for the past 6 months, in an establishment where no case of CBPP was reported during that period, and that the establishment was not situated in a CBPP infected zone;
Table of Contents

Chapter 11.8 - Contagious bovine pleuropneumonia


Surveillance strategies employed for demonstrating freedom from CBPP at an acceptable level of confidence will need to be adapted to the local situation. It is incumbent upon the applicant Member to submit a dossier to the OIE in support of its application that not only explains the epidemiology of CBPP in the region concerned but also demonstrates how all the risk factors are managed. This should include provision of scientifically-based supporting data. There is therefore considerable latitude available to OIE Members to provide a well-reasoned argument to prove that the absence of CBPP infection is assured at an acceptable level of confidence.

Surveillance for CBPP should be in the form of a continuing programme designed to establish that the whole territory or part of it is free from CBPP infection.

11.8.13. Surveillance: general conditions and methods

A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. A procedure should be in place for the rapid collection and transport of samples from suspect cases of CBPP to a laboratory for CBPP diagnoses as described in the Terrestrial Manual.

The CBPP surveillance programme should:

a) include an early warning system throughout the production, marketing and processing chain for reporting suspicious cases. Farmers and workers (such as community animal health workers) who have day-to-day contact with livestock, meat inspectors as well as laboratory diagnosticians, should report promptly any suspicion of CBPP. They should be integrated directly or indirectly (e.g. through private veterinarians or veterinary para-professionals) into the surveillance system. All suspect cases of CBPP should be
investigated immediately. Where suspicion cannot be resolved by epidemiological and clinical investigation, samples should be taken and submitted to a laboratory. This requires that sampling kits and other equipment are available for those responsible for surveillance. Personnel responsible for surveillance should be able to call for assistance from a team with expertise in CBPP diagnosis and control;

b) implement, when relevant, regular and frequent clinical inspection and testing of high-risk groups of animals, such as those adjacent to a CBPP infected country or infected zone (for example, areas of transhumant production systems);

c) take into consideration additional factors such as animal movement, different production systems, geographical and socio-economic factors that may influence the risk of disease occurrence.

An effective surveillance system will periodically identify suspicious cases that require follow-up and investigation to confirm or exclude that the cause of the condition is CBPP. The rate at which such suspicious cases are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. Applications for freedom from CBPP infection should, in consequence, provide details of the occurrence of suspicious cases and how they were investigated and dealt with. This should include the results of laboratory testing and the control measures to which the animals concerned were subjected during the investigation (quarantine, movement stand-still orders, etc).


Surveillance strategies

1. Introduction

The target population for surveillance aimed at identifying disease and infection should cover all the susceptible species (Bos taurus, B. indicus and Bubalus bubalis) within the country, zone or compartment.

Given the limitations of the diagnostic tools available, the interpretation of surveillance results should be at the herd level rather than at the individual animal level.

Randomised surveillance may not be the preferred approach given the epidemiology of the disease (usually uneven distribution and potential for occult foci of infection in small populations) and the limited sensitivity and specificity of currently available tests. Targeted surveillance (e.g. based on the increased likelihood of infection in particular localities or species, focusing on slaughter findings, and active clinical surveillance) may be the most appropriate strategy. The applicant Member should justify the surveillance strategy chosen as adequate to detect the presence of CBPP infection in accordance with Chapter 1.4. and the epidemiological situation.

Targeted surveillance may involve testing of the entire target subpopulation or a sample from it. In the latter case the sampling strategy will need to incorporate an epidemiologically appropriate design prevalence. The sample size selected for testing will need to be large enough to detect infection if it were to occur at a predetermined minimum rate. The sample size and expected disease prevalence determine the level of confidence in the results of the survey. The applicant Member should justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence in particular clearly needs to be based on the prevailing or historical epidemiological situation.
Irrespective of the survey design selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained. Ideally, the sensitivity and specificity of the tests used should be validated.

Irrespective of the surveillance system employed, the design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There needs to be an effective procedure for following-up positives to ultimately determine with a high level of confidence, whether they are indicative of infection or not. This should involve follow-up with supplementary tests, clinical investigation and post-mortem examination in the original sampling unit as well as herds which may be epidemiologically linked to it.

2. Clinical surveillance

Clinical surveillance aims at detecting clinical signs of CBPP in a herd by close physical examination of susceptible animals. Clinical inspection will be an important component of CBPP surveillance contributing to reach the desired level of confidence of detection of disease if a sufficiently large number of clinically susceptible animals is examined.

Clinical surveillance and laboratory testing should always be applied in series to clarify the status of CBPP suspects detected by either of these complementary diagnostic approaches. Laboratory testing and post-mortem examination may contribute to confirm clinical suspicion, while clinical surveillance may contribute to confirmation of positive serology. Any sampling unit within which suspicious animals are detected should be classified as infected until contrary evidence is produced.

3. Pathological surveillance

Systematic pathological surveillance for CBPP is the most effective approach and should be conducted at slaughter houses and other slaughter facilities. Suspect pathological findings should be confirmed by agent identification. Training courses for slaughter personnel and meat inspectors are recommended.

4. Serological testing

Serological surveillance is not the preferred strategy for CBPP. However, in the framework of epidemiologic investigations, serological testing may be used.

The limitations of available serological tests for CBPP will make the interpretation of results difficult and useful only at the herd level. Positive findings should be followed-up by clinical and pathological investigations and agent identification.

Clustering of seropositive reactions should be expected in CBPP infections and will be usually accompanied by clinical signs. As clustering may signal field strain infection, the investigation of all instances should be incorporated in the surveillance strategy.

Following the identification of a CBPP infected herd, contact herds need to be tested serologically. Repeated testing may be necessary to reach an acceptable level of confidence in herd classification.

5. Agent surveillance

Agent surveillance using tests described in the Terrestrial Manual should be conducted to follow-up and confirm or exclude suspect cases. Isolates should be typed to confirm MmmSC.
Article 11.8.15.

Countries or zones applying for recognition of freedom from CBPP

In addition to the general conditions described in this chapter, an OIE Member applying for recognition of CBPP freedom for the country or a zone should provide evidence for the existence of an effective surveillance programme. The strategy and design of the surveillance programme will depend on the prevailing epidemiological circumstances and will be planned and implemented according to general conditions and methods in this chapter, to demonstrate absence of CBPP infection, during the preceding 24 months in susceptible populations. This requires the support of a national or other laboratory able to undertake identification of CBPP infection using methods described in the Terrestrial Manual.

Article 11.8.16.

Compartments seeking recognition of freedom from CBPP

The bilateral recognition of CBPP free compartments should follow the principles laid in this chapter, Chapter 4.3. and Chapter 4.4.

Article 11.8.17.

Countries or zones re-applying for recognition of freedom from CBPP following an outbreak

In addition to the general conditions described in this chapter, a Member re-applying for recognition of country or zone freedom from CBPP should show evidence of an active surveillance programme for CBPP, following the recommendations of this chapter.

Two strategies are recognised by the OIE in a programme to eradicate CBPP infection following an outbreak:

1. slaughter of all clinically affected and in-contact susceptible animals,
2. vaccination used without subsequent slaughter of vaccinated animals.

The time periods before which an application can be made for re-instatement of freedom from CBPP depends on which of these alternatives is followed. The time periods are prescribed in Article 11.8.4.
C H A P T E R 1 1 . 9 .

E N Z O O T I C B O V I N E L E U K O S I S

Article 11.9.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

For the purpose of this chapter, susceptible animals include cattle (Bos indicus and Bos taurus).

Article 11.9.2.

Country or zone free from enzootic bovine leukemia

1. Qualification

To qualify as free from enzootic bovine leukemia (EBL), a country or zone should satisfy the following requirements for at least 3 years:

a) all tumours, suspected to be lymphosarcoma, are reported to the Veterinary Authority, and are examined at a laboratory by appropriate diagnostic techniques;

b) all cattle with tumours in which EBL has been confirmed or cannot be ruled out are traced back to the herds in which they have been kept since birth; all cattle over 24 months of age in these herds are subjected to an individual diagnostic test for EBL;

c) at least 99.8% of the herds are qualified as EBL free.

2. Maintenance of free status

For a country or zone to maintain its EBL free status:

a) a serological survey should be carried out annually on a random sample of the cattle population of the country or zone sufficient to provide a 99% level of confidence of detecting EBL if it is present at a prevalence rate exceeding 0.2% of the herds;

b) all imported cattle (except for slaughter) comply with the provisions of Article 11.9.5.;

c) all imported bovine semen and embryos/ova fulfil the requirements referred to in Article 11.9.6. and in Article 11.9.7., respectively.

Article 11.9.3.

Compartment free from enzootic bovine leukemia

1. Qualification

To qualify as free from EBL, a compartment should satisfy the following requirements:

All herds in the compartment have satisfied the requirements of Article 11.9.4., and;

a) all cattle introduced into the compartment come from a free herd;
b) all bovine semen and embryos/ova introduced into the compartment after the first test have fulfilled the conditions referred to in Article 11.9.6. and in Article 11.9.7., respectively;

c) the compartment is managed under a common bioscurity plan complying with Article 4.3.3. and Article 4.4.3., which protects the cattle from contact with EBL virus, which might occur from introduction of infected cattle, cattle products or material and through practices such as vaccinations and other injections, collection of blood and other biological samples, dehorning, ear-tagging, pregnancy diagnosis, etc.;

d) the compartment has been approved by the Veterinary Authority in accordance with Chapters 4.3. and 4.4.

2. Maintenance of free status

For a compartment to maintain its EBL free status, all herds in the compartment should remain free according to Article 11.9.4. and specific surveillance implemented according to Article 4.4.5. has not detected the agent.

3. Revocation and re-approval of free status

If in an EBL free compartment any cattle react positively to a diagnostic test for EBL as described in the Terrrestrial Manual, the status of the compartment shall be revoked until all herds have recovered their free status according to Article 11.9.4. and the compartment has been re-approved according to Chapters 4.3. and 4.4.

Article 11.9.4.

Herd free from enzootic bovine leukosis

1. Qualification

To qualify as free from EBL, a herd should satisfy the following requirements:

a) there has been no evidence of EBL either clinical, post-mortem, or as a result of a diagnostic test for EBL within the previous 2 years;

b) all cattle over 24 months of age have been subjected to a diagnostic test for EBL on two occasions with negative results, at an interval of not less than 4 months during the preceding 12 months;

c) cattle introduced into the herd after the first test have fulfilled the conditions of Article 11.9.5.;

d) all bovine semen and embryos/ova introduced into the herd after the first test have fulfilled the conditions referred to in Article 11.9.6. and in Article 11.9.7., respectively.

2. Maintenance of free status

For a herd to maintain its EBL free status, the cattle in the herd over 24 months of age on the day of sampling should be subjected to a diagnostic test for EBL with negative results at intervals of no more than 36 months and the conditions referred to in points 1a), 1c) and 1d) above continue to be fulfilled.
3. Suspension and restoration of free status

If in an EBL free herd any cattle react positively to a diagnostic test for EBL as described in the Terrestrial Manual, the status of the herd shall be suspended until the following measures have been taken:

a) the cattle which have reacted positively, and their progeny since the last negative test, should be removed from the herd immediately; however, any cattle within the progeny which has been subjected to a PCR test with negative results (under study) may be retained in the herd;

b) the remaining cattle should have been subjected to a diagnostic test for EBL carried out as described in point 1b) above with negative results at least 4 months after removal of the positive cattle and their progeny.

Article 11.9.5.

Recommendations for the importation of cattle for breeding or rearing

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the cattle:

1. come from a country, zone or compartment free from EBL; or
2. come from an EBL free herd; or
3. meet the following three conditions:
   a) the cattle were kept in a herd in which:
      i) there has been no evidence of EBL either clinical, post-mortem, or as a result of a diagnostic test for EBL within the previous 2 years;
      ii) all cattle over 24 months of age have been subjected to a diagnostic test for EBL on a blood sample on two occasions with negative results during the preceding 12 months, at an interval of at least 4 months, or were tested on two occasions while segregated from the herd in an isolation unit approved by the Veterinary Authority at an interval of at least 4 months;
   b) the cattle were subjected to a diagnostic test for EBL within 30 days prior to shipment with negative results;
   c) if less than 2 years of age, the cattle come from ‘uterine’ dams which have been subjected to a diagnostic test for EBL on a blood sample on two occasions at intervals of at least 4 months within the preceding 12 months, with negative results.

Article 11.9.6.

Recommendations for the importation of bovine semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the donor bull was resident at the time of semen collection in an EBL free herd; and
2. if less than 2 years of age, the bull came from a serologically negative ‘uterine’ dam; or
3. the bull was subjected to diagnostic tests for EBL on blood samples on two occasions with
negative results, the first test being carried out at least 30 days before and the second test at
least 90 days after collection of the semen;

4. the semen was collected, processed and stored in conformity with the provisions of
Chapters 4.5. and 4.6.

Article 11.9.7.

Recommendations for the importation of bovine embryos/ova

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the embryos/ova have been collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.
CHAPTER 11.10.

HAEMORRHAGIC SEPTICAEMIA
(Pasteurella multocida serotypes 6:b and 6:e)

Article 11.10.1.

General provisions

For the purposes of the Terrestrial Code, haemorrhagic septicaemia (HS) is defined as a highly fatal disease in cattle and buffaloes caused by specific serotypes of Pasteurella multocida designated as 6:B and 6:E. The incubation period for the disease shall be 90 days (active and latent carriers occur).

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.10.2.

Country free from haemorrhagic septicaemia

A country may be considered free from HS when:
1. the disease is notifiable in the country;
2. no case of HS has occurred during the past 3 years.

This period shall be 6 months after the slaughter of the last affected animal for countries in which a stamping-out policy is practised with or without vaccination against HS.

Article 11.10.3.

Zone free from haemorrhagic septicaemia

A zone may be considered free of the disease if it can be established that HS has not been present for at least the past 3 years and if the following conditions are met:
1. the disease is notifiable in the whole country;
2. the zone shall be delineated by natural or artificial barriers;
3. the introduction of animals into the zone shall be carried out in conformity with the provisions of Articles 11.10.6. or 11.10.7.

Article 11.10.4.

Zone infected with haemorrhagic septicaemia

A zone shall be considered as infected with HS until at least 6 months have elapsed after the confirmation of the last case and the completion of a stamping-out policy and disinfection procedures.
Article 11.10.5.

Trade in commodities

Veterinary Authorities of HS free countries may prohibit importation or transit through their territory, from countries considered infected with HS, of cattle and buffaloes.

Article 11.10.6.

Recommendations for importation from HS free countries or zones for cattle and buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of HS on the day of shipment; and

2. were kept in a country or zone free from HS since birth or for at least 6 months.

Article 11.10.7.

Recommendations for importation from countries considered infected with HS for cattle and buffaloes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of HS on the day of shipment; and

2. were kept in a quarantine station for 3 months prior to shipment; and

3. were examined for the presence of the causative organism in the naso-pharynx, in conformity with the procedures described in the Terrestrial Manual, on four occasions, at weekly intervals during the last month in quarantine with negative results; and

4. were vaccinated not less than 30 days prior to shipment (under study); or

5. showed a positive reaction to the passive mouse protection test (under study) conducted during pre-shipment quarantine.
CHAPTER 11.11.

INFECTIOUS BOVINE RHINOTRACHEITIS/
INFECTIOUS PUSTULAR VULVOVAGINITIS

Article 11.11.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for infectious bovine rhinotracheitis/infectious pustular vulvovaginitis (IBR/IPV) shall be 21 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.11.2.

Country or zone free from IBR/IPV

1. Qualification

To qualify as free from IBR/IPV, a country or zone should satisfy the following requirements:

a) the disease or suspicion of the disease is notifiable;

b) no animal has been vaccinated against IBR/IPV for at least 3 years;

c) at least 99.8% of the herds are qualified as free from IBR/IPV.

2. Maintenance of free status

For a country or zone to maintain its status free from IBR/IPV:

a) a serological survey should be carried out annually on a random sample of the cattle population of the country or zone sufficient to provide a 99% level of confidence of detecting IBR/IPV if it is present at a prevalence rate exceeding 0.2% of the herds;

b) all imported bovines comply with the provisions of Article 11.11.4.;

c) all imported bovine semen and embryos/ova fulfil the requirements referred to in Articles 11.11.6. or 11.11.7., and in Article 11.11.8., respectively.

Article 11.11.3.

Herd free from IBR/IPV

1. Qualification

To qualify as free from IBR/IPV, a herd of cattle should satisfy the following requirements:

a) all the animals in the herd have been subjected to a diagnostic test for IBR/IPV on a blood sample on two occasions with negative results, at an interval of not less than 2 months and not more than 12 months; or
b) if the herd contains only dairy cattle of which at least a quarter are lactating cows, each of the latter has been subjected to a diagnostic test on individual milk samples carried out on three occasions at intervals of 2 months with negative results;

c) animals introduced into the herd after the first tests referred to in point a) or point b) as relevant have been:

   i) kept in an IBR/IPV free herd; or

   ii) placed in isolation for a period of 30 days, and during this period have been subjected to a diagnostic test for IBR/IPV on a blood sample on two occasions with negative results, at an interval of not less than 21 days;

d) all bovine semen and embryos/ova introduced into the herd after the first tests referred to in point a) or point b) as relevant have fulfilled the conditions provided in Articles 11.11.6. or 11.11.7. and in Article 11.11.8., respectively.

2. Maintenance of free status

For a herd to maintain its status free from IBR/IPV, it should be subjected to the following tests with negative results:

EITHER

a) diagnostic tests for IBR/IPV on blood samples for all the animals repeated at maximum intervals of 12 months; in herds composed entirely of fattening animals, blood sampling may be limited to animals sent for slaughter;

OR

b) diagnostic tests on individual milk samples from all lactating cows repeated at intervals of 6 months; Veterinary Authorities applying an IBR/IPV eradication programme may extend these intervals (under study) if more than 98% of herds have been free from the disease for at least 3 years; and

c) diagnostic tests on blood samples for IBR/IPV of all breeding bulls repeated at maximum intervals of 12 months;

AND

d) diagnostic tests on blood samples for IBR/IPV of all cattle having aborted after more than 3 months of gestation.

Animals introduced into the herd should satisfy the conditions provided in point 1c) above, and semen and embryos/ova used in the herd should satisfy the conditions provided in Articles 11.11.6. or 11.11.7. and in Article 11.11.8., respectively.

Article 11.11.4.

Recommendations for the importation of cattle destined for IBR/IPV free herds

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of IBR/IPV on the day of shipment;

2. come from an IBR/IPV free herd; or
3. were kept in a quarantine station for the 30 days prior to shipment and were subjected to a diagnostic test for IBR/IPV on a blood sample on two occasions with negative results, at an interval of not less than 21 days.

Article 11.11.5.

Recommendations for the importation of cattle intended for herds not qualified as free from IBR/IPV

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of IBR/IPV on the day of shipment;
2. were vaccinated with an inactivated virus vaccine not less than one month and not more than 6 months prior to shipment.

Article 11.11.6.

Recommendations for the importation of fresh semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the donor animals were kept in an IBR/IPV free herd at the time of collection of the semen;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 11.11.7.

Recommendations for the importation of frozen semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the donor animals were kept in an IBR/IPV free herd at the time of collection of the semen; or
2. the donor animals were held in isolation during the period of collection and for the 30 days following collection and were subjected to a diagnostic test for IBR/IPV on a blood sample taken at least 21 days after collection of the semen, with negative results; or
3. if the serological status of the bull is unknown or if the bull is serologically positive, an aliquot of each semen collection was subjected to a virus isolation test or PCR, performed in accordance with the Terrestrial Manual, with negative results; and
4. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.
Article 11.11.8.

Recommendations for the importation of embryos/ova

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the embryos/ova were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.
CHAPTER 11.12.

LUMPY SKIN DISEASE
(caused by group III virus, type Neethling)

Article 11.12.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for lumpy skin disease (LSD) shall be 28 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.12.2.

LSD free country

A country may be considered free from LSD when:
1. LSD is notifiable in the country;
2. no case of LSD has been confirmed for at least the past 3 years.

Article 11.12.3.

Trade in commodities

Veterinary Authorities of LSD free countries may prohibit importation or transit through their territory, from countries considered infected with LSD, of the following commodities:
1. domestic and wild animals of the bovine species;
2. semen of animals of the bovine species.

Article 11.12.4.

Recommendations for importation from LSD free countries

for domestic cattle

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of LSD on the day of shipment;
2. come from an LSD free country.

Article 11.12.5.

Recommendations for importation from LSD free countries
for wild cattle

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_:  
1. showed no clinical sign of LSD on the day of shipment;  
2. come from an LSD free country;  
if the country of origin has a common border with a country considered infected with LSD:  
3. were kept in a _quarantine station_ for the 28 days prior to shipment.

**Article 11.12.6.**

Recommendations for importation from countries considered infected with LSD for domestic cattle

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_:  
1. showed no clinical sign of LSD on the day of shipment;  
2. were not vaccinated against LSD during the 30 days prior to shipment; or  
3. were vaccinated against LSD not more than 3 months prior to shipment;  
4. were kept since birth, or for the past 28 days, in an _establishment_ where no _case_ of LSD was officially reported during that period; or  
5. were kept in a _quarantine station_ for the 28 days prior to shipment.

**Article 11.12.7.**

Recommendations for importation from countries considered infected with LSD for wild cattle

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_:  
1. showed no clinical sign of LSD on the day of shipment;  
2. were kept in a _quarantine station_ for the 28 days prior to shipment.

**Article 11.12.8.**

Recommendations for importation from LSD free countries for semen of cattle

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:  
1. the donor _animals_:  
   a) showed no clinical sign of LSD on the day of collection of the semen;  
   b) were kept for at least 28 days prior to collection in an LSD free country;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 11.12.9.

Recommendations for importation from countries considered infected with LSD

for semen of cattle

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) showed no clinical sign of LSD on the day of collection of the semen and for the following 28 days;
   b) were kept in the exporting country for the 28 days prior to collection, in an establishment or artificial insemination centre where no case of LSD was officially reported during that period, and that the establishment or artificial insemination centre was not situated in an LSD infected zone.

2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 11.12.10.

Recommendations for importation from LSD free countries

for embryos/oocytes of cattle

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals showed no clinical sign of LSD on the day of collection of the embryos/oocytes; and

2. the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

Article 11.12.11.

Recommendations for importation from countries considered infected with LSD

for embryos/oocytes of cattle

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) were kept in an establishment where no case of LSD has been reported during the 28 days prior to collection; and
   b) showed no clinical sign of LSD on the day of collection;
   c) and either:
      i) were vaccinated against LSD between 30 days and 90 days before collection; or
ii) were tested with negative results according to the *Terrestrial Manual*, or

iii) showed serostability (not more than a two-fold rise in titre) on paired samples to indirect ELISA tests, tested side by side, carried out in isolation, 14–60 days apart with one of the samples taken on the day of collection of the embryos/oocytes;

2. the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

**Article 11.12.12.**

**Recommendations for importation from LSD free countries**

for products of animal origin (from cattle) intended for agricultural or industrial use

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products come from *animals* which have been kept in an LSD free country since birth or for at least the past 28 days.

**Article 11.12.13.**

**Recommendations for importation from countries considered infected with LSD**

for products of animal origin (from cattle) intended for agricultural or industrial use

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products have been processed to ensure the destruction of the LSD virus.

**Article 11.12.14.**

**Recommendations for importation from countries considered infected with LSD**

for raw hides of cattle

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products were stored for at least 40 days before shipment.
CHAPTER 11.13.
THEILERIOSIS

Article 11.13.1.

General provisions

For the purposes of the Terrestrial Code, theileriosis is defined as a highly fatal disease in cattle and buffaloes caused by Theileria parva and T. annulata.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 11.13.2.

Recommendations for importation from countries considered infected with theileriosis

for cattle

Veterinary Authorities of free countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of theileriosis on the day of shipment; and
2. were, since birth, kept in a zone known to be free of theileriosis for the previous 2 years;

OR

3. showed no clinical sign of theileriosis on the day of shipment; and
4. were subjected to a diagnostic test for theileriosis with negative results during the 30 days prior to shipment (under study); and
5. showed negative results from microscopic examination of blood smears;

AND

in either of the above cases:

6. were treated with an acaricide prior to shipment and were completely free of ticks.

TRICHOMONOSIS


General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.14.2.

Recommendations for the importation of cattle for breeding

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the animals showed no clinical sign of trichomonosis on the day of shipment;
2. the animals were kept in a herd in which no case of trichomonosis has been reported; and/or
3. for females which have been mated, direct microscopic examination and culture of vaginal mucus were negative.

Article 11.14.3.

Recommendations for the importation of bulls for breeding (natural service or artificial insemination)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the animals showed no clinical sign of trichomonosis on the day of shipment;
2. the animals were kept in a herd in which no case of trichomonosis has been reported; and/or
3. the animals have never been used for natural service; or
4. the animals have only mated virgin heifers; or
5. the animals were subjected to a direct microscopic and cultural examination of preputial specimens with negative results.


Recommendations for the importation of bovine semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the donor animals have never been used for natural service; or
2. the donor animals have only mated virgin heifers; or
3. the donor animals were kept in an establishment or artificial insemination centre where no case of trichomonosis has been reported;
4. the donor animals were subjected to a direct microscopic and cultural examination of preputial specimens with negative results;
5. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.
SECTION 12.

EQUIDAE

CHAPTER 12.1.

AFRICAN HORSE SICKNESS

Article 12.1.1.

General provisions

For the purposes of the Terrestrial Code, the infective period for African horse sickness virus (AHSV) shall be 40 days for domestic horses. Although critical information is lacking for some species, this chapter applies to all equidae.

All countries or zones neighbouring, or considered to be at risk from, a country or zone not having free status should determine their AHSV status from an ongoing surveillance programme. Throughout the chapter, surveillance is in all cases understood as being conducted as described in Chapter 1.4.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 12.1.2.

AHSV free country or zone

1. A country or zone may be considered free from AHSV when African horse sickness (AHS) is notifiable in the whole country, systematic vaccination is prohibited, importation of equidae and their semen, oocytes or embryos are carried out in accordance with this chapter, and either:

a) historical freedom as described in Chapter 1.4. has demonstrated no evidence of AHSV in the country or zone; or

b) the country or zone has not reported any case of AHS for at least 2 years and is not adjacent to a country or zone not having a free status; or

c) a surveillance programme has demonstrated no evidence of AHSV in the country or zone for at least 12 months and includes a complete season of vector activity; or

d) the country or zone has not reported any case of AHS for at least 40 days and a surveillance programme has demonstrated no evidence of Culicoides likely to be competent AHSV vectors for at least 2 years in the country or zone.

2. An AHSV free country or zone will not lose its free status through the importation of vaccinated or seropositive equidae and their semen, oocytes or embryos from infected
countries or infected zones, provided these imports are carried out in accordance with this chapter.

Article 12.1.3.

**AHSV seasonally free zone**

1. An AHSV seasonally free zone is a part of an infected country or an infected zone in which for part of a year, ongoing surveillance and monitoring consistently demonstrated neither evidence of AHSV transmission nor the evidence of the presence of adult Culicoides likely to be competent AHSV vectors.

2. For the application of Articles 12.1.6., 12.1.8. and 12.1.9., the seasonally free period is:
   a) taken to commence the day following the last evidence of AHSV transmission and of the cessation of activity of adult Culicoides likely to be competent AHSV vectors as demonstrated by an ongoing surveillance programme, and
   b) taken to conclude either:
      i) at least 40 days before the earliest date that historical data show AHSV activity has recommenced; or
      ii) immediately when current climatic data or data from a surveillance and monitoring programme indicate an earlier resurgence of activity of adult Culicoides likely to be competent AHSV vectors.

3. An AHSV seasonally free zone will not lose its free status through the importation of vaccinated or seropositive equidae and their semen, oocytes or embryos from infected countries or infected zones, provided these imports are carried out in accordance with this chapter.

Article 12.1.4.

**AHSV infected country or zone**

An AHSV infected country or infected zone is one in which the conditions of Article 12.1.2. or Article 12.1.3. do not apply.

Article 12.1.5.

**Recommendations for importation from AHSV free countries that are neither neighbouring nor considered to be at risk from an AHSV infected country or infected zone for equidae**

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of AHS on the day of shipment;
2. have not been vaccinated against AHS within the last 40 days;
3. were kept in an AHSV free country since birth or for at least 40 days prior to shipment;
4. either:
   a) did not transit through an infected country or infected zone; or
   b) were protected from attacks by Culicoides at all times when transiting through an infected country or infected zone.

Article 12.1.6.

Recommendations for importation from AHSV free countries or free zones or from AHSV seasonally free zones (during the seasonally free period) that are neighbouring or are considered to be at risk from an AHSV infected country or infected zone for equidae

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical signs of AHS on the day of shipment;
2. have not been vaccinated against AHS within the last 40 days;
3. were kept in an AHSV free country, free zone or seasonally free zone during the seasonally free period since birth or for at least 40 days prior to shipment; or
4. in a country or zone considered to be at risk, were held in quarantine for at least 40 days prior to shipment and protected at all times from attacks by Culicoides; and
   a) a serological test according to the Terrestrial Manual to detect antibodies to the AHSV group, was carried out with a negative result on a blood sample collected at least 28 days after introduction into the quarantine station; or
   b) serological tests according to the Terrestrial Manual to detect antibodies against AHSV were carried out with no significant increase in antibody titre on blood samples collected on two occasions, with an interval of not less than 21 days, the first sample being collected at least 7 days after introduction into the quarantine station; or
   c) agent identification tests according to the Terrestrial Manual were carried out with negative results on blood samples collected on two occasions with an interval of not less than 14 days between collection, the first sample being collected at least 7 days after introduction into the quarantine station;
5. were protected from attacks by Culicoides at all times during transportation (including to and at the place of shipment).

Article 12.1.7.

Recommendations for importation from AHSV infected countries or zones for equidae

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of AHS on the day of shipment;
2. have not been vaccinated against AHS within the last 40 days;
3. were held continuously during the quarantine period of at least 40 days, in a vector-proof quarantine station and protected at all times from attacks by Culicoides; and

a) a serological test according to the Terrestrial Manual to detect antibodies to the AHSV group, was carried out with a negative result on a blood sample collected at least 28 days after introduction into the quarantine station; or

b) serological tests according to the Terrestrial Manual to detect antibodies against AHSV were carried out with no significant increase in antibody titre on blood samples collected on two occasions, with an interval of not less than 21 days, the first sample being collected at least 7 days after introduction into the quarantine station; or

c) agent identification tests according to the Terrestrial Manual were carried out with negative results on blood samples collected on two occasions with an interval of not less than 14 days between collection, the first sample being collected at least 7 days after introduction into the quarantine station;

4. were protected from attacks by Culicoides at all times during transportation (including transportation to and at the place of shipment).

Article 12.1.8.

Recommendations for the importation of equid semen

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the donor animals:

1. showed no clinical sign of AHS on the day of collection of the semen and for the following 40 days;

2. had not been immunised against AHS with a live attenuated vaccine within 40 days prior to the day of collection;

3. were either:

a) kept in an AHSV free country or free zone or from an AHSV seasonally free zone (during the seasonally free period) for at least 40 days before commencement of, and during collection of the semen, or

b) kept in an AHSV free vector-proof artificial insemination centre throughout the collection period, and subjected to either:

i) a serological test according to the Terrestrial Manual to detect antibody to the AHSV group, carried out with a negative result on a blood sample collected at least 28 days and not more than 90 days after the last collection of semen; or

ii) agent identification tests according to the Terrestrial Manual carried out with negative results on blood samples collected at commencement and conclusion of, and at least every 7 days, during semen collection for this consignment.
Article 12.1.9.

**Recommendations for the importation of *in vivo* derived equid embryos/oocytes**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor *animals*:
   a) showed no clinical sign of AHS on the day of collection of the embryos/oocytes and for the following 40 days;
   b) had not been immunised against AHS with a live attenuated vaccine within 40 days prior to the day of collection;
   c) were either:
      i) kept in an AHSV free country or free *zone* or from an AHSV seasonally free *zone* (during the seasonally free period) for at least 40 days before commencement of, and during collection of the embryos/oocytes, or
      ii) kept in an AHSV free *vector-proof collection centre* throughout the collection period, and subjected to either:
         - a serological test according to the *Terrrestrial Manual* to detect antibody to the AHSV group carried out with a negative result on a blood sample collected at least 28 days and not more than 90 days after the last collection of embryos/oocytes; or
         - agent identification tests according to the *Terrrestrial Manual* carried out with negative results on blood samples collected at commencement and conclusion of, and at least every 7 days during embryos/oocytes collection for this consignment;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant;

3. semen used to fertilize the oocytes complies at least with the requirements in Article 12.1.8.

Article 12.1.10.

**Protecting animals from *Culicoides* attack**

When transporting equines through AHSV infected countries or AHSV *infected zones*, *Veterinary Authorities* should require strategies to protect *animals* from attacks by *Culicoides* during transport, taking into account the local ecology of the *vector*.

Potential *risk management* strategies include a combination of:

1. treating *animals* with chemical repellents prior to and during transportation, in sanitized *vehicles* treated with appropriate residual contact insecticide;
2. *loading*, transporting and *unloading* animals at times of low *vector* activity (i.e. bright sunshine and low temperature);
3. ensuring *vehicles* do not stop en route during dawn or dusk, or overnight, unless the *animals* are held behind insect proof netting;
4. darkening the interior of the vehicle, for example by covering the roof and/or sides of vehicles with shade cloth;

5. monitoring for vectors at common stopping and offloading points to gain information on seasonal variations;

6. using historical, ongoing and/or AHS modelling information to identify low risk ports and transport routes.

Article 12.1.11.

Surveillance: introduction

Articles 12.1.11. to 12.1.13. define the principles and provide a guide on the surveillance for AHS, complementary to Chapter 1.4., applicable to Members seeking to determine their AHSV status. This may be for the entire country or zone. Guidance for Members seeking free status following an outbreak and for the maintenance of AHS status is also provided.

AHS is a vector-borne infection transmitted by a limited number of species of Culicoides insects. Unlike the related bluetongue virus, AHSV is so far geographically restricted to sub Saharan Africa with periodic excursions into North Africa, southwest Europe, the Middle East and adjacent regions of Asia. An important component of AHSV epidemiology is vectorial capacity which provides a measure of disease risk that incorporates vector competence, abundance, seasonal incidence, biting rates, survival rates and the extrinsic incubation period. However, methods and tools for measuring some of these vector factors remain to be developed, particularly in a field context.

According to this chapter, a Member demonstrating freedom from AHSV infection for the entire country or a zone should provide evidence for the existence of an effective surveillance programme. The strategy and design of the surveillance programme will depend on the prevailing epidemiological circumstances and should be planned and implemented according to general conditions and methods described in this chapter. This requires the support of a laboratory able to undertake identification of AHSV infection through the virus detection and antibody tests described in the Terrestrial Manual.

Susceptible wild equid populations should be included in the surveillance programme.

For the purposes of surveillance, a case refers to an equid infected with AHSV.

The purpose of surveillance is to determine if a country or zone is free from AHSV or if a zone is seasonally free from AHSV. Surveillance deals not only with the occurrence of clinical signs caused by AHSV, but also with evidence of infection with AHSV in the absence of clinical signs.

The following defines the occurrence of AHSV infection:

1. AHSV has been isolated and identified as such from an equid or a product derived from that equid, or

2. viral antigen or viral RNA specific to one or more of the serotypes of AHSV has been identified in samples from one or more equids showing clinical signs consistent with AHS, or epidemiologically linked to a confirmed or suspected case, or giving cause for suspicion of previous association or contact with AHSV, or

3. serological evidence of active infection with AHSV by detection of seroconversion with production of antibodies to structural or nonstructural proteins of AHSV that are not a consequence of vaccination have been identified in one or more equids that either show
clinical signs consistent with AHS, or epidemiologically linked to a confirmed or suspected case, or give cause for suspicion of previous association or contact with AHSV.

Article 12.1.12.

*Surveillance: general conditions and methods*

1. A *surveillance* system should be under the responsibility of the *Veterinary Authority*. In particular the following should be in place:
   a) a formal and ongoing system for detecting and investigating *outbreaks* of disease;
   b) a procedure for the rapid collection and transport of samples from suspect *cases* of AHS to a *laboratory* for AHS diagnosis as described in the *Terrestrial Manual*;
   c) a system for recording, managing and analysing diagnostic, epidemiologic and *surveillance* data.

2. The AHS *surveillance* programme should:
   a) in a country/ *zone*, free or seasonally free, include an early warning system for reporting suspicious *cases*. Persons who have regular contact with equids, as well as diagnosticians, should report promptly any suspicion of AHS to the *Veterinary Authority*. An effective *surveillance* system will periodically identify suspicious *cases* that require follow-up and investigation to confirm or exclude that the cause of the condition is AHS. The rate at which such suspicious *cases* are likely to occur will differ between epidemiological situations and cannot therefore be predicted reliably. All suspected *cases* of AHS should be investigated immediately and samples should be taken and submitted to a *laboratory*. This requires that sampling kits and other equipment are available for those responsible for *surveillance*;
   b) conduct random or targeted serological and virological *surveillance* appropriate to the *infection* status of the country or *zone* in accordance with Chapter 1.4.

Article 12.1.13.

*Surveillance strategies*

The target population for *surveillance* aimed at identification of *disease* and/or *infection* should cover susceptible equids within the country or *zone*. Active and passive *surveillance* for AHSV infection should be ongoing. *Surveillance* should be composed of random or targeted approaches using virological, serological and clinical methods appropriate for the *infection* status of the country or *zone*.

A Member should justify the *surveillance* strategy chosen as appropriate to detect the presence of AHSV infection in accordance with Chapter 1.4. and the prevailing epidemiological situation. It may, for example, be appropriate to target clinical *surveillance* at particular species likely to exhibit clinical signs (e.g. horses). Similarly, virological and serological testing may be targeted to species that rarely show clinical signs (e.g. donkeys).

In vaccinated populations serological and virological *surveillance* is necessary to detect the AHSV types circulating to ensure that all circulating types are included in the vaccination programme.

If a Member wishes to declare freedom from AHSV infection in a specific *zone*, the design of the *surveillance* strategy would need to be aimed at the population within the *zone*. 
For random surveys, the design of the sampling strategy will need to incorporate epidemiologically appropriate design prevalence. The sample size selected for testing will need to be large enough to detect infection if it were to occur at a predetermined minimum rate. The sample size, expected prevalence and diagnostic sensitivity of the tests determine the level of confidence in the results of the survey. The Member should justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence, in particular, needs to be based on the prevailing or historical epidemiological situation.

Irrespective of the survey approach selected, the sensitivity and specificity of the diagnostic tests employed are key factors in the design, sample size determination and interpretation of the results obtained. Ideally, the sensitivity and specificity of the tests used should be validated for the vaccination/infection history and the different species in the target population.

Irrespective of the testing system employed, surveillance system design should anticipate the occurrence of false positive reactions. If the characteristics of the testing system are known, the rate at which these false positives are likely to occur can be calculated in advance. There needs to be an effective procedure for following up positives to ultimately determine with a high level of confidence, whether they are indicative of infection or not. This should involve both supplementary tests and follow-up investigation to collect diagnostic material from the original sampling unit as well as those which may be epidemiologically linked to it.

The principles for surveillance for disease/infection are technically well defined. Surveillance programmes to prove the absence of AHSV infection/circulation, need to be carefully designed to avoid producing results that are either insufficiently reliable to be accepted by international trading partners, or excessively costly and logistically complicated. The design of any surveillance programme, therefore, requires inputs from professionals competent and experienced in this field.

1. Clinical surveillance

   Clinical surveillance aims at the detection of clinical signs of AHS in equids particularly during a newly introduced infection. In horses, clinical signs may include pyrexia, oedema, hyperaemia of mucosal membranes and dyspnoea.

   AHS suspects detected by clinical surveillance should always be confirmed by laboratory testing.

2. Serological surveillance

   Serological surveillance of equid populations is an important tool to confirm absence of AHSV transmission in a country or zone. The species tested should reflect the local epidemiology of AHSV infection, and the equine species available. Management variables that may reduce the likelihood of infection, such as the use of insecticides and animal housing, should be taken into account when selecting equids to be included in the surveillance system.

   Samples should be examined for antibodies against AHSV using tests prescribed in the Terrestrial Manual. Positive AHSV antibody tests results can have four possible causes:

   a) natural infection with AHSV;
   b) vaccination against AHSV;
   c) maternal antibodies;
   d) positive results due to the lack of specificity of the test.

   It may be possible to use sera collected for other purposes for AHSV surveillance. However, the principles of survey design described in these recommendations and the requirements for a statistically valid survey for the presence of AHSV infection should not be compromised.
The results of random or targeted serological surveys are important in providing reliable evidence that no AHSV infection is present in a country or zone. It is, therefore, essential that the survey is thoroughly documented. It is critical to interpret the results in light of the movement history of the animals being sampled.

Serological surveillance in a free zone should target those areas that are at highest risk of AHSV transmission, based on the results of previous surveillance and other information. This will usually be towards the boundaries of the free zone. In view of the epidemiology of AHSV, either random or targeted sampling is suitable to select herds and/or animals for testing.

Serological surveillance in a free country or zone should be carried out over an appropriate distance from the border with an infected country or infected zone, based upon geography, climate, history of infection and other relevant factors. The surveillance should be carried out over a distance of at least 100 kilometres from the border with that country or zone, but a lesser distance could be acceptable if there are relevant ecological or geographical features likely to interrupt the transmission of AHSV. An AHSV free country or zone may be protected from an adjacent infected country or infected zone by a protection zone.

Serological surveillance in infected zones will identify changes in the boundary of the zone, and can also be used to identify the AHSV types circulating. In view of the epidemiology of AHSV infection, either random or targeted sampling is suitable.

3. Virological surveillance

Isolation and genetic analysis of AHSV from a proportion of infected animals is beneficial in terms of providing information on serotype and genetic characteristics of the viruses concerned.

Virological surveillance using tests described in the Terrestrial Manual can be conducted:

a) to identify virus circulation in at risk populations;
b) to confirm clinically suspect cases;
c) to follow up positive serological results;
d) to better characterize the genotype of circulating virus in a country or zone.

4. Sentinel animals

Sentinel animals are a form of targeted surveillance with a prospective study design. They comprise groups of unexposed equids that are not vaccinated and are managed at fixed locations and observed and sampled regularly to detect new AHSV infections.

The primary purpose of a sentinel equid programme is to detect AHSV infections occurring at a particular place, for instance sentinel groups may be located on the boundaries of infected zones to detect changes in distribution of AHSV. In addition, sentinel equid programmes allow the timing and dynamics of infections to be observed.

A sentinel equid programme should use animals of known source and history of exposure, control management variables such as use of insecticides and animal housing (depending on the epidemiology of AHSV in the area under consideration), and be flexible in its design in terms of sampling frequency and choice of tests.

Care is necessary in choosing the sites for the sentinel groups. The aim is to maximise the chance of detecting AHSV activity at the geographical location for which the sentinel site acts as a sampling point. The effect of secondary factors that may influence events at each location, such as climate, may also be analysed. To avoid confounding factors sentinel groups should comprise animals selected to be of similar age and susceptibility to AHSV infection. The only
feature distinguishing groups of sentinels should be their geographical location. Sera from sentinel animal programmes should be stored methodically in a serum bank to allow retrospective studies to be conducted in the event of new serotypes being isolated.

The frequency of sampling should reflect the equid species used and the reason for choosing the sampling site. In endemic areas virus isolation will allow monitoring of the serotypes and genotypes of AHSV circulating during each time period. The borders between infected and non infected areas can be defined by serological detection of infection. Monthly sampling intervals are frequently used. Sentinels in declared free zones add to confidence that AHSV infections are not occurring unobserved. Here sampling prior to and after the possible period of transmission is sufficient.

Definitive information on AHSV circulating in a country or zone is provided by isolation and identification of the viruses. If virus isolation is required sentinels should be sampled at sufficiently frequent intervals to ensure that some samples are collected during the period of viraemia.

5. Vector surveillance

AHSV is transmitted between equine hosts by species of Culicoides which vary across the world. It is therefore important to be able to identify potential vector species accurately although many such species are closely related and difficult to differentiate with certainty.

The main purpose of vector surveillance is to define high, medium and low-risk areas and local details of seasonality by determining the various species present in an area, their respective seasonal occurrence, and abundance. Vector surveillance has particular relevance to potential areas of spread. Long term surveillance can also be used to assess vector abatement measures.

The most effective way of gathering this information should take account of the biology and behavioural characteristics of the local vector species of Culicoides and may include the use of Onderstepoort-type light traps or similar, operated from dusk to dawn in locations adjacent to equids.

Vector surveillance should be based on scientific sampling techniques. The choice of the number and types of traps to be used in vector surveillance and the frequency of their use should take into account the size and ecological characteristics of the area to be surveyed.

The operation of vector surveillance sites at the same locations as sentinel animals is advisable.

The use of a vector surveillance system to detect the presence of circulating virus is not recommended as a routine procedure as the typically low vector infection rates mean that such detections can be rare. Other surveillance strategies are preferred to detect virus circulation.
CHAPTER 12.2.

CONTAGIOUS EQUINE METRITIS

Article 12.2.1.

General provisions

For the purposes of this chapter, ‘infected establishment’ means premises in which equines infected with contagious equine metritis (CEM) are kept. The establishment shall be considered infected until 2 months have elapsed since the confirmation of the last case and after the premises have been adequately cleansed and disinfected.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.2.2.

Recommendations for the importation of stallions and mares considered free from CEM (for countries where an official control organisation is present)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of CEM on the day of shipment;
2. have had no contact with CEM:
   a) directly, through coitus with an infected animal; or
   b) indirectly, by passing through an infected establishment;
3. were subjected to the laboratory test for CEM with negative results during the 30 days prior to shipment.

Article 12.2.3.

Recommendations for the importation of stallions and mares which have previously shown signs of CEM or which have been in contact with CEM (for countries where an official control organisation is present)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals which have been in direct contact through coitus with an infected animal, or indirect contact by passing through an infected establishment:

1. have been recognised as not being contagious through laboratory tests for CEM;
2. have been protected against any possibility of contagion since the beginning of the tests.
CHAPTER 12.3.

DOURINE

Article 12.3.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for dourine shall be 6 months. Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.3.2.

Dourine free country

A country formerly infected with dourine may be considered free again when:
1. a stamping-out policy has been practised for affected animals;
2. no clinical case of dourine has been observed during the past 2 years;
3. breeding horses have been subjected to a diagnostic test for dourine with negative results performed annually over a two-year period.

Article 12.3.3.

Recommendations for importation from dourine free countries for the past 6 months

for equines

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of dourine on the day of shipment;
2. were kept since birth, or for the 6 months prior to shipment, in a country which has been free from dourine for not less than the past 6 months.

Article 12.3.4.

Recommendations for importation from countries considered infected with dourine

for equines

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of dourine on the day of shipment;
2. were kept for the 6 months prior to shipment in an establishment where no case of dourine was officially reported during that period;
3. were subjected to a diagnostic test for dourine with negative results during the 15 days prior to shipment.

Article 12.3.5.

**Recommendations for importation from dourine free countries for the past 6 months**

for semen of equines

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the donor _animals_ were kept since birth, or for the 6 months prior to collection of the semen, in a country which has been free from dourine for not less than the past 6 months.

Article 12.3.6.

**Recommendations for importation from countries considered infected with dourine**

for semen of equines

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor _animals_:
   a) were kept for the 6 months prior to collection of the semen in an _establishment_ or _artificial insemination centre_ where no _case_ of dourine was reported during that period;
   b) were subjected to a diagnostic test for dourine with negative results;

2. the microscopic examination of the semen for dourine was negative.
CHAPTER 12.4.

EQUINE ENCEPHALOMYELITIS
(Eastern and Western)

Article 12.4.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 12.4.2.

Recommendations for the importation of equines

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of equine encephalomyelitis on the day of shipment and during the 3 months prior to shipment;

2. were kept for the 3 months prior to shipment in an establishment where no case of equine encephalomyelitis was officially reported during that period; or

3. were kept in a quarantine station for the 21 days prior to shipment and were protected from insect vectors during quarantine and transportation to the place of shipment; or

4. were vaccinated not less than 15 days and not more than one year prior to shipment.
CHAPTER 12.5.

EQUINE INFECTIOUS ANAEMIA

Article 12.5.1.

General provisions

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 12.5.2.

Recommendations for the importation of equines

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the *animals* showed no clinical sign of equine infectious anaemia (EIA) on the day of shipment and during the 48 hours prior to shipment; and

2. no case of EIA has been associated with any premises where the *animals* were kept during the 3 months prior to shipment; and

3. if imported on a permanent basis, the *animals* were subjected to a diagnostic test for EIA with negative results on blood samples collected during the 30 days prior to shipment; or

4. if imported on a temporary basis, the *animals* were subjected to a diagnostic test for EIA with negative results on blood samples collected during the 90 days prior to shipment.
CHAPTER 12.6.

EQUINE INFLUENZA

Article 12.6.1.

General provisions

For the purposes of the Terrestrial Code, equine influenza (EI) is defined as an infection of domestic horses, donkeys and mules.

For the purposes of international trade, this chapter deals not only with the occurrence of clinical signs caused by equine influenza virus (EIV), but also with the presence of infection with EIV in the absence of clinical signs.

For the purposes of this chapter, isolation is defined as ‘the separation of domestic equids from domestic equids of a different equine influenza health status, utilising appropriate biosecurity measures, with the purpose of preventing the transmission of infection’.

For the purposes of the Terrestrial Code, the infective period for EI 21 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

When authorising import or transit of the commodities listed in this chapter, with the exception of those listed in Article 12.7.2., Veterinary Authorities should require the conditions prescribed in this chapter relevant to the EI status of the equine population of the exporting country, zone or compartment.

Article 12.6.2.

Safe commodities

When authorising import or transit of the following commodities, Veterinary Authorities should not require any EIV related conditions, regardless of the EI status of the equine population of the exporting country, zone or compartment:

1. semen;
2. in vivo derived equine embryos collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant (under study).

Article 12.6.3.

Determination of the EI status of a country, a zone or a compartment

The EI status of a country, a zone or a compartment can be determined on the basis of the following criteria:

1. the outcome of a risk assessment identifying all potential factors for EI occurrence and their historic perspective;
2. whether EI is notifiable in the whole country, an on-going EI awareness programme is in place, and all notified suspect occurrences of EI are subjected to field and, where applicable, laboratory investigations;

3. appropriate surveillance is in place to demonstrate the presence of infection in the absence of clinical signs in domestic equids.

Article 12.6.4.

EI free country, zone or compartment

A country, zone or compartment may be considered free from EI provided the disease is notifiable in the whole country and it shows evidence, through an effective surveillance programme, planned and implemented according to the general principles in Chapter 1.4., that no case of EI occurred in the past 2 years. The surveillance may need to be adapted to parts of the country, zone or compartment depending on historical or geographical factors, industry structure, population data, movements of equids into the country, zone or compartment, wild equid populations or proximity to recent outbreaks.

A country, zone or compartment seeking freedom from EI, in which vaccination is practised, should also demonstrate that EIV has not been circulating in the population of domestic and wild equidae during the past 12 months, through surveillance, in accordance with Chapter 1.4. In a country in which vaccination is not practised, surveillance may be conducted using serological testing alone. In countries where vaccination is practised, the surveillance should include agent identification methods described in the Terrestrial Manual for evidence of infection.

If an outbreak of clinical EI occurs in a previously free country, zone or compartment, free status can be regained 12 months after the last clinical case, providing that surveillance for evidence of infection has been carried out during that twelve-month period in accordance with Chapter 1.4.

Article 12.6.5.

Recommendations for the importation of domestic equids for immediate slaughter

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the domestic equids showed no clinical sign of EI on the day of shipment.

Article 12.6.6.

Recommendations for the importation of domestic equids for unrestricted movement

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the domestic equids:

1. came from an EI free country, zone or compartment in which they had been resident for at least 21 days; in the case of a vaccinated domestic equid, information on its vaccination status should be included in the veterinary certificate;

OR

2. came from a country, zone or compartment not known to be free from EI, were subjected to pre-export isolation for 21 days and showed no clinical sign of EI during isolation nor on the day of shipment; and
3. were immunised according to the manufacturer’s instructions with a vaccine complying with the standards described in the *Terrestrial Manual* between 21 and 90 days before shipment either with a primary course or a booster; information on their vaccination status should be included in the veterinary certificate.

For additional security, countries that are free of EI or undertaking an eradication programme may also request that the domestic equids were tested negative for EIV by an agent identification test for EI described in the *Terrestrial Manual* conducted on samples collected on two occasions at 7 to 14 days and less than 5 days before shipment.

**Article 12.6.7.**

**Recommendations for the importation of domestic equids which will be kept in isolation (see Article 12.6.1.)**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the domestic equids:

1. came from an EI free country, *zone or compartment* in which they had been resident for at least 21 days; in the case of a vaccinated domestic equid, information on its vaccination status should be included in the veterinary certificate;

OR

2. showed no clinical sign of EI in any premises in which the domestic equids had been resident for the 21 days prior to shipment nor on the day of shipment; and

3. were immunised according to the manufacturer’s instructions with a vaccine complying with the standards described in the *Terrestrial Manual*; information on their vaccination status should be included in the veterinary certificate.

**Article 12.6.8.**

**Recommendations for the importation of fresh meat of equids**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the *fresh meat* came from equids which had been subjected to ante-mortem and post-mortem inspections as described in Chapter 6.2.
CHAPTER 12.7.

EQUINE PIROPLASMOsis

Article 12.7.1.

General provisions

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 12.7.2.

Recommendations for the importation of equines

*Veterinary Authorities* of importing countries should require the presentation of an *international veterinary certificate* attesting that the animals:

1. showed no clinical sign of equine piroplasmosis on the day of shipment;
2. were subjected to diagnostic tests for equine piroplasmosis (*Theileria equi* and *Babesia caballi*) with negative results during the 30 days prior to shipment;
3. were maintained free from ticks, by preventive treatment when necessary, during the 30 days prior to shipment.

Article 12.7.3.

Recommendations for the importation of competition horses on a temporary basis

*Veterinary Authorities* of importing countries should consider the possibility of importing competition horses on a temporary basis and which are positive to the testing procedure referred to in point 2 of Article 12.7.2. under the following safeguards:

1. the horses are accompanied by a passport in conformity with the model contained in Chapter 5.12.;
2. the *Veterinary Authorities* of importing countries require the presentation of an *international veterinary certificate* attesting that the animals:
   a) showed no clinical sign of equine piroplasmosis on the day of shipment;
   b) were treated against ticks within the 7 days prior to shipment;
3. the horses are kept in an area where necessary precautions are taken to control ticks and that is under the direct supervision of the *Veterinary Authority*;
4. the horses are regularly examined for the presence of ticks under the direct supervision of the *Veterinary Authority*.
CHAPTER 12.8.

EQUINE RHINOPNEUMONITIS

Article 12.8.1.

General provisions

Equine rhinopneumonitis (ER) is a collective term for any one of several highly contagious, clinical disease entities of equids that may occur as a result of infection by either of two closely related herpesviruses, equid herpesvirus-1 and -4 (EHV-1 and EHV-4).

Infection by either EHV-1 or EHV-4 is characterised by a primary respiratory tract disease of varying severity that is related to the age and immunological status of the infected animal. Infections by EHV-1 in particular are capable of progression beyond the respiratory mucosa to cause the more serious disease manifestations of abortion, perinatal foal death, or neurological dysfunction.

For the purpose of international trade, recommendations are provided for EHV-1 (abortigenic and paralytic forms) only.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.8.2.

Recommendations for the importation of equines

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of equine herpes virus type 1 infection (abortigenic and paralytic forms) on the day of shipment and during the 21 days prior to shipment;

2. were kept for the 21 days prior to shipment in an establishment where no case of equine herpes virus type 1 infection (abortigenic and paralytic forms), was reported during that period.

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CHAPTER 12.9.

EQUINE VIRAL ARTERITIS

Article 12.9.1.

General provisions

The infective period for equine viral arteritis (EVA) shall be 28 days for all categories of equine except sexually mature stallion where the infective period may be for the life of the animal. Because the infective period may be extended in the case of virus shedding in semen, the status of seropositive stallions should be checked to ensure that they do not shed virus in their semen.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 12.9.2.

Recommendations for the importation of uncastrated male equines

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals showed no clinical sign of EVA on the day of shipment and during the 28 days prior to shipment and met one of the following requirements:

1. were isolated for the 28 days prior to shipment and were subjected, to a test for EVA, as prescribed in the Terrestrial Manual, carried out on a single blood sample collected during the 21 days prior to shipment with negative result; or

2. were subjected between 6 and 9 months of age to a test for EVA, as prescribed in the Terrestrial Manual, carried out on two blood samples collected at least 14 days apart with stable or decreasing titre, immediately vaccinated for EVA and regularly revaccinated according to the manufacturer’s instructions; or

3. met the following requirements:
   a) were isolated; and
   b) not earlier than 7 days of commencing isolation were tested, with negative results, with a test for EVA as prescribed in the Terrestrial Manual; and
   c) were then immediately vaccinated; and
   d) were kept separated from other equidae for 21 days following vaccination; and
   e) were revaccinated regularly according to the manufacturer’s instructions; or

4. have been subjected to a test for EVA, as prescribed in the Terrestrial Manual, carried out on a blood sample with positive results and then: either
   a) were subsequently test mated to two mares within 6 months prior to shipment which were subjected to two tests for EVA as prescribed in the Terrestrial Manual with negative results on blood samples collected at the time of test mating and again 28 days after the mating; or
b) were subjected to a test for equine arteritis virus as prescribed in the *Terrestrial Manual* with negative results, carried out on semen collected during the 6 months prior to shipment;

c) were subjected to a test for equine arteritis virus as prescribed in the *Terrestrial Manual* with negative results, carried out on semen collected within 6 months after the blood sample was tested, then immediately vaccinated, and revaccinated regularly.

**Article 12.9.3.**

**Recommendations for the importation of equines other than uncastrated males**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the *animals* showed no clinical sign of EVA on the day of shipment and were kept in an *establishment* where no *animals* have shown any signs of EVA for the 28 days prior to shipment; and

**EITHER**

1. were kept in an *establishment* where no *animals* have shown any signs of EVA for the 28 days prior to shipment; and
   a) were subjected to a test for EVA, as prescribed in the *Terrestrial Manual*, carried out on blood samples collected on two occasions at least 14 days apart within 28 days prior to shipment, which demonstrated stable or declining antibody titres; or
   b) were regularly vaccinated according to the manufacturer’s instructions;

**OR**

2. were isolated for the 28 days prior to shipment and during this period the *animals* showed no signs of EVA.

**Article 12.9.4.**

**Recommendations for the importation of semen**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the animal donors were kept for the 28 days prior to semen collection in an *establishment* where no equine has shown any clinical sign of EVA during that period and showed no clinical sign of EVA on the day of semen collection; and

1. were subjected between 6 and 9 months of age to a test for EVA as prescribed in the *Terrestrial Manual* on two blood samples with a stable or decreasing titre, immediately vaccinated for EVA and regularly revaccinated according to the manufacturer’s instructions; or

2. were isolated and not earlier than 7 days of commencing isolation were subjected to a test for EVA as prescribed in the *Terrestrial Manual* on a blood sample with negative results, immediately vaccinated for EVA, kept for 21 days following vaccination separated from other equidae and regularly revaccinated according to the manufacturer’s instructions; or

3. were subjected to a test for EVA as prescribed in the *Terrestrial Manual* on a blood sample with negative results within 14 days prior to semen collection, and had been separated from other equidae not of an equivalent EVA status for 14 days prior to blood sampling from the time of the taking of the blood sample until the end of semen collection; or
4. have been subjected to a test for EVA as prescribed in the *Terrestrial Manual* carried out on a blood sample with positive results and then: either

   a) were subsequently test mated to two mares within 6 months prior to semen collection, which were subjected to two tests for EVA as prescribed in the *Terrestrial Manual* with negative results on blood samples collected at the time of test mating and again 28 days after the test mating, or

   b) were subjected to a test for equine arteritis virus as prescribed in the *Terrestrial Manual* with negative results, carried out on semen collected within 6 months prior to collection of the semen to be exported; or

   c) were subjected to a test for equine arteritis virus as prescribed in the *Terrestrial Manual* with negative results, carried out on semen collected within 6 months after the blood sample was tested, then immediately vaccinated, and revaccinated regularly; or

5. were, for frozen semen, subjected with negative results either:

   a) to a test for EVA as prescribed in the *Terrestrial Manual* carried out on a blood sample taken not earlier than 14 days and not later than 12 months after the collection of the semen for export; or

   b) to a test for equine arteritis virus as prescribed in the *Terrestrial Manual* carried out on an aliquot of the semen collected immediately prior to processing or on an aliquot of semen collected within 14 to 30 days after the first collection of the semen to be exported.
CHAPTER 12.10.

GLANDERS

Article 12.10.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for glanders shall be 6 months. Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.10.2.

Glanders free country

A country may be considered free from glanders when:

1. glanders is notifiable in the country;
2. no case of glanders has been reported during the past 3 years, or no case has been reported for a period of at least 6 months and a surveillance programme is in place demonstrating the absence of the disease in accordance with general recommendations on animal health surveillance (Chapter 1.4).

Article 12.10.3.

Recommendations for importation from glanders free countries

for equines

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical signs of glanders on the day of shipment;
2. were kept for the 6 months prior to shipment, or since birth if less than 6 months of age, in the exporting country.

Article 12.10.4.

Recommendations for importation from countries considered infected with glanders

for equines

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of glanders on the day of shipment;
2. were kept for the 6 months prior to shipment in an establishment where no case of glanders was reported during that period;
3. were subjected to a test as prescribed in the *Terrestrial Manual* for glanders with negative results, during the 30 days prior to shipment.
CHAPTER 12.11.

VENZUELAN EQUINE ENCEPHALOMYELITIS

Article 12.11.1.

General provisions

For the purposes of the Terrestrial Code, the infective period for Venezuelan equine encephalomyelitis (VEE) shall be 14 days, and the incubation period 5 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 12.11.2.

VEEfree country

A country formerly infected with VEE may be considered free when:

1. VEE is notifiable and a surveillance system is in place and provides that all VEE suspected animals are investigated promptly; specimens are collected, and all specimens are submitted for laboratory examination, including virus isolation;

2. no case of VEE has been confirmed for the past 2 years;

3. no equine animal has been imported from any country where VEE has been confirmed during the past 2 years.

If a country considered free from VEE imports horses from an infected country, the importing country will not be considered infected, provided that the importation has been carried out in conformity with the provisions of Article 12.11.5.

Article 12.11.3.

Trade in commodities

Veterinary Authorities of VEE free countries may prohibit importation or transit through their territory, from countries considered infected with VEE, of domestic and wild equines, and may prohibit the importation into their territory, from countries considered infected with VEE, of semen and embryos/ova of domestic and wild equines.

Article 12.11.4.

Recommendations for importation from VEEfree countries

domestic and wild equines

The Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of VEE on the day of shipment;
2. have not, during the past 6 months, been in any country in which VEE has occurred in the last 2 years;

3. have not been vaccinated against VEE within 60 days prior to shipment.

Article 12.11.5.

Recommendations for importation from countries considered infected with VEE for domestic and wild equines

The Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. vaccinated animals:
   a) were vaccinated against VEE not less than 60 days prior to shipment and were clearly identified with a permanent mark at the time of vaccination;
   b) were kept in a quarantine station in the country of origin under official veterinary supervision for 3 weeks prior to shipment and remained clinically healthy during that period; any animal which showed a rise in temperature (taken daily) was subjected to a blood test for virus isolation, with negative results;
   c) were protected from insect vectors during transportation to and from the quarantine station and during the quarantine period;
   d) showed no clinical sign of VEE on the day of shipment;

2. unvaccinated animals:
   a) were kept in a quarantine station in the country of origin under official veterinary supervision for 3 weeks prior to shipment and remained clinically healthy during that period; any animal which showed a rise in temperature (taken daily) was subjected to a blood test for virus isolation, with negative results;
   b) were subjected to a diagnostic test for VEE with negative results conducted not less than 14 days after the commencement of quarantine;
   c) were protected from insect vectors during transportation to and from the quarantine station and during the quarantine period;
   d) showed no clinical sign of VEE on the day of shipment.

In addition, animals may be isolated in the importing country for 7 days under official veterinary supervision. Any animal which shows a rise in temperature (taken daily) shall be subjected to a blood test for virus isolation.
SECTION 13.
LAGOMORPHA

CHAPTER 13.1.
MYXOMATOSIS

Article 13.1.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 13.1.2.

Recommendations for the importation of domestic rabbits

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of myxomatosis on the day of shipment;

2. were kept since birth, or for the 6 months prior to shipment, in an establishment where no case of myxomatosis was officially reported during that period.

Article 13.1.3.

Recommendations for the importation of skins and fur of domestic and wild rabbits

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the skins and fur were treated (dried and tanned) to ensure the destruction of the myxomatosis virus.
CHAPTER 13.2.

RABBIT HAEMORRHAGIC DISEASE

Article 13.2.1.

General provisions

For the purposes of the Terrestrial Code, the infective period for rabbit haemorrhagic disease (RHD) shall be 60 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 13.2.2.

RHD free country

A country may be considered free from RHD when it has been shown that the disease has not been present for at least one year, that no vaccination has been carried out in the previous 12 months, and that virological or serological surveys in both domestic and wild rabbits have confirmed the absence of the disease.

This period may be reduced to 6 months after the last case has been eliminated and disinfection procedures completed in countries adopting a stamping-out policy, and where the serological survey confirmed that the disease had not occurred in the wild rabbits.

Article 13.2.3.

RHD free establishment

An establishment may be considered free from RHD when it has been shown, by serological testing, that the disease has not been present for at least one year, and that no vaccination has been carried out in the previous 12 months. Such establishments should be regularly inspected by the Veterinary Authority.

A previously infected establishment may be considered free when 6 months have elapsed after the last case has been eliminated, and after:

1. a stamping-out policy has been adopted and carcasses have been disposed of by burning;
2. the rabbitry has been thoroughly disinfected and kept empty for at least 6 weeks;
3. the rabbitry is properly fenced to prevent the straying of wild lagomorphs into the rabbitry.
Article 13.2.4.

Trade in commodities

*Veterinary Authorities* of RHD free countries may prohibit importation or transit through their territory, from countries considered infected with RHD, of live rabbits, semen, meat and non-treated pelts.

Article 13.2.5.

**Recommendations for importation from RHD free countries**

**domestic rabbits destined for breeding**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the animals:

1. showed no clinical sign of RHD on the day of shipment;
2. were kept in a RHD free country since birth or for at least the past 60 days.

Article 13.2.6.

**Recommendations for importation from RHD free countries**

**for day-old rabbits destined for breeding**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the animals:

1. showed no clinical sign of RHD on the day of shipment;
2. were born from female rabbits which had been kept in a country free from RHD for at least the past 60 days.

Article 13.2.7.

**Recommendations for importation from countries considered infected with RHD**

**for domestic rabbits destined for breeding or pharmaceutical or surgical or agricultural or industrial use**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the animals:

1. showed no clinical sign of RHD on the day of shipment;

AND

2. were kept in a RHD free establishment where no clinical case of RHD was found when inspected by an *Official Veterinarian* immediately prior to shipment;

OR

3. were kept in an establishment where no case of RHD was reported during the 60 days prior to shipment and no clinical case of RHD was found when inspected by an *Official Veterinarian* immediately prior to shipment; and
were kept in an establishment where no animal has been vaccinated against RHD; and
5. were kept in an establishment where breeding rabbits (at least 10% of the animals) were subjected to the serological test for RHD with negative results during the 60 days prior to shipment; and
6. have not been vaccinated against RHD; or
7. were vaccinated against RHD immediately before shipment (the nature of the vaccine used and the date of vaccination shall also be stated in the certificate).

Article 13.2.8.

**Recommendations for importation from countries considered infected with RHD**

for day-old rabbits destined for breeding

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the animals:

1. were kept in a RHD free establishment where no clinical case of RHD was found when inspected by an *Official Veterinarian* immediately prior to shipment;

OR

2. were kept in an establishment where no case of RHD was reported during the 30 days prior to shipment and no clinical case of RHD was found when inspected by an *Official Veterinarian* immediately before shipment; and
3. have not been vaccinated against RHD; and
4. were born from female rabbits which were subjected to the serological test for RHD with negative results during the 60 days prior to shipment.

Article 13.2.9.

**Recommendations for importation from countries considered infected with RHD**

for domestic rabbits destined for immediate slaughter

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the animals:

1. showed no clinical sign of RHD on the day of shipment;
2. were kept in an establishment where no case of RHD was reported during the 60 days prior to shipment.

Article 13.2.10.

**Recommendations for importation from countries considered infected with RHD**

for semen

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the donor animals:

1. showed no clinical sign of RHD on the day of collection of the semen;
2. were subjected to the serological test for RHD with negative results during the 30 days prior to collection.

Article 13.2.11.

Recommendations for importation from countries considered infected with RHD

for domestic rabbit meat

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the meat comes from animals which:

1. were kept in establishment where no case of RHD was reported during the 60 days prior to transport to the approved abattoir;
2. were subjected to ante-mortem inspections for RHD with favourable results;
3. showed no lesions of RHD at post-mortem inspections.

Article 13.2.12.

Recommendations for importation from RHD free countries

for non-treated pelts

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the pelts come from rabbits which had been kept in a country free from RHD for at least 60 days before slaughter.

Article 13.2.13.

Recommendations for importation from countries considered infected with RHD

for pelts

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the pelts were subjected to a drying treatment for at least one month and a formalin-based treatment by spraying at a 3% concentration, or by fumigation carried out in conformity with one of the methods described in Chapter 6.4., not more than 7 days prior to shipment.
General provisions

Standards for diagnostic tests and vaccines are described in the *Terrrestrial Manual*.

Country or zone officially free from caprine and ovine brucellosis

1. Qualification

To qualify as officially free from caprine and ovine brucellosis, a country or zone should satisfy the following requirements:

a) the occurrence or suspected occurrence of caprine and ovine brucellosis has been notifiable for at least 5 years; and

b) all flocks of sheep and goats in the country or zone are under official veterinary control; and either

c) 99.8% of these flocks are qualified as officially free from caprine and ovine brucellosis; or

d) no case of brucellosis in sheep or goats has been reported for at least 5 years, and no sheep or goat has been vaccinated against the disease for at least 3 years.

2. Maintenance of officially free status

For a country or zone to maintain its status as officially free from caprine and ovine brucellosis, a serological survey should be carried out every year in the establishments or abattoirs on a representative sample of the caprine and ovine flocks of the country or zone sufficient to provide at least a 99% level of confidence of detecting caprine and ovine brucellosis if it is present at a prevalence rate exceeding 0.2% of the flocks.

However, for a country or zone qualified as officially free under paragraph 1)d) above, maintenance testing is not required.
Article 14.1.3.

Sheep or goat flock officially free from caprine and ovine brucellosis

1. Qualification

To qualify as officially free from caprine and ovine brucellosis, a sheep or goat flock should satisfy the following requirements:

a) it is under official veterinary control;

b) no clinical, bacteriological or immunological evidence of caprine and ovine brucellosis has been found for at least one year;

c) it contains only sheep or goats not vaccinated against brucellosis or permanently identified animals which were vaccinated more than 2 years ago;

d) all sheep and goats over 6 months of age on the day of sampling have been subjected to a diagnostic test for brucellosis with negative results on two occasions, at an interval of not more than 12 months and not less than 6 months; however, for flocks situated in a country or zone qualified as officially free under point 1d) of Article 14.1.2., testing is not required;

e) when qualified, it contains only sheep and goats born therein or introduced in conformity with the provisions of Article 14.1.5.

2. Maintenance of officially free status

For a flock to maintain its status as officially free from caprine and ovine brucellosis, a sample of the animals in the flock should be subjected each year to a diagnostic test for brucellosis, with negative results.

For a flock containing up to 1,000 animals, the sample should include:

a) all non-castrated males over 6 months of age;

b) all the animals introduced into the flock since the previous test;

c) 25% of the pubescent females; the number of females included in the sample should not be less than 50, unless the flock contains fewer than 50 females, in which case all pubescent females should be included.

For a flock containing more than 1,000 animals, a serological survey should be carried out every year on a representative sample of the animals in the flock sufficient to provide a 99% level of confidence of detecting caprine and ovine brucellosis if it is present at a prevalence rate exceeding 0.2%.

Control tests should be carried out at up to 3-year intervals if the flock is situated in a zone where 99% of flocks are officially free from caprine and ovine brucellosis and the remainder are submitted to an eradication programme.

However, for flocks situated in a country or zone qualified as officially free under point 1d) of Article 14.1.2., maintenance testing is not required.

Whatever the periodicity of control tests and the way the status has been obtained, sheep and goats should only be introduced into the flocks in conformity with the provisions of Article 14.1.5.
3. **Suspension and recovery of officially free status**

If a sheep or goat reacts positively to a diagnostic test for caprine and ovine brucellosis, the status of *flock* officially free from brucellosis shall be suspended and may not be recovered unless the following requirements have been fulfilled:

- **a)** all infected and in-contact *animals* were eliminated from the *flock* as soon as the result of the diagnostic test was known;

- **b)** all the remaining sheep and goats in the *flock* over 6 months of age on the day of sampling have been subjected to a diagnostic test for caprine and ovine brucellosis, with negative results, on two occasions, at an interval of not less than 3 months.

**Article 14.1.4.**

**Sheep or goat flock free from caprine and ovine brucellosis**

1. **Qualification**

   To qualify as free from caprine and ovine brucellosis, a sheep or goat *flock* should satisfy the following requirements:

   - **a)** it is under *official veterinary control*;
   - **b)** no clinical, bacteriological or immunological evidence of caprine and ovine brucellosis has been found for at least one year;
   - **c)** if all or some of the sheep or goats have been vaccinated against caprine and ovine brucellosis, this was performed before 7 months of age;
   - **d)** all non-vaccinated sheep and goats over 6 months of age, and all vaccinated ones over 18 months of age on the day of sampling have been subjected to a diagnostic test for brucellosis with negative results on two occasions, at an interval of not more than 12 months and not less than 6 months;
   - **e)** when qualified, it contains only sheep and goats born therein or introduced in conformity with the provisions of Article 14.1.6.

2. **Maintenance of free status**

   For a *flock* to maintain its status as free from caprine and ovine brucellosis, a sample of the *animals* in the *flock* should be subjected each year to a diagnostic test for brucellosis with negative results.

   For a *flock* containing up to *1,000 animals*, the sample should include:

   - **a)** all non-castrated males over 18 months of age if vaccinated, and over 6 months of age if unvaccinated;
   - **b)** all *animals* introduced into the *flock* since the previous control;
   - **c)** 25% of the pubescent females except vaccinated females less than 18 months of age; the number of females included in the sample should not be less than 50, unless the *flock* contains fewer than 50 females, in which case all pubescent females should be included in the sample.

   For a *flock* containing more than *1,000 animals*, a serological survey should be carried out every year on a representative sample of the *animals* in the *flock*, excluding vaccinated females less than 18 months of age, sufficient to provide a 99% level of confidence of detecting caprine and ovine brucellosis if it is present at a prevalence rate exceeding 0.2%.
Sheep and goats should only be introduced into the flock in conformity with the provisions of Article 14.1.6.

3. Suspension and recovery of free status

If a sheep or goat over 18 months of age, if vaccinated, or over 6 months of age, if not vaccinated, reacts positively to a diagnostic test for caprine and ovine brucellosis, the status of flock free from brucellosis shall be suspended, and may not be recovered unless the following requirements have been fulfilled:

a) all infected and in-contact animals were eliminated from the flock as soon as the result of the diagnostic test was known;

b) all the remaining sheep and goats in the flock over 18 months of age if vaccinated, and over 6 months of age if not vaccinated on the day of sampling, have been subjected to a diagnostic test for caprine and ovine brucellosis with negative results on two occasions, at an interval of not less than 3 months.

4. Change of status

For a flock free from caprine and ovine brucellosis to qualify as officially free, the flock should fulfil the following requirements for at least 2 years:

a) it has been free from caprine and ovine brucellosis;

b) vaccination against brucellosis has not been practised;

c) any sheep or goats introduced into the flock satisfied the provisions of Article 14.1.5.;

and at the end of the period, all sheep and goats over 6 months of age on the day of sampling have been subjected to a diagnostic test for caprine and ovine brucellosis, with negative results.

Article 14.1.5.

Recommendations for the importation of sheep and goats for breeding or rearing (except castrated males) destined for flocks officially free from caprine and ovine brucellosis

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of caprine and ovine brucellosis on the day of shipment;

2. come from a sheep or goat flock officially free from caprine and ovine brucellosis;

OR

3. come from a sheep or goat flock free from caprine and ovine brucellosis; and

4. have not been vaccinated against brucellosis, or, if vaccinated, that the last vaccination was performed at least 2 years previously; and

5. were isolated in the establishment of origin, and were subjected during that period to a diagnostic test for caprine and ovine brucellosis with negative results on two occasions, at an interval of not less than 6 weeks.
Article 14.1.6.

**Recommendations for the importation of sheep and goats for breeding or rearing (except castrated males) destined for flocks not officially free from caprine and ovine brucellosis**

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of caprine and ovine brucellosis on the day of shipment;
2. come from a sheep or goat flock officially free from caprine and ovine brucellosis or a sheep or goat flock free from caprine and ovine brucellosis.

Article 14.1.7.

**Recommendations for the importation of sheep and goats for slaughter (except castrated males)**

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of caprine and ovine brucellosis on the day of shipment;
2. come from a sheep or goat flock where no case of brucellosis has occurred during the 42 days prior to shipment.

Article 14.1.8.

**Recommendations for the importation of semen of sheep and goats**

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) showed no clinical sign of caprine and ovine brucellosis on the day of collection of the semen;
   b) were kept in a sheep or goat flock officially free from caprine and ovine brucellosis; or
   c) were kept in a sheep or goat flock free from caprine and ovine brucellosis, and were subjected to two different diagnostic tests for caprine and ovine brucellosis on the same blood sample with negative results during the 30 days prior to collection;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.
Recommendations for the importation of embryos/ova of sheep and goats

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the donor females:
   a) were kept in a sheep or goat flock officially free from caprine and ovine brucellosis, and showed no clinical sign of brucellosis on the day of collection of the embryos/ova; or
   b) were kept in a sheep or goat flock free from caprine and ovine brucellosis, showed no clinical sign of brucellosis on the day of collection, and were subjected to two different diagnostic tests for caprine and ovine brucellosis on the same blood sample taken within the 30 days prior to collection, with negative results;

2. the embryos/ova were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.
CHAPTER 14.2.

CAPRINE ARTHRITIS/ENCEPHALITIS

Article 14.2.1.

General provisions

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 14.2.2.

Recommendations for the importation of goats for breeding

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the *animals* showed no clinical sign of caprine arthritis/encephalitis on the day of shipment;

2. *animals* over one year of age were subjected to a diagnostic test for caprine arthritis/encephalitis with negative results during the 30 days prior to shipment; or

3. caprine arthritis/encephalitis was neither clinically nor serologically diagnosed in the sheep and goats present in the *flocks* of origin during the past 3 years, and also that no sheep or goat from a *flock* of inferior health status was introduced into these *flocks* during that period.
CHAPTER 14.3.

CONTAGIOUS AGALACTIA

Article 14.3.1.

Recommendations for the importation of sheep and goats

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of contagious agalactia on the day of shipment;
2. were kept since birth or for the 6 months prior to shipment in an establishment where no case of contagious agalactia was officially reported during that period;
3. were kept in a quarantine station for the 21 days prior to shipment.
CHAPTER 14.4.

CONTAGIOUS CAPRINE PLEUROPNEUMONIA

Article 14.4.1.

General provisions

For the purposes of the Terrestrial Code, contagious caprine pleuropneumonia (CCPP) is defined as a disease of goats caused by Mycoplasma capricolum subsp. capripneumoniae. The incubation period for the disease shall be 45 days (chronic carriers occur).

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 14.4.2.

Country free from contagious caprine pleuropneumonia

A country may be considered free from CCPP when it has been shown that CCPP is not present and that one year has elapsed after the slaughter of the last affected animal for countries in which a stamping-out policy is practised.

Article 14.4.3.

Zone infected with contagious caprine pleuropneumonia

A zone shall be considered as infected with CCPP until at least 45 days have elapsed after the confirmation of the last case and the completion of a stamping-out policy and disinfection procedures.

Article 14.4.4.

Trade in commodities

Veterinary Authorities of CCPP free countries may prohibit importation or transit through their territory from countries considered infected with CCPP, of domestic and wild goats, and may prohibit importation into their territory, from countries considered infected with CCPP, of semen of domestic and wild goats and of embryos/ova of domestic goats.

Article 14.4.5.

Recommendations for importation from CCPP free countries
for domestic goats

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the *animals*:

1. showed no clinical sign of CCPP on the day of shipment;
2. were kept in a CCPP free country since birth or for at least 3 months.

**Article 14.4.6.**

**Recommendations for importation from CCPP free countries**

for wild goats

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the *animals*:

1. showed no clinical sign of CCPP on the day of shipment;
2. were kept in a CCPP free country;
3. if the *animals* originated from an area adjacent to a country considered infected with CCPP:
   - were kept in a *quarantine station* for at least the 45 days prior to shipment.

**Article 14.4.7.**

**Recommendations for importation from countries considered infected with CCPP**

for domestic goats

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the *animals*:

1. showed no clinical sign of CCPP on the day of shipment;
2. were subjected to a complement fixation test for CCPP with negative results, on two occasions, with an interval of not less than 21 days and not more than 30 days between each test, the second test being performed within 14 days prior to shipment (under study);
3. were isolated from other domestic goats from the day of the first complement fixation test until shipment;
4. were kept since birth, or for at least the past 45 days, in an *establishment* where no *case* of CCPP was officially reported during that period, and that the *establishment* of origin was not situated in a CCPP *infected zone*;
5. have not been vaccinated against CCPP; or
6. were vaccinated not more than 4 months prior to shipment. In this case, point 2 above is not required (under study).

**Article 14.4.8.**

**Recommendations for importation from countries considered infected with CCPP**
for goats for immediate slaughter

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of CCPP on the day of shipment;
2. were kept since birth, or for at least the past 45 days, in an establishment where no case of CCPP was officially reported during that period, and that the establishment of origin was not situated in a CCPP infected zone.

Article 14.4.9.

Recommendations for importation from countries considered infected with CCPP

for wild goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of CCPP on the day of shipment;
2. were kept, for at least the past 45 days prior to shipment, in a quarantine station where no case of CCPP was officially reported during that period, and that the quarantine station was not situated in a CCPP infected zone;
3. have not been vaccinated against CCPP; or
4. were vaccinated not more than 4 months prior to shipment (under study).

Article 14.4.10.

Recommendations for importation from CCPP free countries

for embryos/oocytes of goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) showed no clinical sign of CCPP on the day of collection;
   b) were kept in a CCPP free country;
2. the embryos/oocytes were collected in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

Article 14.4.11.

Recommendations for importation from countries considered infected with CCPP

for embryos/oocytes of goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) showed no clinical sign of CCPP on the day of collection; and
b) were isolated from other domestic goats from the day of the test until collection;
c) were kept since birth, or for at least the 45 days prior to collection, in an establishment where no case of CCPP was officially reported during that period and that the establishment of origin was not situated in a CCPP infected zone;

2. the collection fluids and/or degenerated and unfertilized ova were subjected to a validated culture or PRC test for CCPP with negative results;

3. the embryos/oocytes were collected in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

Article 14.4.12.

Recommendations for importation from countries considered infected with CCPP

for fresh meat of goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from animals.

1. which originate from establishments free of CCPP;
2. which have been slaughtered in an approved abattoir and have been subjected to an ante-mortem inspection for CCPP with favourable results; and
3. which showed no lesion of CCPP at the post-mortem inspection.
CHAPTER 14.5.

ENZOOTIC ABORTION OF EWES
(Ovine chlamydiosis)

Article 14.5.1.

General provisions

For the purposes of the Terrestrial Code, the following information should be considered with regard to the incubation period for enzootic abortion of ewes (EAE).

Susceptible animals become infected through ingestion of infectious materials. In lambs and non-pregnant ewes, the infection remains latent until conception. Ewes exposed to infection late in pregnancy may not exhibit signs of infection until the subsequent pregnancy. Countries should take account of these risk factors.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 14.5.2.

Recommendations for the importation of sheep and/or goats for breeding

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. have remained since birth, or for the previous 2 years, in establishments where no EAE has been diagnosed during the past 2 years;
2. showed no clinical sign of EAE on the day of shipment;
3. were subjected to a diagnostic test for EAE with negative results within the 30 days prior to shipment.

Article 14.5.3.

Sheep flocks and/or goat herds free from EAE infection

To qualify as free from EAE infection, a sheep flock or goat herd shall satisfy the following requirements:

1. it is under official veterinary surveillance;
2. all sheep and goats showed no clinical evidence of EAE infection during the past 2 years;
3. a statistically valid number of sheep and goats over 6 months of age were subjected to a diagnostic test for EAE with negative results within the past 6 months;
4. all sheep or goats are permanently identified;
5. no sheep or goat has been added to the flock or herd since 30 days prior to the flock or herd test referred to in point 3 above unless:
   a) either the additions were isolated from other members of the flock or herd in the establishment of origin for a minimum period of 30 days and then were subjected to a diagnostic test for EAE with negative results, before entry into the new flock or herd; or
   b) they originated from an establishment of equal health status.

Article 14.5.4.

Recommendations for the importation of semen of sheep

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) have been kept in establishments or artificial insemination centres free from EAE during the past 2 years, and have not been in contact with animals of a lower health status;
   b) were subjected to a diagnostic test for EAE with negative results 2 to 3 weeks after collection of the semen;

2. an aliquot of the semen to be exported was shown to be free of Chlamydia psittaci, by culture techniques.
CHAPTER 14.6.

MAEDI-VISNA

Article 14.6.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 14.6.2.

Recommendations for the importation of sheep and goats for breeding

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the animals showed no clinical sign of maedi-visna on the day of shipment;
2. animals over one year of age were subjected to a diagnostic test for maedi-visna with negative results during the 30 days prior to shipment;
3. maedi-visna was neither clinically nor serologically diagnosed in the sheep and goats present in the flocks of origin during the past 3 years, and also that no sheep or goat from a flock of inferior health status was introduced into these flocks during that period.
CHAPTER 14.7.

OVINE EPIDIDYMITIS
(Brucella ovis)

Article 14.7.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 14.7.2.

Sheep flock free from ovine epididymitis

To qualify as free from ovine epididymitis, a sheep flock shall satisfy the following requirements:

1. it is under official veterinary control;
2. all sheep in the flock showed no clinical evidence of ovine epididymitis during the past year;
3. all sheep in the flock are permanently identified.

If some or all the males in the flock are vaccinated, the flock should still be regarded as free.

Article 14.7.3.

Recommendations for the importation of sheep for breeding or rearing (except castrated males)

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the animals showed no clinical sign of ovine epididymitis on the day of shipment;
2. the animals come from a sheep flock free from ovine epididymitis;
3. for sheep over 6 months of age, the animals were isolated in the establishment of origin for the 30 days prior to shipment and were subjected to the diagnostic tests for Brucella ovis with negative results; or
4. for sheep from a flock other than that stated in point 2 above, the animals were isolated prior to shipment and were subjected to the diagnostic tests for Brucella ovis with negative results on two occasions, with an interval of 30 to 60 days between each test, the second test being performed during the 15 days prior to shipment.
Article 14.7.4.

Recommendations for the importation of semen of sheep

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) showed no clinical sign of ovine epididymitis on the day of collection of the semen;
   b) come from a sheep flock free from ovine epididymitis;
   c) were kept in the exporting country for the 60 days prior to collection, in an establishment or artificial insemination centre where all animals are free from ovine epididymitis;
   d) were subjected to the diagnostic tests for Brucella ovis with negative results during the 30 days prior to collection;

2. the semen does not contain Brucella ovis or other Brucella antibodies.
CHAPTER 14.8.

PESTE DES PETITS RUMINANTS

Article 14.8.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for the peste des petits ruminants (PPR) shall be 21 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 14.8.2.

PPR free country

A country may be considered free from PPR when it has been shown that PPR has not been present for at least the past 3 years.

This period shall be 6 months after the slaughter of the last affected animal for countries in which a stamping-out policy is practised with or without vaccination against PPR.

Article 14.8.3.

PPR infected zone

A zone shall be considered as infected with PPR until:

1. at least 21 days have elapsed after the confirmation of the last case and the completion of a stamping-out policy and disinfection procedures, or
2. 6 months have elapsed after the clinical recovery or death of the last affected animal if a stamping-out policy was not practised.

Article 14.8.4.

Trade in commodities

Veterinary Authorities of PPR free countries may prohibit importation or transit through their territory, from countries considered infected with PPR, of the following commodities.

1. domestic and wild ruminants;
2. semen of ruminants;
3. embryos/ova of ruminants;
4. fresh meat of domestic and wild ruminants;
5. meat products of domestic and wild ruminants which have not been processed to ensure the destruction of the PPR virus;
6. products of animal origin (from ruminants) intended for use in animal feeding or for agricultural or industrial use which have not been processed to ensure the destruction of the PPR virus;

7. products of animal origin (from ruminants) intended for pharmaceutical or surgical use which have not been processed to ensure the destruction of the PPR virus;

8. pathological material and biological products (from ruminants) which have not been processed to ensure the destruction of the PPR virus.

Article 14.8.5.

Recommendations for importation from PPR free countries

for domestic small ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of PPR on the day of shipment;

2. were kept in a PPR free country since birth or for at least the past 21 days.

Article 14.8.6.

Recommendations for importation from PPR free countries

for wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of PPR on the day of shipment;

2. come from a PPR free country;

if the country of origin has a common border with a country considered infected with PPR:

3. were kept in a quarantine station for the 21 days prior to shipment.

Article 14.8.7.

Recommendations for importation from countries considered infected with PPR

for domestic small ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of PPR on the day of shipment;

2. were kept since birth, or for the past 21 days, in an establishment where no case of PPR was officially reported during that period, and that the establishment was not situated in a PPR infected zone; and/or

3. were kept in a quarantine station for the 21 days prior to shipment;

4. have not been vaccinated against PPR; or
5. were vaccinated against PPR:
   a) not less than 15 days and not more than 4 months prior to shipment in the case of animals for breeding or rearing; or
   b) not less than 15 days and not more than 12 months prior to shipment in the case of animals for slaughter.

Article 14.8.8.

Recommendations for importation from countries considered infected with PPR

for wild ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of PPR on the day of shipment;
2. were kept in a quarantine station for the 21 days prior to shipment.

Article 14.8.9.

Recommendations for importation from PPR free countries

for semen of domestic small ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:

1. showed no clinical sign of PPR on the day of collection of the semen and during the following 21 days;
2. were kept in a PPR free country for not less than 21 days prior to collection.

Article 14.8.10.

Recommendations for importation from countries considered infected with PPR

for semen of domestic small ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:

1. showed no clinical sign of PPR on the day of collection of the semen and during the following 21 days;
2. were kept in the exporting country for the 21 days prior to collection, in an establishment or artificial insemination centre where no case of PPR was officially reported during that period, and that the establishment or artificial insemination centre was not situated in a PPR infected zone;
3. have not been vaccinated against PPR; or
4. were vaccinated against PPR.
Article 14.8.11.

Recommendations for importation from PPR free countries

for embryos of domestic small ruminants and cervids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor females were kept in an establishment located in a PPR free country at the time of collection of the embryos;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

Article 14.8.12.

Recommendations for importation from countries considered infected with PPR

for embryos of domestic small ruminants and cervids

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor females:
   a) were kept in an establishment to which no animals had been added for the 21 days prior to collection;
   b) and all other animals in the establishment showed no clinical sign of PPR at the time of collection of the embryos and during the following 21 days;
   c) have been vaccinated against PPR not less than 21 days and not more than 4 months prior to collection; or
   d) have not been vaccinated against PPR and were subjected to a diagnostic test for PPR with negative results at least 21 days after collection;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.


Recommendations for importation from PPR free countries

for fresh meat or meat products of domestic small ruminants

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of meat comes from animals.

1. which have been kept in the country since birth, or have been imported from a PPR free country;

2. which have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for PPR with favourable results.

Recommendations for importation from countries considered infected with PPR

for meat products of domestic small ruminants

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the entire consignment of *meat products* comes from *animals* which have been slaughtered in an approved *abattoir* and have been subjected to ante-mortem and post-mortem inspections for PPR with favourable results;
2. the *meat products* have been processed to ensure the destruction of the PPR virus;
3. the necessary precautions were taken after processing to avoid contact of the *meat* with any source of PPR virus.

Article 14.8.15.

Recommendations for importation from PPR free countries

for products of animal origin (from small ruminants) intended for use in animal feeding or for agricultural or industrial use

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products come from *animals* which have been kept in a PPR free country since birth or for at least the past 21 days.

Article 14.8.16.

Recommendations for importation from PPR free countries

for products of animal origin (from small ruminants) intended for pharmaceutical or surgical use

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products come from *animals*.

1. which have been kept in a PPR free country since birth or for at least the past 21 days;
2. which have been slaughtered in an approved *abattoir* and have been subjected to ante-mortem and post-mortem inspections for PPR with favourable results.

Article 14.8.17.

Recommendations for importation from countries considered infected with PPR

for meal and flour from blood, meat, defatted bones, hooves, claws and horns (from small ruminants)

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products have been processed using heat treatment to ensure the destruction of the PPR virus.
Article 14.8.18.

**Recommendations for importation from countries considered infected with PPR**

for hooves, claws, bones and horns, hunting trophies and preparations destined for museums (from small ruminants)

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products:

1. were completely dried and had no trace on them of skin, flesh or tendon; and/or
2. have been adequately disinfected.

Article 14.8.19.

**Recommendations for importation from countries considered infected with PPR**

for wool, coarse hair and other hair (from small ruminants)

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products:

1. come from *animals* which have not been kept in a PPR *infected zone*; or
2. have been processed to ensure the destruction of the PPR virus, in premises controlled and approved by the *Veterinary Authority* of the *exporting country*.

Article 14.8.20.

**Recommendations for importation from countries considered infected with PPR**

for raw hides and skins (from small ruminants)

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products:

1. come from *animals* which have not been kept in a PPR *infected zone*; or
2. have been adequately disinfected.

Article 14.8.21.

**Recommendations for importation from countries considered infected with PPR**

for products of animal origin (from small ruminants) intended for pharmaceutical or surgical use

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products:

1. have been processed to ensure the destruction of the PPR virus; or
2. come from *animals* which did not come from a PPR *infected zone*;
3. come from *animals* which have been slaughtered in an approved *abattoir* and have been subjected to ante-mortem and post-mortem inspections for PPR with favourable results.
CHAPTER 14.9.

SCRAPIE

Article 14.9.1.

General provisions and safe commodities

Scrapie is a neurodegenerative disease of sheep and goats. The main mode of transmission is from mother to offspring immediately after birth and to other susceptible neonates exposed to the birth fluids and tissues of an infected animal. Transmission occurs at a much lower frequency to adults exposed to the birth fluids and tissues of an infected animal. A variation in genetic susceptibility of sheep has been recognised. The incubation period of the disease is variable; however, it is usually measured in years. The duration in incubation period can be influenced by a number of factors including host genetics and strain of agent.

Scrapie is not considered to pose a risk to human health. The recommendations in this chapter are intended to manage the animal health risks associated with the presence of the scrapie agent in sheep and goats. The chapter does not cover so-called ‘atypical’ scrapie which is clinically, pathologically, biochemically and epidemiologically unrelated to ‘classical’ scrapie, may not be contagious and may, in fact, be a spontaneous degenerative condition of older sheep.

1. When authorising import or transit of the following commodities derived from sheep or goats and any products made from these commodities and containing no other tissues from sheep or goats, Veterinary Authorities should not require any scrapie-related conditions, regardless of the scrapie risk status of the sheep and goat populations of the exporting country, zone or compartment:

   a) in vivo derived sheep embryos handled in accordance with Chapter 4.7. of this Terrrestrial Code;

   b) meat (excluding materials as referred to in Article 14.9.12.);

   c) hides and skins;

   d) gelatine;

   e) collagen prepared from hides or skins;

   f) tallow (maximum level of insoluble impurities of 0.15% in weight) and derivatives made from this tallow;

   g) dicalcium phosphate (with no trace of protein or fat);

   h) wool or fibre.

2. When authorising import or transit of other commodities listed in this chapter, Veterinary Authorities should require the conditions prescribed in this chapter relevant to the scrapie risk status of the sheep and goat populations of the exporting country, zone or compartment.

Standards for diagnostic tests are described in the Terrrestrial Manual.
Determination of the scrapie status of the sheep and goat populations of a country, zone, compartment or establishment

The scrapie status of the sheep and goat populations of a country, zone, compartment or establishment should be determined on the basis of the following criteria:

1. the outcome of a risk assessment identifying all potential factors for scrapie occurrence and their historic perspective, in particular the:
   a) importation or introduction of sheep and goats or their semen, in vivo derived goat embryos or in vitro processed sheep and goat embryos/oocytes potentially infected with scrapie;
   b) extent of knowledge of the population structure and husbandry practices of sheep and goats;
   c) feeding practices, including consumption of meat-and-bone meal or greaves derived from ruminants;
   d) importation of milk and milk products of sheep or goats origin intended for use in feeding of sheep and goats;
2. an on-going awareness programme for veterinarians, farmers, and workers involved in transportation, marketing and slaughter of sheep and goats to facilitate recognition and encourage reporting of all animals with clinical signs compatible with scrapie;
3. a surveillance and monitoring system including the following:
   a) official veterinary surveillance, reporting and regulatory control in accordance with the provisions of Chapter 1.4.;
   b) a Veterinary Authority with current knowledge of, and authority over, all establishments which contain sheep and goats in the whole country;
   c) compulsory notification and clinical investigation of sheep and goats showing clinical signs compatible with scrapie;
   d) examination, in accordance with the Terrestrial Manual, in a laboratory of appropriate material from sheep and goats older than 18 months displaying clinical signs compatible with scrapie;
   e) maintenance of records including the number and results of all investigations for at least 7 years.

Scrapie free country or zone

Countries or zones may be considered free from scrapie if within the said territory:

1. a risk assessment, as described in point 1 of Article 14.9.2., has been conducted, and it has been demonstrated that appropriate measures are currently in place and have been taken for the relevant period of time to manage any risk identified and points 2 and 3 have been complied with for the preceding 7 years;
AND

2. one of the following conditions should be met:
   a) the country or the zone have demonstrated historical freedom as follows:
      i) scrapie has been notifiable for at least 25 years; and
      ii) a formal programme of targeted surveillance and monitoring, which includes testing of sheep and goats displaying clinical signs compatible with scrapie and those over 18 months of age slaughtered, culled or found dead on farm, can be documented as having been in place for at least 10 years; and
      iii) appropriate measures to prevent scrapie introduction can be documented as having been in place for at least 25 years; and
      - either scrapie has never been reported; or
      - no case of scrapie has been reported for at least 25 years;
   b) for at least 7 years, sheep and goats displaying clinical signs compatible with scrapie have been tested. Also a sufficient number of sheep and goats over 18 months of age, representative of slaughtered, culled or found dead on farm, have been tested annually, to provide a 95% level of confidence of detecting scrapie if it is present in that population at a prevalence rate exceeding 0.1% and no case of scrapie has been reported during this period; or
   c) all establishments containing sheep or goats have been accredited free as described in Article 14.9.5.;

AND

3. the feeding to sheep and goats of meat-and-bone meal or greaves of ruminant origin has been banned and effectively enforced in the whole country for at least 7 years;

AND

4. introductions of sheep and goats or their semen, in vivo derived goat embryos or in vitro processed sheep and goat embryos/oocytes from countries or zones not free from scrapie are carried out in accordance with Articles 14.9.6., 14.9.7., 14.9.8. or 14.9.9., as relevant.

Article 14.9.4.

Compartment free from scrapie

To qualify as a compartment free from scrapie, all sheep and goats in a compartment should be certified by the Veterinary Authority as satisfying the following requirements:

1. all establishments within the compartment are free from scrapie according to Article 14.9.5;
2. all establishments within the compartment are managed under a common biosecurity plan protecting them from introduction of scrapie, and the compartment has been approved by the Veterinary Authority in accordance with Chapters 4.3. and 4.4.;
3. introductions of sheep and goats are allowed only from accredited free establishments or free countries;
4. introductions of in vivo derived goat embryos and in vitro processed sheep and goat embryos/oocytes are allowed either from accredited free establishments or in accordance with Article 14.9.9.;
5. sheep and goat semen should be introduced into the compartment in accordance with Article 14.9.8.;

6. sheep and goats in the compartment should have no direct or indirect contact, including shared grazing, with sheep or goats from establishments not within the compartment.

Article 14.9.5.

Scrapie free establishment

To qualify as free from scrapie, an establishment of sheep and goats should satisfy the following requirements:

1. in the country or zone where the establishment is situated, the following conditions are fulfilled:
   a) the disease is compulsorily notifiable;
   b) an awareness, surveillance and monitoring system as referred to in Article 14.9.2. is in place;
   c) affected sheep and goats are killed and completely destroyed;
   d) the feeding to sheep and goats of meat-and-bone meal or greaves of ruminant origin has been banned and effectively enforced in the whole country for at least 7 years;
   e) an official accreditation scheme is in operation under the supervision of the Veterinary Authority, including the measures described in point 2 below;

2. in the establishment the following conditions have been complied with for at least 7 years:
   a) sheep and goats are permanently identified and records maintained, to enable trace back to their establishment of birth;
   b) records of movements of sheep and goats in and out of the establishment are maintained;
   c) introductions of sheep and goats are allowed only from free establishments or establishment at an equal or higher stage in the process of accreditation;
   d) introduction of in vivo derived goat embryos and in vitro processed sheep and goat embryos /oocytes should comply with Article 14.9.9.;
   e) sheep and goat semen should be introduced into the establishment in accordance with Article 14.9.8.;
   f) an Official Veterinarian inspects sheep and goats in the establishments and audits the records at least once a year;
   g) no case of scrapie has been reported;
   h) sheep and goats of the establishments should have no direct or indirect contact, including shared grazing, with sheep or goats from establishments of a lower status;
   i) all culled sheep and goats over 18 months of age are inspected by an Official Veterinarian, and a proportion of those exhibiting wasting signs and all those exhibiting neurological signs are tested in a laboratory for scrapie. The selection of the sheep and goats to be tested should be made by the Official Veterinarian. Sheep and goats over 18 months of age that have died or have been killed for reasons other than routine slaughter should also be tested (including ‘fallen’ stock and those sent for emergency slaughter).
Article 14.9.6.

**Recommendations for importation from countries or zones not considered free from scrapie for sheep and goats for breeding or rearing**

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals come from an establishment free from scrapie as described in Article 14.9.5.

Article 14.9.7.

**Recommendations for importation from countries or zones not considered free from scrapie for sheep and goats for slaughter**

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. in the country or zone:
   a) the disease is compulsorily notifiable;
   b) an awareness, surveillance and monitoring system as referred to in Article 14.9.2. is in place;
   c) affected sheep and goats are killed and completely destroyed;
2. the sheep and goats selected for export showed no clinical sign of scrapie on the day of shipment.

Article 14.9.8.

**Recommendations for importation from countries or zones not considered free from scrapie for semen of sheep and goats**

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) are permanently identified to enable trace back to their establishment of origin;
   b) showed no clinical sign of scrapie at the time of semen collection;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 14.9.9.

**Recommendations for importation from countries or zones not considered free from scrapie**
for in vivo derived goat embryos and in vitro processed sheep and goat embryos/oocytes

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. in the country or zone:
   a) the disease is compulsorily notifiable;
   b) an awareness, surveillance and monitoring system as referred to in Article 14.9.2. is in place;
   c) affected sheep and goats are killed and completely destroyed;
   d) the feeding to sheep and goats of meat-and-bone meal or greaves of ruminant origin has been banned and effectively enforced in the whole country;

2. the donor animals either have been kept since birth in a free establishment, or meet the following conditions:
   a) are permanently identified to enable trace back to their establishment of origin;
   b) have been kept since birth in establishments in which no case of scrapie had been confirmed during their residency;
   c) showed no clinical sign of scrapie at the time of embryo/oocyte collection;

3. the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapters 4.7., 4.8. and 4.9., as relevant.

Article 14.9.10.

Recommendations for importation from countries or zones not considered free from scrapie for milk and milk products of sheep or goat origin intended for use in feeding of sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the milk and milk products come from scrapie free establishments.

Article 14.9.11.

Recommendations on meat-and-bone meal

Meat-and-bone meal containing any sheep or goat protein, or any feedstuffs containing that type of meat-and-bone meal, which originate from countries not considered free of scrapie should not be traded between countries for ruminant feeding.

Article 14.9.12.

Recommendations for importation from countries or zones not considered free from scrapie
for skulls including brains, ganglia and eyes, vertebral column including ganglia and spinal cord, tonsils, thymus, spleen, intestine, adrenal gland, pancreas, or liver, and protein products derived therefrom, from sheep and goats

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. these *commodities* should not be traded for use in ruminant feeds;
2. for purposes other than ruminant feeding, *Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:
   a) in the country or *zone*:
      i) the disease is compulsorily notifiable;
      ii) an awareness, *surveillance* and monitoring system as referred to in Article 14.9.2. is in place;
      iii) affected sheep and goats are killed and completely destroyed;
   b) the materials come from sheep and goats that showed no clinical sign of scrapie on the day of *slaughter*.


**Recommendations for the importation of ovine and caprine materials destined for the preparation of biologicals**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the products originate from sheep and goats born and raised in a scrapie free country, *zone or establishment*. 
CHAPTER 14.10.

SHEEP POX AND GOAT POX

Article 14.10.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for sheep pox and goat pox shall be 21 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 14.10.2.

Sheep pox and goat pox free country

A country may be considered free from sheep pox and goat pox when it has been shown that sheep pox and goat pox has not been present for at least the past 3 years.

This period shall be 6 months after the slaughter of the last affected animal for countries in which a stamping-out policy is practise with or without vaccination against sheep pox and goat pox.

Article 14.10.3.

Sheep pox and goat pox infected zone

A zone shall be considered as infected with sheep pox and/or goat pox until:

1. at least 21 days have elapsed after the confirmation of the last case and the completion of a stamping-out policy and disinfection procedures; or
2. 6 months have elapsed after the clinical recovery or death of the last affected animal if a stamping-out policy was not practised.

Article 14.10.4.

Trade in commodities

Veterinary Authorities of sheep pox and goat pox free countries may prohibit importation or transit through their territory, from countries considered infected with sheep pox and goat pox, of domestic sheep and goats.

Article 14.10.5.

Recommendations for importation from sheep pox and goat pox free countries
for domestic sheep and goats

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_

1. showed no clinical sign of sheep pox or goat pox on the day of shipment;
2. were kept in a sheep pox and goat pox free country since birth or for at least the past 21 days.

**Article 14.10.6.**

**Recommendations for importation from countries considered infected with sheep pox and goat pox**

for domestic sheep and goats

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_

1. showed no clinical sign of sheep pox or goat pox on the day of shipment;
2. were kept since birth, or for the past 21 days, in an _establishment_ where no _case_ of sheep pox and goat pox was officially reported during that period, and that the _establishment_ was not situated in a sheep pox and goat pox infected zone; or
3. were kept in a _quarantine station_ for the 21 days prior to shipment;
4. have not been vaccinated against sheep pox and goat pox; or
5. were vaccinated using a vaccine complying with the standards described in the *Terrestrial Manual* not less than 15 days and not more than 4 months prior to shipment (the nature of the vaccine used, whether inactivated or modified live virus, and the virus types and strains included in the vaccine shall also be stated in the certificate).

**Article 14.10.7.**

**Recommendations for importation from sheep pox and goat pox free countries**

for semen of sheep and goats

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the donor _animals_

1. showed no clinical sign of sheep pox or goat pox on the day of collection of the semen and for the following 21 days;
2. were kept in a sheep pox and goat pox free country.

**Article 14.10.8.**

**Recommendations for importation from countries considered infected with sheep pox and goat pox**
for semen of sheep and goats

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:

1. showed no clinical sign of sheep pox or goat pox on the day of collection of the semen and for the following 21 days;

2. were kept in the exporting country for the 21 days prior to collection, in an establishment or artificial insemination centre where no case of sheep pox and goat pox was officially reported during that period, and that the establishment or artificial insemination centre was not situated in a sheep pox and goat pox infected zone;

3. have not been vaccinated against sheep pox and goat pox; or

4. were vaccinated using a vaccine complying with the standards described in the Terrestrial Manual (the nature of the vaccine used, whether inactivated or modified live virus, and the virus types and strains included in the vaccine shall also be stated in the certificate).

Article 14.10.9.

Recommendations for importation from countries considered infected with sheep pox and goat pox

for skins, fur, wool and hair (from sheep or goats)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products:

1. come from animals which have not been kept in a sheep pox and goat pox infected zone; or

2. have been processed to ensure the destruction of the sheep pox and goat pox virus, in premises controlled and approved by the Veterinary Authority of the exporting country.
SECTION 15.

SUIDAE

CHAPTER 15.1.

AFRICAN SWINE FEVER

Article 15.1.1.

General provisions

The pig and its close relatives are the only natural hosts for African swine fever (ASF) virus. These include all varieties of *Sus scrofa*, both domestic and wild, warthogs (*Phacochoerus* spp.), bushpigs (*Potamochoerus* spp.) and giant forest hog (*Hylaeocherus meinertzhageni*). For the purposes of this chapter, a distinction is made between domestic pigs (permanently captive and farmed free-range pigs) and wild pigs (including feral pigs and wild boar) as well as between *Sus scrofa* and African pig species.

All varieties of *Sus scrofa* are susceptible to the pathogenic effects of ASF virus, while the African wild pigs are not and act as reservoirs of the *infection*. Ticks of the genus *Ornithodoros* are natural hosts of the virus and act as biological vectors of the *infection*.

For the purpose of the *Terrestrial Code*, the *incubation period* in *Sus scrofa* is 15 days.

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 15.1.2.

Determination of the ASF status of a country, zone or compartment

The ASF status of a country, *zone or compartment* can only be determined after considering the following criteria in domestic and wild pigs, as applicable:

1. ASF should be notifiable in the whole country, and all clinical signs suggestive of ASF should be subjected to appropriate field and *laboratory* investigations;
2. an on-going awareness programme should be in place to encourage reporting of all *cases* suggestive of ASF;
3. the *Veterinary Authority* should have current knowledge of, and authority over, all domestic pigs in the country, *zone or compartment*;
4. the *Veterinary Authority* should have current knowledge about the species, population and habitat of wild pigs in the country or *zone*.
Article 15.1.3.

ASF free country, zone or compartment

1. Historically free status

A country or zone may be considered free from ASF without formally applying a specific surveillance programme if the provisions of Article 1.4.6. are complied with.

2. Free status as a result of an eradication programme

A country or zone which does not meet the conditions of point 1 above or a compartment may be considered free from ASF when:

a) there has been no outbreak of ASF during the past 3 years; this period can be reduced to 12 months when there is no evidence of tick involvement in the epidemiology of the infection;

b) no evidence of ASFV infection has been found during the past 12 months;

c) surveillance has been in place in domestic pigs for the past 12 months;

d) imported domestic pigs comply with the requirements in Article 15.1.5. or Article 15.1.6.

AND

Based on surveillance, ASF infection has been demonstrated not to be present in any wild pig population in the country or zone, and:

e) there has been no clinical evidence, nor virological evidence of ASF in wild pigs during the past 12 months;

f) no seropositive wild pigs have been detected in the age class 6-12 months during the past 12 months;

g) imported wild pigs comply with the requirements in Article 15.1.7.

Article 15.1.4.

Recovery of free status

Should an ASF outbreak occur in a free country, zone or compartment, the free status may be restored where surveillance has been carried out with negative results, either:

1. 3 months after the last case where a stamping-out policy is practised and in the case where ticks are suspected to be involved in the epidemiology of the infection, followed by acaricide treatment and the use of sentinel pigs; or

2. where a stamping-out policy is not practised, the provisions of point 2 of Article 15.1.3. should be followed.

AND

Based on surveillance, ASF infection has been demonstrated not to be present in any wild pig population in the country or zone.

Article 15.1.5.

Recommendations for importation from ASF free countries, zones or compartments
for domestic pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_

1. showed no clinical sign of ASF on the day of shipment;
2. were kept in an ASF free country, _zone_ or _compartment_ since birth or for at least the past 40 days.

Article 15.1.6.

Recommendations for importation from countries or zones considered infected with ASF

for domestic pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_

1. showed no clinical sign of ASF on the day of shipment;
2. were kept since birth or for the past 40 days in an ASF free _compartment_.

Article 15.1.7.

Recommendations for importation from ASF free countries or zones

for wild pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the _animals_

1. showed no clinical sign of ASF on the day of shipment;
2. have been captured in an ASF free country _or zone_; and, if the _zone_ where the _animal_ has been captured is adjacent to a _zone_ with _infection_ in wild pigs:
3. were kept in a _quarantine station_ for 40 days prior to shipment, and were subjected to a virological test and a serological test performed at least 21 days after entry into the _quarantine station_, with negative results.

Article 15.1.8.

Recommendations for importation from ASF free countries, zones or compartments

for semen of domestic pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor _animals_: a) were kept in an ASF free country, _zone_ or _compartment_ since birth or for at least 40 days prior to collection; b) showed no clinical sign of ASF on the day of collection of the semen;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 15.1.9.

Recommendations for importation from countries or zones considered infected with ASF for semen of domestic pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor _animals_:
   a) were kept in an ASF free _compartment_ since birth or for at least 40 days prior to collection;
   b) showed no clinical sign of ASF on the day of collection of the semen and for the following 40 days;

2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 15.1.10.

Recommendations for importation from ASF free countries, zones or compartments for _in vitro_ derived embryos of domestic pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor females:
   a) were kept in an ASF free country, _zone or compartment_ since birth or for at least 40 days prior to collection;
   b) showed no clinical sign of ASF on the day of collection of the embryos;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 15.1.11.

Recommendations for importation from countries or zones considered infected with ASF for _in vitro_ derived embryos of domestic pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the donor females:
   a) were kept in an ASF free _compartment_ since birth or for at least 40 days prior to collection;
   b) showed no clinical sign of ASF on the day of collection of the embryos and for the following 40 days;
2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 15.1.12.

Recommendations for importation from ASF free countries, zones or compartments
for fresh meat of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from animals which:

1. have been kept in an ASF free country, zone or compartment since birth or for at least the past 40 days, or which have been imported in accordance with Article 15.1.5. or Article 15.1.6.;

2. have been slaughtered in an approved abattoir, have been subjected to ante-mortem and post-mortem inspections in accordance with Chapter 6.2., and have been found free of any sign suggestive of ASF.

Article 15.1.13.

Recommendations for importation from ASF free countries or zones
for fresh meat of wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the entire consignment of fresh meat comes from animals which:
   a) have been killed in an ASF free country or zone;
   b) have been subjected to a post-mortem inspection in accordance with Chapter 6.2. in an approved examination centre, and have been found free of any sign suggestive of ASF;

and, if the zone where the animal has been killed is adjacent to a zone with infection in wild pigs:

2. a sample has been collected from every animal killed and has been subjected to a virological test and a serological test for ASF, with negative results.

Article 15.1.14.

Recommendations for the importation of meat products of pigs (either domestic or wild), or for products of animal origin (from fresh meat of pigs) intended for use in animal feeding, for agricultural or industrial use, or for pharmaceutical or surgical use, or for trophies derived from wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the products:

1. have been prepared:
   a) exclusively from fresh meat meeting the conditions laid down in Articles 15.1.12. or 15.1.13., as relevant;
b) in a processing establishment:
   i) approved by the Veterinary Authority for export purposes;
   ii) processing only meat meeting the conditions laid down in Articles 15.1.12. or 15.1.13., as relevant;

OR

2. have been processed in an establishment approved by the Veterinary Authority for export purposes so as to ensure the destruction of the ASF virus and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASF virus.

Article 15.1.15.

Recommendations for the importation of products of animal origin (from pigs, but not derived from fresh meat) intended for use in animal feeding and for agricultural or industrial use

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products:

1. have been prepared:
   a) exclusively from fresh meat meeting the conditions laid down in Articles 15.1.12. or 15.1.13., as relevant;
   b) in a processing establishment:
      i) approved by the Veterinary Authority for export purposes;
      ii) processing only meat meeting the conditions laid down in Articles 15.1.12. or 15.1.13., as relevant;

OR

2. have been processed in an establishment approved by the Veterinary Authority for export purposes so as to ensure the destruction of the ASF virus and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASF virus.

Article 15.1.16.

Recommendations for the importation of bristles (from pigs)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products:

1. come from an ASF free country, zone or compartment; or

2. have been processed in an establishment approved by the Veterinary Authority for export purposes so as to ensure the destruction of the ASF virus and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASF virus.
Article 15.1.17.

Recommendations for the importation of litter and manure (from pigs)

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products:

1. come from an ASF free country, zone or compartment; or

2. have been processed in an establishment approved by the Veterinary Authority for export purposes so as to ensure the destruction of the ASF virus and that the necessary precautions were taken after processing to avoid contact of the product with any source of ASF virus.
CHAPTER 15.2.

CLASSICAL SWINE FEVER

Article 15.2.1.

General provisions

For the purposes of international trade, classical swine fever (CSF) is defined as an infection of domestic pigs.

Domestic pig is defined as ‘all domesticated pigs, permanently captive or farmed free range, used for the production of meat for consumption, for the production of other commercial products or for breeding these categories of pigs.

The pig is the only natural host for classical swine fever (CSF) virus. The definition of pig includes all varieties of Sus scrofa, both domestic and wild. For the purposes of this chapter, a distinction is made between domestic pig and wild pig (including feral pigs) populations.

Pigs exposed to CSF virus prenatally may be persistently infected throughout life and may have an incubation period of several months before showing signs of disease. Pigs exposed postnatally have an incubation period of 2-14 days, and are usually infective between post-infection days 5 and 14, but up to 3 months in cases of chronic infections.

For the purposes of international trade, a Member should not impose trade bans in response to a notification of infection with classical swine fever virus in wild pigs according to Article 1.2.3. of the Territorial Code after the Member confirms that Article 15.2.2. is appropriately implemented.

Standards for diagnostic tests and vaccines are described in the Territorial Manual.

Article 15.2.2.

Determination of the CSF status of a country, zone or compartment

The CSF status of a country, zone or compartment can only be determined after considering the following criteria in domestic and wild pigs, as applicable:

1. CSF should be notifiable in the whole territory, and all clinical signs suggestive of CSF should be subjected to appropriate field and/or laboratory investigations;
2. an on-going awareness programme should be in place to encourage reporting of all cases suggestive of CSF;
3. the Veterinary Authority should have current knowledge of, and authority over, all domestic pigs in the country, zone or compartment;
4. the Veterinary Authority should have current knowledge about the population and habitat of wild pigs in the country or zone;
5. for domestic pigs, appropriate surveillance, capable of detecting the presence of infection even in the absence of clinical signs, and the risk posed by wild pigs, is in place; this may be achieved through a surveillance programme in accordance with Articles 15.2.23. to 15.2.28.;
6. for wild pigs, if present in the country or zone, a surveillance programme is in place according to Article 15.2.28., taking into account the presence of natural and artificial boundaries, the ecology of the wild pig population, and an assessment of the risks of disease spread.

7. Based on the assessed risk of spread within the wild pig population, and according to Article 15.2.26., the domestic pig population should be separated from the wild pig population by appropriate biosecurity measures to prevent transmission of CSF from wild to domestic pigs.

Article 15.2.3.

CSF free country, zone or compartment

A country, zone or compartment may be considered free from CSF when surveillance in accordance with Articles 15.2.23. to 15.2.28. has been in place for at least 12 months, and when:

1. there has been no outbreak of CSF in domestic pigs during the past 12 months;
2. no evidence of CSFV infection has been found in domestic pigs during the past 12 months;
3. no vaccination against CSF has been carried out in domestic pigs during the past 12 months unless there are means, validated to OIE standards (Chapter 2.8.3. of the Terrestrial Manual), of distinguishing between vaccinated and infected pigs;
4. imported domestic pigs comply with the requirements in Article 15.2.5. or Article 15.2.6.

Article 15.2.4.

Recovery of free status

Should a CSF outbreak occur in a free country, zone or compartment, the free status may be restored where surveillance in accordance with Articles 15.2.23. to 15.2.28. has been carried out with negative results either:

1. 3 months after the last case where a stamping-out policy without vaccination is practised;
OR
2. where a stamping-out policy with emergency vaccination is practised:
   a) 3 months after the last case and the slaughter of all vaccinated animals, or
   b) 3 months after the last case without the slaughter of vaccinated animals where there are means, validated to OIE standards (Chapter 2.8.3. of the Terrestrial Manual), of distinguishing between vaccinated and infected pigs;
OR
3. where a stamping-out policy is not practised, the provisions of Article 15.2.3. should be followed.

Article 15.2.5.

Recommendations for importation from countries, zones or compartments free of CSF
for domestic pigs

_Veterinary Authorities_ should require the presentation of an *international veterinary certificate* attesting that the _animals_

1. showed no clinical sign of CSF on the day of shipment;
2. were kept in a country, _zone or compartment_ free of CSF since birth or for at least the past 3 months;
3. have not been vaccinated against CSF, nor are they the progeny of vaccinated sows, unless there are means, validated to OIE standards (Chapter 2.8.3. of the _Terrestrial Manual_), of distinguishing between vaccinated and infected pigs.

Article 15.2.6.

Recommendations for importation from CSF infected countries or zones

for domestic pigs

_Veterinary Authorities_ should require the presentation of an *international veterinary certificate* attesting that the _animals_

1. showed no clinical sign of CSF on the day of shipment;
2. were kept since birth or for the past 3 months in a CSF free _compartment_;
3. have not been vaccinated against CSF, nor are they the progeny of vaccinated sows, unless there are means, validated to OIE standards (Chapter 2.8.3. of the _Terrestrial Manual_), of distinguishing between vaccinated and infected pigs.

Article 15.2.7.

Recommendations for the importation of wild pigs

Regardless of the CSF status of the country of origin, _Veterinary Authorities_ should require the presentation of an *international veterinary certificate* attesting that the _animals_

1. showed no clinical sign of CSF on the day of shipment;
2. were kept in a _quarantine station_ for 40 days prior to shipment, and were subjected to a virological test and a serological test performed at least 21 days after entry into the _quarantine station_, with negative results;
3. have not been vaccinated against CSF, unless there are means, validated to OIE standards (Chapter 2.8.3. of the _Terrestrial Manual_), of distinguishing between vaccinated and infected pigs.

Article 15.2.8.

Recommendations for importation from countries, zones or compartments free of CSF
for semen of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) were kept in a country, zone or compartment free of CSF since birth or for at least 3 months prior to collection;
   b) showed no clinical sign of CSF on the day of collection of the semen;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 15.2.9.

Recommendations for importation from CSF infected countries or zones

for semen of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) were kept in a compartment free of CSF since birth or for at least 3 months prior to collection;
   b) showed no clinical sign of CSF on the day of collection of the semen and for the following 40 days;
   c) met one of the following conditions:
      i) have not been vaccinated against CSF and were subjected to a serological test performed at least 21 days after collection, with negative results; or
      ii) have been vaccinated against CSF and were subjected to a serological test in accordance with the Terrestrial Manual performed at least 21 days after collection and it has been conclusively demonstrated that any antibody is due to the vaccine; or
      iii) have been vaccinated against CSF and were subjected to a virological test performed in accordance with the Terrestrial Manual on a sample taken on the day of collection and it has been conclusively demonstrated that the boar is negative for virus genome;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 15.2.10.

Recommendations for importation from countries, zones or compartments free of CSF

for in vivo derived embryos of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor females showed no clinical sign of CSF on the day of collection of the embryos;
2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 15.2.11.

Recommendations for importation from CSF infected countries or zones
for in vivo derived embryos of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor females:
   a) were kept in a compartment free of CSF since birth or for at least 3 months prior to collection;
   b) showed no clinical sign of CSF on the day of collection of the embryos and for the following 40 days;
   c) and either:
      i) have not been vaccinated against CSF and were subjected, with negative results, to a serological test performed at least 21 days after collection; or
      ii) have been vaccinated against CSF and were subjected to a serological test performed at least 21 days after collection and it has been conclusively demonstrated by means, validated to OIE standards (Chapter 2.8.3. of the Terrestrial Manual), that any antibody is due to the vaccine;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapters 4.7. and 4.9., as relevant.

Article 15.2.12.

Recommendations for importation from countries, zones or compartments free of CSF
for fresh meat of domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from animals which:

1. have been kept in a country, zone or compartment free of CSF, or which have been imported in accordance with Article 15.2.5. or Article 15.2.6.;

2. have been slaughtered in an approved abattoir, have been subjected to ante-mortem and post-mortem inspections in accordance with Chapter 6.2. and have been found free of any sign suggestive of CSF.

Article 15.2.13.

Recommendations for the importation of fresh meat of wild pigs
Regardless of the CSF status of the country of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the entire consignment of fresh meat comes from animals:

1. which have been subjected to a post-mortem inspection in accordance with Chapter 6.2 in an approved examination centre, and have been found free of any sign suggestive of CSF;
2. from each of which a sample has been collected and has been subjected to a virological test and a serological test for CSF, with negative results.

Article 15.2.14.

Recommendations for the importation of meat and meat products of pigs, or for products of animal origin (from fresh meat of pigs) intended for use in animal feeding, for agricultural or industrial use, or for pharmaceutical or surgical use

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products:

1. have been prepared:
   a) exclusively from fresh meat meeting the conditions laid down in Article 15.2.12.;
   b) in a processing establishment:
      i) approved by the Veterinary Authority for export purposes;
      ii) processing only meat meeting the conditions laid down in Article 15.2.12.;

   OR

2. have been processed in an establishment approved by the Veterinary Authority for export purposes so as to ensure the destruction of the CSF virus in conformity with one of the procedures referred to in Article 15.2.21. and that the necessary precautions were taken after processing to avoid contact of the product with any source of CSF virus.

Article 15.2.15.

Recommendations for the importation of products of animal origin (from pigs, but not derived from fresh meat) intended for use in animal feeding

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products:

1. originated from domestic pigs in a CSF free country, zone or compartment and have been prepared in a processing establishment approved by the Veterinary Authority for export purposes; or

2. have been processed in an establishment approved by the Veterinary Authority for export purposes so as to ensure the destruction of the CSF virus in accordance with Article 15.2.20. and that the necessary precautions were taken after processing to avoid contact of the product with any source of CSF virus.
Article 15.2.16.

Recommendations for the importation of products of animal origin (from pigs, but not derived from fresh meat) intended for agricultural or industrial use

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the products:

1. originated from domestic pigs in a CSF free country, *zone or compartment* and have been prepared in a processing establishment approved by the *Veterinary Authority* for export purposes; or
2. have been processed in an establishment approved by the *Veterinary Authority* for export purposes so as to ensure the destruction of the CSF virus (under study) and that the necessary precautions were taken after processing to avoid contact of the product with any source of CSF virus.

Article 15.2.17.

Recommendations for the importation of bristles

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the products:

1. originated from domestic pigs in a CSF free country, *zone or compartment* and have been prepared in a processing establishment approved by the *Veterinary Authority* for export purposes; or
2. have been processed in an establishment approved by the *Veterinary Authority* for export purposes so as to ensure the destruction of the CSF virus (under study) and that the necessary precautions were taken after processing to avoid contact of the product with any source of CSF virus.

Article 15.2.18.

Recommendations for the importation of litter and manure

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the products:

1. originated from domestic pigs in a CSF free country, *zone or compartment* and have been prepared in a processing establishment approved by the *Veterinary Authority* for export purposes; or
2. have been processed in an establishment approved by the *Veterinary Authority* for export purposes so as to ensure the destruction of the CSF virus (under study) and that the necessary precautions were taken after processing to avoid contact of the product with any source of CSF virus.
Recommendations for the importation of skins and trophies

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the products:

1. originated from domestic pigs in a CSF free country, zone or compartment and have been prepared in a processing establishment approved by the Veterinary Authority for export purposes; or

2. have been processed in an establishment approved by the Veterinary Authority for export purposes so as to ensure the destruction of the CSF virus in conformity with one of the procedures referred to in Article 15.2.22. and that the necessary precautions were taken after processing to avoid contact of the product with any source of CSF virus.

Procedures for the inactivation of the CSF virus in swill

For the inactivation of CSF viruses likely to be present in swill, one of the following procedures should be used:

1. the swill should be maintained at a temperature of at least 90°C for at least 60 minutes, with continuous stirring; or

2. the swill should be maintained at a temperature of at least 121°C for at least 10 minutes at an absolute pressure of 3 bar.

Procedures for the inactivation of the CSF virus in meat

For the inactivation of viruses present in meat, one of the following procedures should be used:

1. Heat treatment

   Meat shall be subjected to one of the following treatments:

   a) heat treatment in a hermetically sealed container with a Fo value of 3.00 or more;

   b) heat treatment at a minimum temperature of 70°C, which should be reached throughout the meat.

2. Natural fermentation and maturation

   The meat should be subjected to a treatment consisting of natural fermentation and maturation having the following characteristics:

   a) an aw value of not more than 0.93, or

   b) a pH value of not more than 6.0.

   Hams should be subjected to a natural fermentation and maturation process for at least 190 days and loins for 140 days.
3. Dry cured pork meat
   a) Italian style hams with bone-in should be cured with salt and dried for a minimum of 313 days.
   b) Spanish style pork meat with bone-in should be cured with salt and dried for a minimum of 252 days for Iberian hams, 140 days for Iberian shoulders, 126 days for Iberian loin, and 140 days for Serrano hams.

Article 15.2.22.

Procedures for the inactivation of the CSF virus in skins and trophies

For the inactivation of CSF viruses likely to be present in skins and trophies, one of the following procedures should be used:
1. boiling in water for an appropriate time so as to ensure that any matter other than bone, tusks or teeth is removed;
2. gamma irradiation at a dose of at least 20 kiloGray at room temperature (20°C or higher);
3. soaking, with agitation, in a 4% (w/v) solution of washing soda (sodium carbonate - \( \text{Na}_2\text{CO}_3 \)) maintained at pH 11.5 or above for at least 48 hours;
4. soaking, with agitation, in a formic acid solution (100 kg salt \([\text{NaCl}]\) and 12 kg formic acid per 1,000 litres water) maintained at below pH 3.0 for at least 48 hours; wetting and dressing agents may be added;
5. in the case of raw hides, salting for at least 28 days with sea salt containing 2% washing soda (sodium carbonate - \( \text{Na}_2\text{CO}_3 \)).

Article 15.2.23.

Surveillance: introduction

Articles 15.2.23. to 15.2.28. define the principles and provide a guide on the surveillance for CSF, complementary to Chapter 1.4., applicable to Members seeking to determine their CSF status. This may be for the entire country or a zone. Guidance for Members seeking free status following an outbreak and for the maintenance of CSF status is also provided.

The impact and epidemiology of CSF differ widely in different regions of the world, and it is, therefore, impossible to provide specific recommendations for all situations. The surveillance strategies employed for demonstrating freedom from CSF at an acceptable level of confidence will need to be adapted to the local situation. For example, the approach should be tailored in order to prove freedom from CSF for a country or zone where wild pigs provide a potential reservoir of infection, or where CSF is present in adjacent countries. The method should examine the epidemiology of CSF in the region concerned and adapt to the specific risk factors encountered. This should include provision of scientifically based supporting data. There is, therefore, latitude available to Members to provide a well-reasoned argument to prove that absence of classical swine fever virus (CSFV) infection is assured at an acceptable level of confidence.

Surveillance for CSF should be in the form of a continuing programme designed to establish that a population in a country, zone or compartment is free from CSFV infection or to detect the introduction of CSFV into a population already recognized as free. Consideration should be given to the specific characteristics of CSF epidemiology which include: the role of swill feeding and the
impact of different production systems on disease spread, the role of semen in transmission of the virus, the lack of pathognomonic gross lesions and clinical signs, the frequency of clinically inapparent infections, the occurrence of persistent and chronic infections, and the genotypic, antigenic, and virulence variability exhibited by different strains of CSFV. Serological cross-reactivity with other pestiviruses has to be taken into consideration when interpreting data from serological surveys. A common route by which ruminant pestiviruses can infect pigs is the use of vaccines contaminated with bovine viral diarrhoea virus (BVDV).

For the purposes of this chapter, virus infection means presence of CSFV as demonstrated directly by virus isolation, the detection of virus antigen or virus nucleic acid, or indirectly by seroconversion which is not the result of vaccination.

**Article 15.2.24.**

**Surveillance: general conditions and methods**

1. A surveillance system in accordance with Chapter 1.4. should be under the responsibility of the Veterinary Authority. A procedure should be in place for the rapid collection and transport of samples to an accredited laboratory as described in the *Terrestrial Manual.*

2. The CSF surveillance programme should:

   a) include an early warning system throughout the production, marketing and processing chain for reporting suspicious cases. Farmers and workers, who have day-to-day contact with livestock, as well as diagnosticians, should report promptly any suspicion of CSF to the Veterinary Authority. They should be supported directly or indirectly (e.g. through private veterinarians or veterinary para-professionals) by government information programmes and the Veterinary Authority. Since many strains of CSFV do not induce pathognomonic gross lesions or clinical signs, cases in which CSF cannot be ruled out should be immediately investigated employing clinical, pathological, and laboratory diagnosis. This requires that sampling kits and other equipment are available to those responsible for surveillance. Personnel responsible for surveillance should be able to call for assistance from a team with expertise in CSF diagnosis, epidemiological evaluation, and control;

   b) implement, when relevant, regular and frequent clinical inspections and serological testing of high-risk groups of animals (for example, where swill feeding is practised), or those adjacent to a CSF infected country or zone (for example, bordering areas where infected wild pigs are present).

An effective surveillance system will periodically identify suspicious cases that require follow-up and investigation to confirm or exclude that the cause of the condition is CSFV. The rate at which such suspicious cases are likely to occur will differ between epidemiological situations and cannot, therefore, be reliably predicted. Recognitions for freedom from CSFV infection should, as a consequence, provide details of the occurrence of suspicious cases and how they were investigated and dealt with. This should include the results of laboratory testing and the control measures to which the animals concerned were subjected during the investigation (quarantine, movement standstill orders, etc.).
Article 15.2.25.

Surveillance strategies

1. Introduction

There are two basic strategies that can be employed for CSF surveillance depending on the purpose of the Member for seeking recognition of freedom from CSF. In countries free of CSF, surveillance programmes should be designed to detect the introduction of CSFV into domestic or wild swine. The optimal strategy to meet this objective is most often targeted surveillance.

The population covered by surveillance aimed at detecting disease and infection should include domestic and wild pig populations within the country or zone to be recognised as free from CSFV infection. Such surveillance may involve opportunistic testing of samples submitted for other purposes, but a more efficient and effective strategy is one which includes targeted surveillance.

Surveillance is targeted to the pig population which presents the highest risk of infection (for example, swill fed farms, pigs reared outdoors or farms in proximity to infected wild pigs). Each Member will need to identify its individual risk factors. These may include: temporal and spatial distribution of past outbreaks, pig movements and demographics, etc.

For reasons of cost, the longevity of antibody levels, as well as the existence of clinically inapparent infections and difficulties associated with differential diagnosis of other diseases, serology is often the most effective and efficient surveillance methodology. In some circumstances, which will be discussed later, clinical and virological surveillance may also have value.

The Member should justify the surveillance strategy chosen as adequate to detect the presence of CSFV infection in accordance with Chapter 1.4. and the epidemiological situation. Cumulative survey results in combination with the results of passive surveillance, over time, will increase the level of confidence in the surveillance strategy. If a Member wishes to apply for recognition by other Members of a specific zone within the country as being free from CSFV infection, the design of the surveillance strategy and the basis for any sampling process would need to be aimed at the population within the zone.

For random surveys, the design of the sampling strategy will need to incorporate epidemiologically appropriate design prevalence. The sample size selected for testing will need to be large enough to detect infection if it were to occur at a predetermined minimum rate. The sample size and expected disease prevalence determine the level of confidence in the results of the survey. The Member should justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter 1.4. Selection of the design prevalence in particular clearly needs to be based on the prevailing or historical epidemiological situation.

Irrespective of the survey design selected, the sensitivity and specificity of the diagnostic tests employed are factors in the design, sample size determination and interpretation of the results obtained. Ideally, the sensitivity and specificity of the tests used should be validated for the vaccination/infection history and production class of animals in the target population.

Irrespective of the testing system employed, the surveillance system design should anticipate the occurrence of false positive reactions. This is especially true of the serological diagnosis of CSF because of the recognized cross-reactivity with ruminant pestiviruses. There needs to be an effective procedure for following up positives to ultimately determine with a high level of confidence, whether or not they are indicative of CSFV infection. This should involve
confirmatory and differential tests for pestiviruses, as well as further investigations concerning
the original sampling unit as well as animals which may be epidemiologically linked.

2. Clinical and virological surveillance

Beyond their role in targeted surveillance, clinical and virological surveillance for CSF has
two aims: a) to shorten the period between introduction of CSF virus into a disease free
country or zone and its detection, and b) to confirm that no unnoticed outbreaks have
occurred.

In the past, clinical identification of cases was the cornerstone of early detection of CSF.
However, emergence of low virulence strains of CSF, as well as new diseases - such as
post-weaning multisystemic wasting syndrome and porcine dermatitis and nephropathy
syndrome - have made such reliance less effective, and, in countries where such diseases
are common, can add significant risk of masking the presence of CSF.

The spectrum of disease signs and gross pathology seen in CSF infections, along with the
plethora of other agents that can mimic CSF, renders the value of clinical examination alone
somewhat inefficient as a surveillance tool. These factors, along with the compounding effects
of concurrent infections and diseases caused by ruminant pestiviruses, dictate the need for
laboratory testing in order to clarify the status of CSF suspects detected by clinical
monitoring.

Nevertheless, clinical presentation should not be ignored as a tool for early detection; in
particular, any cases where clinical signs or lesions consistent with CSF are accompanied by
high morbidity and/or mortality should be investigated without delay. In CSFV infections
involving low virulence strains, high mortality may only be seen in young animals. Otherwise
close physical examination of susceptible animals is useful as a selection criteria for CSF
surveillance, particularly in diagnostic laboratories or slaughter establishments or when
applied to high risk populations such as swill feeding operations.

The difficulties in detecting chronic disease manifested by non-specific clinical signs and
delayed seroconversion and seronegativity, in persistently infected piglets, both of which may
be clinically normal, makes virological investigation essential. As part of a herd investigation,
such animals are likely to be in a minority and would not confound a diagnosis based on
serology. Individually or as part of recently mixed batches, such animals may, however,
escape detection by this method. A holistic approach to investigation, taking note of herd
history, pig, personnel and vehicle movements and disease status in neighbouring zones or
countries, can also assist in targeting surveillance in order to increase efficiency and enhance
the likelihood of early detection.

The labour-intensive nature of clinical, pathological and virological investigations, along with
the smaller ‘window of opportunity’ inherent in virus, rather than antibody detection, has, in
the past, resulted in greater emphasis being placed on mass serological screening as the best
method for surveillance. However, surveillance based on clinical and pathological inspection
and virological testing should not be underrated. If targeted at high risk groups in particular,
it provides an opportunity for early detection that can considerably reduce the subsequent
spread of disease. Herds predominated by adult animals, such as nucleus herds and artificial
insemination studs, are particularly useful groups to monitor, since infection by low virulence
viruses in such groups may be clinically inapparent, yet the degree of spread may be high.

Clinical and virological monitoring may also provide a high level of confidence of rapid
detection of disease if a sufficiently large number of clinically susceptible animals is examined.
In particular, molecular detection methods are increasingly able to offer the possibility of such
large-scale screening for the presence of virus, at reasonable cost.
Wild pigs and, in particular, those with a wholly free-living existence, rarely present the opportunity for clinical observation, but should form part of any surveillance scheme and should, ideally, be monitored for virus as well as antibody.

Vaccine design and diagnostic methodologies, and in particular methods of virus detection, are increasingly reliant on up-to-date knowledge of the molecular, antigenic and other biological characteristics of viruses currently circulating and causing disease. Furthermore, epidemiological understanding of the pathways of spread of CSFV can be greatly enhanced by molecular analyses of viruses in endemic areas and those involved in outbreaks in disease free areas. It is therefore essential that CSFV isolates are sent regularly to the regional OIE Reference Laboratory for genetic and antigenic characterisation.

3. Serological surveillance

Serological surveillance aims at detecting antibodies against CSFV. Positive CSFV antibody test results can have five possible causes:

a) natural infection with CSFV;

b) legal or illegal vaccination against CSF;

c) maternal antibodies derived from an immune sow (maternal antibodies) are usually found only up to 4.5 months of age, but, in some individuals, maternal antibodies can be detected for considerably longer periods;

d) cross-reactions with other pestiviruses;

e) non-specific reactors.

The infection of pigs with other pestiviruses may complicate a surveillance strategy based on serology. Antibodies to bovine viral diarrhoea virus (BVDV) and Border disease virus (BDV) can give positive results in serological tests for CSF, due to common antigens. Such samples will require differential tests to confirm their identity. Although persistently infected immunotolerant pigs are themselves seronegative, they continuously shed virus, so the prevalence of antibodies at the herd level will be high. Chronically infected pigs may have undetectable or fluctuating antibody levels.

It may be possible to use sera collected for other survey purposes for CSF surveillance. However, the principles of survey design described in this chapter and the requirement for statistical validity should not be compromised.

The discovery of clustering of seropositive reactions should be foreseen. It may reflect any of a series of events, including but not limited to the demographics of the population sampled, vaccinal exposure or the presence of infection by field strains or other pestiviruses. Because clustering may signal field strain infection, the investigation of all instances should be incorporated in the survey design. Clustering of positive animals is always epidemiologically significant and therefore should be investigated.

In countries or zones that are moving towards freedom, serosurveillance can provide valuable information on the disease status and efficacy of any control programme. Targeted serosurveillance of young stock will indicate whether newly circulating virus is present, although the presence of maternal antibody will also need to be considered. If conventional attenuated vaccine is currently being used or has been used in the recent past, serology aimed at detecting the presence of field virus will likewise need to be targeted at unvaccinated animals and after the disappearance of maternal antibody. General usage in such situations may also be used to assess levels of vaccine coverage.

Vaccines also exist which, when used in conjunction with dedicated serological tests, may allow discrimination between vaccinal antibody and that induced by field infection. Such
tools, described in the *Terrestrial Manual*, will need to be fully validated. They do not confer the same degree of protection as that provided by conventional vaccines, particularly with respect to preventing transplacental *infections*. Furthermore, serosurveillance using such differentiation requires cautious interpretation on a *herd* basis.

The results of random or targeted serological surveys are important in providing reliable evidence that no CSFV infection is present in a country or *zone*. It is therefore essential that the survey be thoroughly documented.

The free status should be reviewed whenever evidence emerges to indicate that changes which may alter the underlying assumption of continuing freedom, has occurred. Such changes include but are not limited to:

a) an emergence or an increase in the prevalence of CSF in countries or *zones* from which live pigs or products are imported;

b) an increase in the volume of imports or a change in their country or *zone* of origin;

c) an increase in the prevalence of CSF in the domestic or wild pigs of adjacent countries or *zones*;

d) an increased entry from, or exposure to, infected wild pig populations of adjacent countries or *zones*.

**Article 15.2.26.**

**Countries, zones or compartments declaring freedom from CSF: additional surveillance procedures**

1. **Country or zone free of CSF**

   In addition to the general conditions described above, a Member seeking recognition of CSF freedom for the country or a *zone*, whether or not vaccination had been practised, should provide evidence for the existence of an effective *surveillance* programme. The strategy and design of the *surveillance* programme will depend on the prevailing epidemiological circumstances in and around the country or *zone* and will be planned and implemented according to the general conditions and methods described in this chapter, to demonstrate the absence of CSFV infection in domestic and wild pig populations. This requires the support of a national or other *laboratory* able to undertake identification of CSFV infection through virus detection and serological tests described in the *Terrestrial Manual*.

2. **Compartment free of CSF**

   The objective of *surveillance* is to demonstrate the absence of CSFV infection in the *compartment*. The provisions of Chapter 4.3. should be followed. The effective separation of the two subpopulations should be demonstrated. To this end, a *biosecurity plan* that includes but is not limited to the following provisions should be implemented:

   a) proper containment of domestic pigs;
   
   b) control of movement of *vehicles* with cleaning and disinfection as appropriate;
   
   c) control of personnel entering into the *establishments* and awareness of risk of fomite spread;
   
   d) prohibition of introduction to the *establishments* of wild caught *animals* and their products;
   
   e) record of animal movements into and out of *establishments*.
f) information and training programmes for farmers, processors, veterinarians, etc.

The biosecurity plan implemented also requires internal and external monitoring by the Veterinary Authority. This monitoring should include:

g) periodic clinical and serological monitoring of herds in the country or zone, and adjacent wild pig populations following these recommendations;

h) herd registration;

i) official accreditation of biosecurity plans;

j) periodic monitoring and review.

Monitoring the CSF status of wild and domestic pig populations outside the compartment will be of value in assessing the degree of risk they pose to the CSF free compartment. The design of a monitoring system is dependent on several factors such as the size and distribution of the population, the organisation of the Veterinary Services and resources available. The occurrence of CSF in wild and domestic pigs may vary considerably among countries. Surveillance design should be epidemiologically based, and the Member should justify its choice of design prevalence and level of confidence based on Chapter 1.4.

The geographic distribution and approximate size of wild pig populations need to be assessed as a prerequisite for designing a monitoring system. Sources of information may include government wildlife authorities, wildlife conservation organisations, hunter associations and other available sources. The objective of a surveillance programme when the disease is already known to exist should be to determine the geographic distribution and the extent of the infection.

Article 15.2.27.

Recovery of free status: additional surveillance procedures

In addition to the general conditions described in the above-mentioned articles, a Member seeking reestablishment of country or zone freedom from CSF should show evidence of an active surveillance programme to demonstrate absence of CSFV infection.

Populations under this surveillance programme should include:

a) establishments in the proximity of the outbreak;

b) establishments epidemiologically linked to the outbreak;

c) animals used to re-populate affected establishments and any establishments where contiguous culling is carried out;

d) wild pig populations in the area of the outbreak.

In all circumstances, a Member seeking reestablishment of country or zone freedom from CSF with vaccination or without vaccination should report the results of an active and a passive surveillance programme in which the pig population undergoes regular clinical, pathological, virological, and/or serological examination, planned and implemented according to the general conditions and methods described in these recommendations. The surveillance should be based on a statistically representative sample of the populations at risk.
### Article 15.2.28.

**Surveillance for CSF in wild pigs**

1. While the same principles apply, surveillance in wild pigs presents challenges beyond those encountered in domestic populations in each of the following areas:
   
   a) determination of the distribution, size and movement patterns associated with the wild pig population;
   
   b) assessment of the possible presence of CSF within the population;
   
   c) determination of the practicability of establishing a zone.

2. The design of a monitoring system for wild pigs is dependent on several factors such as the organisation of the Veterinary Services and resources available. The geographic distribution and approximate size of wild pig populations need to be assessed as a prerequisite for designing a monitoring system. Sources of information may include wildlife conservation organisations, hunter associations and other available sources. The objective of a surveillance programme is to determine if a given disease is present, and if so, at what prevalence.

3. Estimates of wild pig populations can be made using advanced methods (e.g. radio tracking, linear transect method, capture/recapture) or traditional methods based on the number of animals that can be hunted to allow for natural restocking (hunting bags).

4. For implementation of the monitoring programme, it will be necessary to define the limits of the territory over which wild pigs range in order to delineate the epidemiological units within the monitoring programme. It is often difficult to define epidemiological units for wild animals. The most practical approach is based on natural and artificial barriers.

5. The monitoring programme should also include animals found dead, road kills, animals showing abnormal behaviour or exhibiting gross lesions during dressing.

6. There may be situations where a more targeted surveillance programme can provide additional assurance. The criteria to define high risk areas for targeted surveillance include:
   
   a) areas with past history of CSF;
   
   b) sub-regions with large populations of wild pigs;
   
   c) border regions with CSF affected countries or zones;
   
   d) interface between wild and domestic pig populations;
   
   e) picnic and camping areas;
   
   f) farms with free-ranging pigs;
   
   g) garbage dumps;
   
   h) other risk areas determined by the Veterinary Authority.
CHAPTER 15.3.

PORCINE BRUCELLOSIS

Article 15.3.1.

General provisions

Standards for diagnostic tests are described in the *Terrestrial Manual*.

Article 15.3.2.

Herd free from porcine brucellosis

To qualify as free from porcine brucellosis, a herd of pigs shall satisfy the following requirements:

1. it is under *official veterinary control*;
2. it contains no animal found to be infected with porcine brucellosis during the past 3 years; all suspected cases are subjected to laboratory investigation;
3. all cattle kept in the same establishment are officially free or free from brucellosis.

Article 15.3.3.

Recommendations for the importation of pigs for breeding or rearing

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the animals:

1. showed no clinical sign of porcine brucellosis on the day of shipment;
2. were kept in a herd free from porcine brucellosis;
3. were subjected to a diagnostic test for porcine brucellosis with negative results during the 30 days prior to shipment.

Article 15.3.4.

Recommendations for the importation of pigs for slaughter

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that the animals:

1. were kept in a herd free from porcine brucellosis; or
2. are not being eliminated as part of an eradication programme against porcine brucellosis.
Article 15.3.5.

**Recommendations for the importation of semen of pigs**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor animals showed no clinical sign of porcine brucellosis on the day of collection of the semen;
2. the donor animals were kept in a *herd* free from porcine brucellosis;
3. the donor animals were subjected to a diagnostic test for porcine brucellosis with negative results during the 30 days prior to collection;
4. the semen does not contain *Brucella* agglutinins;
5. the donor animals were kept in the *exporting country*, for the 60 days prior to collection, in an *establishment or artificial insemination centre* where the *herd* is free from porcine brucellosis;
6. the semen was collected, processed and stored in conformity with the provisions of chapters 4.5. and 4.6.
CHAPTER 15.4.

SWINE VESICULAR DISEASE

Article 15.4.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for swine vesicular disease (SVD) shall be 28 days.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 15.4.2.

SVD free country

A country may be considered free from SVD when it has been shown that SVD has not been present for at least the past 2 years.

This period may be 9 months for countries in which a stamping-out policy is practised.

Article 15.4.3.

SVD infected zone

A zone shall be considered as infected with SVD until:

1. at least 60 days have elapsed after the confirmation of the last case and the completion of a stamping-out policy and disinfection procedures, or

2. 12 months have elapsed after the clinical recovery or death of the last affected animal if a stamping-out policy was not practised.

Article 15.4.4.

Trade in commodities

Veterinary Authorities of SVD free countries may prohibit importation or transit through their territory, from countries considered infected with SVD, of the following commodities:

1. domestic and wild pigs;
2. semen of pigs;
3. fresh meat of domestic and wild pigs;
4. meat products of domestic and wild pigs which have not been processed to ensure the destruction of the SVD virus;
5. products of animal origin (from pigs) intended for use in animal feeding or for agricultural or industrial use which have not been processed to ensure the destruction of the SVD virus;
6. products of animal origin (from pigs) intended for pharmaceutical or surgical use which have not been processed to ensure the destruction of the SVD virus;
7. pathological material and biological products (from pigs) which have not been processed to ensure the destruction of the SVD virus.

Article 15.4.5.

Recommendations for importation from SVD free countries
for domestic pigs
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of SVD on the day of shipment;
2. were kept in an SVD free country since birth or for at least the past 6 weeks.

Article 15.4.6.

Recommendations for importation from SVD free countries
for wild pigs
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of SVD on the day of shipment;
2. come from an SVD free country;
if the country of origin has a common border with a country considered infected with SVD:
3. were kept in a quarantine station for the 6 weeks prior to shipment.

Article 15.4.7.

Recommendations for importation from countries considered infected with SVD
for domestic pigs
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of SVD on the day of shipment;
2. were kept since birth, or for the past 6 weeks, in an establishment where no case of SVD was officially reported during that period, and that the establishment was not situated in an SVD infected zone;
3. were kept in a quarantine station for the 28 days prior to shipment, and were subjected to the virus neutralisation test for SVD with negative results during that period.

Article 15.4.8.

Recommendations for importation from countries considered infected with SVD
for wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of SVD on the day of shipment;
2. were kept in a quarantine station for the 28 days prior to shipment, and were subjected to the virus neutralisation test for SVD with negative results during that period.

Article 15.4.9.

Recommendations for importation from SVD free countries

for semen of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) showed no clinical sign of SVD on the day of collection of the semen;
   b) were kept in an SVD free country for not less than 6 weeks prior to collection;
2. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5. and 4.6.

Article 15.4.10.

Recommendations for importation from countries considered infected with SVD

for semen of pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the donor animals:
   a) showed no clinical sign of SVD on the day of collection of the semen, and were subjected to the virus neutralisation test for SVD with negative results;
   b) were kept in the exporting country for the 28 days prior to collection, in an establishment or artificial insemination centre where no case of SVD was officially reported during that period, and that the establishment or artificial insemination centre was not situated in an SVD infected zone;
2. the semen was collected, processed and stored in conformity with the provisions of chapters 4.5. and 4.6.

Article 15.4.11.

Recommendations for importation from SVD free countries
for fresh meat of pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the entire consignment of _fresh meat_ comes from _animals_ which:

1. have been kept in an SVD free country since birth or for at least the past 28 days;
2. have been slaughtered in an approved _abattoir_, and have been subjected to ante-mortem and post-mortem inspections for SVD with favourable results.

Article 15.4.12.

Recommendations for importation from countries considered infected with SVD

for fresh meat of pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the entire consignment of _fresh meat_ comes from _animals_ which:

1. have not been kept in an SVD infected zone;
2. have been slaughtered in an approved _abattoir_ not situated in an SVD infected zone, and have been subjected to ante-mortem and post-mortem inspections for SVD with favourable results.

Article 15.4.13.

Recommendations for importation from countries considered infected with SVD

for meat products of pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that:

1. the entire consignment of _meat products_ comes from _animals_ which have been slaughtered in an approved _abattoir_ and have been subjected to ante-mortem and post-mortem inspections for SVD with favourable results;
2. the _meat products_ have been processed to ensure the destruction of the SVD virus;
3. the necessary precautions were taken after processing to avoid contact of the _meat_ with any source of SVD virus.

Article 15.4.14.

Recommendations for importation from SVD free countries

for products of animal origin (from pigs) intended for use in animal feeding or for agricultural or industrial use

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that these products come from _animals_ which have been kept in an SVD free country since birth or for at least the past 6 weeks.

Article 15.4.15.
for products of animal origin (from pigs) intended for pharmaceutical or surgical use

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products come from *animals* which:

1. have been kept in an SVD free country since birth or for at least the past 6 weeks;
2. have been slaughtered in an approved *abattoir*, and have been subjected to ante-mortem and post-mortem inspections for SVD with favourable results.

*Article 15.4.16.*

**Recommendations for importation from countries considered infected with SVD**

for meal and flour from blood, meat, defatted bones, hooves and claws (from pigs)

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products have been processed to ensure the destruction of the SVD virus.

*Article 15.4.17.*

**Recommendations for importation from countries considered infected with SVD**

for bristles (from pigs)

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products have been processed to ensure the destruction of the SVD virus, in premises controlled and approved by the *Veterinary Authority* of the *exporting country*.

*Article 15.4.18.*

**Recommendations for importation from countries considered infected with SVD**

for fertilisers of animal origin (from pigs)

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products:

1. do not come from an SVD *infected zone*; or
2. have been processed to ensure the destruction of the SVD virus.

*Article 15.4.19.*

**Recommendations for importation from countries considered infected with SVD**

for products of animal origin (from pigs) intended for pharmaceutical or surgical use

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products:

1. have been processed to ensure the destruction of the SVD virus;
2. come from *animals* which have not been kept in an SVD *infected zone*;
3. come from animals which have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for SVD with favourable results.
CHAPTER 15.5.

TESCHOVIRUS ENCEPHALOMYELITIS
(previously enterovirus encephalomyelitis, Teschen disease, Talfan disease) (under study)

Article 15.5.1.

General provisions

For the purposes of the Terrestrial Code, the incubation period for teschovirus encephalomyelitis shall be 40 days.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.

Article 15.5.2.

Teschovirus encephalomyelitis free country

A country may be considered free from teschovirus encephalomyelitis when it has been shown that teschovirus encephalomyelitis has not been present for at least the past 3 years.

This period shall be 6 months after the slaughter of the last affected animal for countries in which a stamping-out policy is practised with or without vaccination against teschovirus encephalomyelitis.

Article 15.5.3.

Teschovirus encephalomyelitis infected zone

A zone shall be considered as infected with teschovirus encephalomyelitis until:

1. at least 40 days have elapsed after the confirmation of the last case and the completion of a stamping-out policy and disinfection procedures, or
2. 6 months have elapsed after the clinical recovery or death of the last affected animal if a stamping-out policy was not practised.

Article 15.5.4.

Recommendations for importation from teschovirus encephalomyelitis free countries

for domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of teschovirus encephalomyelitis on the day of shipment;
2. were kept in a country free from teschovirus encephalomyelitis since birth or for at least the past 40 days.
Article 15.5.5.

Recommendations for importation from teschovirus encephalomyelitis free countries for wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of teschovirus encephalomyelitis on the day of shipment;
2. come from a country free from teschovirus encephalomyelitis;
if the country of origin has a common border with a country considered infected with teschovirus encephalomyelitis:
3. were kept in a quarantine station for the 40 days prior to shipment.

Article 15.5.6.

Recommendations for importation from countries considered infected with teschovirus encephalomyelitis for domestic pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of teschovirus encephalomyelitis on the day of shipment;
2. were kept since birth, or for the past 40 days, in an establishment where no case of teschovirus encephalomyelitis was officially reported during that period, and that the establishment of origin was not situated in a teschovirus encephalomyelitis infected zone; or
3. were kept in a quarantine station for the 40 days prior to shipment;
4. have not been vaccinated against teschovirus encephalomyelitis; or
5. were vaccinated against teschovirus encephalomyelitis, not less than 30 days and not more than one year prior to shipment (the nature of the vaccine used, whether inactivated or modified live virus, and the virus types and strains included shall also be stated in the certificate).

Article 15.5.7.

Recommendations for importation from countries considered infected with teschovirus encephalomyelitis for wild pigs

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the animals:
1. showed no clinical sign of teschovirus encephalomyelitis on the day of shipment;
2. were kept in a quarantine station for the 40 days prior to shipment;
3. have not been vaccinated against teschovirus encephalomyelitis; or
4. were vaccinated against teschovirus encephalomyelitis, not less than 30 days and not more than one year prior to shipment (the nature of the vaccine used, whether inactivated or modified live virus, and the virus types and strains included shall also be stated in the certificate).
Article 15.5.8.

Recommendations for importation from teschovirus encephalomyelitis free countries

for semen of pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the donor _animals_:

1. showed no clinical sign of teschovirus encephalomyelitis on the day of collection of the semen;
2. were kept in a country free from teschovirus encephalomyelitis for not less than 40 days prior to collection.

Article 15.5.9.

Recommendations for importation from countries considered infected with teschovirus encephalomyelitis

for semen of pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the donor _animals_:

1. showed no clinical sign of teschovirus encephalomyelitis on the day of collection of the semen;
2. were kept in the _exporting country_, for the 40 days prior to collection, in an _establishment_ or _artificial insemination centre_ where no _case_ of teschovirus encephalomyelitis was officially reported during that period, and that the _establishment_ or _artificial insemination centre_ was not situated in a teschovirus encephalomyelitis _infected zone_.

Article 15.5.10.

Recommendations for importation from teschovirus encephalomyelitis free countries

for fresh meat of pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the entire consignment of _fresh meat_ comes from _animals_:

1. which have been kept in a country free from teschovirus encephalomyelitis since birth or for at least the past 40 days;
2. which have been slaughtered in an approved _abattoir_ and have been subjected to ante-mortem and post-mortem inspections for teschovirus encephalomyelitis with favourable results.

Article 15.5.11.

Recommendations for importation from countries considered infected with teschovirus encephalomyelitis

for fresh meat of pigs

_Veterinary Authorities_ should require the presentation of an _international veterinary certificate_ attesting that the entire consignment of _fresh meat_ comes from _animals_:

1. which have not been kept in a _teschovirus encephalomyelitis infected zone_;
2. which have been slaughtered in an approved abattoir not situated in a teschovirus encephalomyelitis infected zone and have been subjected to ante-mortem and post-mortem inspections for teschovirus encephalomyelitis with favourable results.

Article 15.5.12.

**Recommendations for importation from countries considered infected with teschovirus encephalomyelitis**

for meat products of pigs

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the entire consignment of meat products comes from animals which have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for teschovirus encephalomyelitis with favourable results;
2. the meat products have been processed to ensure the destruction of the teschovirus encephalomyelitis virus;
3. the necessary precautions were taken after processing to avoid contact of the meat with any source of teschovirus encephalomyelitis virus.

Article 15.5.13.

**Recommendations for importation from teschovirus encephalomyelitis free countries**

for products of animal origin (from pigs) intended for use in animal feeding or for agricultural or industrial use

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products come from animals which have been kept in a country free from teschovirus encephalomyelitis since birth or for at least the past 40 days.

Article 15.5.14.

**Recommendations for importation from countries considered infected with teschovirus encephalomyelitis**

for meal and flour from blood, meat, defatted bones, hooves and claws (from pigs)

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products have been processed using heat treatment to ensure the destruction of teschovirus encephalomyelitis virus.

Article 15.5.15.

**Recommendations for importation from countries considered infected with teschovirus encephalomyelitis**

for bristles

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that these products have been processed to ensure the destruction of teschovirus
encephalomyelitis virus, in premises controlled and approved by the Veterinary Authority of the exporting country.
CHAPTER 15.6.

TRANSMISSIBLE GASTROENTERITIS

Article 15.6.1.

General provisions

For the purposes of the Terrestrial Code, the infective period for transmissible gastroenteritis (TGE) shall be 40 days.

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 15.6.2.

Recommendations for the importation of pigs for breeding or rearing

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of TGE on the day of shipment;

AND EITHER

2. come from an establishment in which no case of TGE was reported during the 12 months prior to shipment;

and

3. showed negative results to a diagnostic test for TGE during the 30 days prior to shipment, and were kept isolated during this period;

OR

4. come from a country in which TGE is officially notifiable and no clinical case has been recorded in the previous 3 years.

Article 15.6.3.

Recommendations for the importation of pigs for slaughter

Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the animals:

1. showed no clinical sign of TGE on the day of shipment;

2. come from an establishment in which no case of TGE was officially reported during the 40 days prior to shipment.
Article 15.6.4.

**Recommendations for the importation of semen of pigs**

*Veterinary Authorities of importing countries* should require the presentation of an *international veterinary certificate* attesting that:

1. the donor animals showed no clinical sign of TGE on the day of collection of the semen;

AND EITHER

2. the donor animals have been resident for at least 40 days on an *artificial insemination centre*, and all the pigs on this *artificial insemination centre* were free from clinical signs of TGE during the 12 months prior to collection;

and

3. for fresh semen, the donor animals were subjected to a diagnostic test for TGE with negative results during the 30 days prior to collection;

4. for frozen semen, the donor animals were subjected to a diagnostic test for TGE with negative results at least 14 days after collection;

OR

5. the donor animals have been resident since birth in a country in which TGE is officially notifiable and no clinical *case* has been recorded in the previous 3 years;

and in all situations:

6. the semen was collected, processed and stored in conformity with the provisions of Chapters 4.5 and 4.6.
INDEX

Acarapisosis of honey bees (Vol. 2) 531
  Disease control recommendations (Vol. 2) 531
  Recommendations for trade in commodities (Vol. 2) 533
Aethina tumida (Vol. 2) 541
African horse sickness (Vol. 1) 12, (Vol. 2) 669
  Disease control recommendations (Vol. 2) 669
  Recommendations for trade in commodities (Vol. 2) 670
  Surveillance (Vol. 2) 674
African swine fever (Vol. 1) 12, (Vol. 2) 737
  Disease control recommendations (Vol. 2) 737
  Recommendations for trade in commodities (Vol. 2) 738
Agreement on the Application of Sanitary and Phytosanitary Measures (Vol. 1) 181
Alternative and prescribed diagnostic tests (Vol. 1) 19
American foulbrood of honey bees (Vol. 2) 534
  Disease control recommendations (Vol. 2) 534
  Recommendations for trade in commodities (Vol. 2) 536
Animal feed (Vol. 1) 247
Animal health surveillance (Vol. 1) 14
Animal welfare
  Introduction (Vol. 1) 301
  Killing for disease control purposes (Vol. 1) 374
  Slaughter (Vol. 1) 347
  Stray dog population control (Vol. 1) 403
  Transport by air (Vol. 1) 338
  Transport by land (Vol. 1) 320
  Transport by sea (Vol. 1) 303
  Use of animals for research and education (Vol. 1) 420
Anthrax (Vol. 2) 433
  Disease control recommendations (Vol. 2) 433
  Recommendations for trade in commodities (Vol. 2) 433
Antimicrobial resistance
  Harmonisation of national antimicrobial resistance surveillance and monitoring programmes (Vol. 1) 267
  Introduction (Vol. 1) 266
  Monitoring of the quantities of antimicrobials used in animal husbandry (Vol. 1) 274
  Responsible and prudent use of antimicrobial agents in veterinary medicine (Vol. 1) 277
  Risk assessment for antimicrobial resistance (Vol. 1) 287
Artificial insemination
  Bovines (Vol. 1) 123
  General hygiene in semen collection and processing centres (Vol. 1) 120
  Pigs (Vol. 1) 123
  Small ruminants (Vol. 1) 123
Aujeszky’s disease (Vol. 1) 11, (Vol. 2) 438
  Disease control recommendations (Vol. 2) 438
  Recommendations for trade in commodities (Vol. 2) 442
Avian chlamydiosis (Vol. 2) 551
  Disease control recommendations (Vol. 2) 551
  Recommendations for trade in commodities (Vol. 2) 551
Avian infectious bronchitis (Vol. 1) 13, (Vol. 2) 552
  Disease control recommendations (Vol. 2) 552
Index

Recommendations for trade in commodities

Avian infectious laryngotracheitis
- Disease control recommendations
- Recommendations for trade in commodities

Avian influenza
- Disease control recommendations
- Inactivation of pathogenic agents
- Recommendations for trade in commodities
- Surveillance

Avian mycoplasmosis
- Disease control recommendations
- Recommendations for trade in commodities

Avian tuberculosis
- Disease control recommendations
- Recommendations for trade in commodities

Bluetongue
- Disease control recommendations
- Recommendations for trade in commodities
- Surveillance

Bovine anaplasmosis
- Disease control recommendations
- Recommendations for trade in commodities

Bovine babesiosis
- Disease control recommendations
- Recommendations for trade in commodities

Bovine brucellosis
- Disease control recommendations
- Recommendations for trade in commodities

Bovine genital campylobacteriosis
- Disease control recommendations
- Recommendations for trade in commodities

Bovine spongiform encephalopathy
- Disease control recommendations
- Inactivation of pathogenic agents
- Recommendations for trade in commodities
- Risk assessment
- Surveillance

Bovine tuberculosis
- Disease control recommendations
- Recommendations for trade in commodities

Bovine tuberculosis in farmed cervidae
- Disease control recommendations
- Recommendations for trade in commodities

Bovine viral diarrhoea-mucosal disease
- Disease control recommendations
- Recommendations for trade in commodities

Caprine and ovine brucellosis (excluding Brucella ovis)
- Disease control recommendations
- Recommendations for trade in commodities

Caprine arthritis/encephalitis
- Disease control recommendations
- Recommendations for trade in commodities

Certification
- General obligations
- Procedures
Chrysomya bezziana (Vol. 2) 495
Classical swine fever (Vol. 1) 12, (Vol. 2) 744
  Disease control recommendations (Vol. 2) 744
  Inactivation of pathogenic agents (Vol. 2) 751, (Vol. 2) 752
  Recommendations for trade in commodities (Vol. 2) 745
  Surveillance (Vol. 2) 752
Cochliomyia hominivorax (Vol. 2) 494
Compartmentalisation (Vol. 1) 114
  Application of compartmentalisation (Vol. 1) 114
  General principles (Vol. 1) 109
Contagious agalactia (Vol. 2) 710
  Recommendations for trade in commodities (Vol. 2) 710
Contagious bovine pleuropneumonia (Vol. 1) 11, (Vol. 2) 643
  Disease control recommendations (Vol. 2) 643
  Recommendations for trade in commodities (Vol. 2) 644
  Surveillance (Vol. 2) 647
Contagious caprine pleuropneumonia (Vol. 1) 12, (Vol. 2) 711
  Disease control recommendations (Vol. 2) 711
  Recommendations for trade in commodities (Vol. 2) 711
Contagious equine metritis (Vol. 1) 12, (Vol. 2) 679
  Disease control recommendations (Vol. 2) 679
  Recommendations for trade in commodities (Vol. 2) 679
Criteria for listing diseases (Vol. 1) 4
Definitions (Vol. 1) xiii
Disinfection (Vol. 1) 170, (Vol. 1) 172, (Vol. 1) 199, (Vol. 1) 254, (Vol. 1) 344
Disinestatation (Vol. 1) 170, (Vol. 1) 200, (Vol. 1) 344
Disposal of dead animals (Vol. 1) 162
Dispute mediation (Vol. 1) 188
Dourine (Vol. 1) 12, (Vol. 2) 680
  Disease control recommendations (Vol. 2) 680
  Recommendations for trade in commodities (Vol. 2) 680
Duck virus enteritis (Vol. 2) 580
  Disease control recommendations (Vol. 2) 580
  Recommendations for trade in commodities (Vol. 2) 580
Duck virus hepatitis (Vol. 2) 582
  Disease control recommendations (Vol. 2) 582
  Recommendations for trade in commodities (Vol. 2) 582
Echinococcosis/hydatidosis (Vol. 2) 464
  Disease control recommendations (Vol. 2) 464
  Recommendations for trade in commodities (Vol. 2) 464
Embryos (Vol. 1) 137
  IETS Categorisation (Vol. 1) 137
  Laboratory rodents and rabbits (Vol. 1) 148
  Livestock and horses - in vitro fertilisation (Vol. 1) 140
  Livestock and horses - in vivo derived (Vol. 1) 132
  Livestock and horses - Micromanipulation (Vol. 1) 145
Enzootic abortion of ewes (Vol. 1) 12, (Vol. 2) 715
  Disease control recommendations (Vol. 2) 715
  Recommendations for trade in commodities (Vol. 2) 715
Enzootic bovine leukosis (Vol. 1) 11, (Vol. 2) 651
  Disease control recommendations (Vol. 2) 651
  Recommendations for trade in commodities (Vol. 2) 653
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemiological information</td>
<td>(Vol. 1) 1</td>
</tr>
<tr>
<td>Equine encephalomyelitis (Eastern and Western)</td>
<td>(Vol. 1) 12, (Vol. 2) 682</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 682</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 682</td>
</tr>
<tr>
<td>Equine infectious anaemia</td>
<td>(Vol. 1) 12, (Vol. 2) 683</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 683</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 683</td>
</tr>
<tr>
<td>Equine influenza</td>
<td>(Vol. 1) 12, (Vol. 2) 684</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 684</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 685</td>
</tr>
<tr>
<td>Equine piroplasmosis</td>
<td>(Vol. 1) 12, (Vol. 2) 687</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 687</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 687</td>
</tr>
<tr>
<td>Equine rhinopneumonitis</td>
<td>(Vol. 1) 12, (Vol. 2) 688</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 688</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 688</td>
</tr>
<tr>
<td>Equine viral arteritis</td>
<td>(Vol. 1) 12, (Vol. 2) 689</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 689</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 689</td>
</tr>
<tr>
<td>European foulbrood of honey bees</td>
<td>(Vol. 2) 537</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 537</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 538</td>
</tr>
<tr>
<td>Food safety</td>
<td>(Vol. 1) 244</td>
</tr>
<tr>
<td>Ante-mortem and post-mortem inspections</td>
<td>(Vol. 1) 239</td>
</tr>
<tr>
<td>Role of Veterinary Services</td>
<td></td>
</tr>
<tr>
<td>Foot and mouth disease</td>
<td>(Vol. 1) 11, (Vol. 2) 465</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 465</td>
</tr>
<tr>
<td>Inactivation of pathogenic agents</td>
<td>(Vol. 2) 481, (Vol. 2) 482</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 483</td>
</tr>
<tr>
<td>Surveillance</td>
<td>(Vol. 2) 472</td>
</tr>
<tr>
<td>Fowl cholera</td>
<td>(Vol. 2) 584</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 584</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 584</td>
</tr>
<tr>
<td>Fowl typhoid</td>
<td>(Vol. 1) 13</td>
</tr>
<tr>
<td>Glanders</td>
<td>(Vol. 1) 12, (Vol. 2) 692</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 692</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 692</td>
</tr>
<tr>
<td>Goat pox</td>
<td>(Vol. 1) 12</td>
</tr>
<tr>
<td>Haemorrhagic septicaemia</td>
<td>(Vol. 1) 11, (Vol. 2) 655</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 655</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 656</td>
</tr>
<tr>
<td>Hatchery buildings</td>
<td>(Vol. 1) 252</td>
</tr>
<tr>
<td>Heartwater</td>
<td>(Vol. 1) 11, (Vol. 2) 492</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 492</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 492</td>
</tr>
<tr>
<td>Hygiene and disease security procedures</td>
<td>(Vol. 1) 171</td>
</tr>
<tr>
<td>Apiaries</td>
<td>(Vol. 1) 251</td>
</tr>
<tr>
<td>Hatcheries</td>
<td>(Vol. 1) 251</td>
</tr>
<tr>
<td>Identification of live animals</td>
<td>(Vol. 1) 99, (Vol. 1) 101</td>
</tr>
<tr>
<td>Import/export</td>
<td>(Vol. 1) 189</td>
</tr>
<tr>
<td>Animal health measures at departure</td>
<td>(Vol. 1) 189</td>
</tr>
<tr>
<td>Animal health measures on arrival</td>
<td>(Vol. 1) 197</td>
</tr>
</tbody>
</table>
Control (Vol. 1) 195
Transit (Vol. 1) 192
Infectious bovine rhinotracheitis (Vol. 1) 11, (Vol. 2) 657
  Disease control recommendations (Vol. 2) 657
  Recommendations for trade in commodities (Vol. 2) 658
Infectious bursal disease (Vol. 1) 12, (Vol. 2) 588
  Disease control recommendations (Vol. 2) 588
  Recommendations for trade in commodities (Vol. 2) 588
Infectious pustular vulvovaginitis (Vol. 1) 11
International veterinary certificates (model)
  Bees and brood combs (Vol. 1) 217
  Competition horses (Vol. 1) 224
  Dogs and cats originating from rabies infected countries (Vol. 1) 219
  Embryos, ova and semen (Vol. 1) 213
  Hatching eggs (Vol. 1) 211
  Notes for guidance (Vol. 1) 208
  Products of animal origin (Vol. 1) 215
Japanese encephalitis (Vol. 2) 493
  Disease control recommendations (Vol. 2) 493
  Recommendations for trade in commodities (Vol. 2) 493
Laboratory containment (Vol. 1) 201
Leptospirose (Vol. 1) 11
Lumpy skin disease (Vol. 1) 11, (Vol. 2) 661
  Disease control recommendations (Vol. 2) 661
  Recommendations for trade in commodities (Vol. 2) 661
Maedi-visna (Vol. 1) 12, (Vol. 2) 717
  Disease control recommendations (Vol. 2) 717
  Recommendations for trade in commodities (Vol. 2) 717
Marek's disease (Vol. 1) 12, (Vol. 2) 590
  Disease control recommendations (Vol. 2) 590
  Recommendations for trade in commodities (Vol. 2) 590
Mycoplasma gallisepticum (Vol. 1) 12, (Vol. 2) 576
Myxomatosis (Vol. 1) 13, (Vol. 2) 697
  Disease control recommendations (Vol. 2) 697
  Recommendations for trade in commodities (Vol. 2) 697
New world screwworm (Vol. 1) 11
Newcastle disease (Vol. 1) 13, (Vol. 2) 592
  Disease control recommendations (Vol. 2) 592
  Inactivation of pathogenic agents (Vol. 2) 599
  Recommendations for trade in commodities (Vol. 2) 593
  Surveillance (Vol. 2) 599
Notification of diseases (Vol. 1) 11
OIE listed diseases (Vol. 1) 15
Old world screwworm (Vol. 1) 11, (Vol. 2) 494
  Recommendations for trade in commodities (Vol. 2) 494
Ovine epididymitis (Brucella ovis) (Vol. 1) 11, (Vol. 2) 718
  Disease control recommendations (Vol. 2) 718
  Recommendations for trade in commodities (Vol. 2) 718
Paratuberculosis (Vol. 1) 11, (Vol. 2) 496
  Disease control recommendations (Vol. 2) 496
Peste des petits ruminants (Vol. 1) 12, (Vol. 2) 720
  Disease control recommendations (Vol. 2) 720

2010 © OIE - Terrestrial Animal Health Code v
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 721</td>
</tr>
<tr>
<td>Porcine brucellosis</td>
<td>(Vol. 1) 12, (Vol. 2) 760</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 760</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 760</td>
</tr>
<tr>
<td>Poultry breeding flocks</td>
<td>(Vol. 1) 257</td>
</tr>
<tr>
<td>Prevention, detection and control of Salmonella in poultry</td>
<td>(Vol. 1) 259</td>
</tr>
<tr>
<td>Procedure for official recognition of disease freedom by the OIE</td>
<td></td>
</tr>
<tr>
<td>Bovine spongiform encephalopathy</td>
<td>(Vol. 1) 31</td>
</tr>
<tr>
<td>Contagious bovine pleuropneumonia</td>
<td>(Vol. 1) 59</td>
</tr>
<tr>
<td>Foot and mouth disease</td>
<td>(Vol. 1) 41</td>
</tr>
<tr>
<td>Rinderpest</td>
<td>(Vol. 1) 56</td>
</tr>
<tr>
<td>Pullorum disease</td>
<td>(Vol. 1) 13, (Vol. 2) 586</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 586</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 586</td>
</tr>
<tr>
<td>Quality of Veterinary Services</td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td>(Vol. 1) 78</td>
</tr>
<tr>
<td>General principles</td>
<td>(Vol. 1) 73</td>
</tr>
<tr>
<td>Quarantine (non-human primates)</td>
<td>(Vol. 1) 204</td>
</tr>
<tr>
<td>Rabbit haemorrhagic disease</td>
<td>(Vol. 1) 13, (Vol. 2) 698</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 698</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 699</td>
</tr>
<tr>
<td>Rabies</td>
<td>(Vol. 1) 11, (Vol. 2) 497</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 497</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 497</td>
</tr>
<tr>
<td>Reaching a judgement of equivalence of sanitary measures</td>
<td>(Vol. 1) 181</td>
</tr>
<tr>
<td>Rift Valley fever</td>
<td>(Vol. 1) 11, (Vol. 2) 500</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 500</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 501</td>
</tr>
<tr>
<td>Rinderpest</td>
<td>(Vol. 1) 11, (Vol. 2) 505</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 505</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 506</td>
</tr>
<tr>
<td>Surveillance</td>
<td>(Vol. 2) 511</td>
</tr>
<tr>
<td>Risk analysis</td>
<td></td>
</tr>
<tr>
<td>Guidelines</td>
<td>(Vol. 1) 67</td>
</tr>
<tr>
<td>Salmonella enteritidis in poultry</td>
<td>(Vol. 1) 259</td>
</tr>
<tr>
<td>Salmonella typhimurium in poultry</td>
<td>(Vol. 1) 259</td>
</tr>
<tr>
<td>Scrapie</td>
<td>(Vol. 2) 726</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 726</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 730</td>
</tr>
<tr>
<td>Self declaration procedures</td>
<td>(Vol. 1) 31</td>
</tr>
<tr>
<td>Sheep pox</td>
<td>(Vol. 1) 12, (Vol. 2) 733</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 733</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 733</td>
</tr>
<tr>
<td>Small hive beetle infestation</td>
<td>(Vol. 2) 540</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 540</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 542</td>
</tr>
<tr>
<td>Somatic cell nuclear transfer</td>
<td></td>
</tr>
<tr>
<td>Horses</td>
<td>(Vol. 1) 154</td>
</tr>
<tr>
<td>Livestock</td>
<td>(Vol. 1) 154</td>
</tr>
<tr>
<td>Surveillance of arthropod vectors of animal diseases</td>
<td>(Vol. 1) 27</td>
</tr>
<tr>
<td>Swine vesicular disease</td>
<td>(Vol. 1) 12, (Vol. 2) 762</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 762</td>
</tr>
<tr>
<td>Topic</td>
<td>Page Numbers</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 763</td>
</tr>
<tr>
<td>Talfan disease</td>
<td>(Vol. 2) 768</td>
</tr>
<tr>
<td>Teschen disease</td>
<td>(Vol. 2) 768</td>
</tr>
<tr>
<td>Teschovirus encephalomyelitis</td>
<td>(Vol. 2) 768</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 768</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 768</td>
</tr>
<tr>
<td>Theileriosis</td>
<td>(Vol. 1) 11, (Vol. 2) 665</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 665</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 665</td>
</tr>
<tr>
<td>Traceability of live animals</td>
<td>(Vol. 1) 99, (Vol. 1) 101</td>
</tr>
<tr>
<td>Transmissible gastroenteritis</td>
<td>(Vol. 1) 12, (Vol. 2) 773</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 773</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 773</td>
</tr>
<tr>
<td>Trichinellosis</td>
<td>(Vol. 1) 11, (Vol. 2) 519</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 519</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 520</td>
</tr>
<tr>
<td>Trichomonosis</td>
<td>(Vol. 1) 11, (Vol. 2) 666</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 666</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 666</td>
</tr>
<tr>
<td>Tropilaelaps infestation of honey bees</td>
<td>(Vol. 2) 545</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 545</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 547</td>
</tr>
<tr>
<td>Tularemia</td>
<td>(Vol. 1) 11, (Vol. 2) 521</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 521</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 521</td>
</tr>
<tr>
<td>Varroosis of honey bees</td>
<td>(Vol. 2) 548</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 548</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 550</td>
</tr>
<tr>
<td>Venezuelan equine encephalomyelitis</td>
<td>(Vol. 1) 12, (Vol. 2) 694</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 694</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 694</td>
</tr>
<tr>
<td>Vesicular stomatitis</td>
<td>(Vol. 1) 11, (Vol. 2) 523</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 523</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 523</td>
</tr>
<tr>
<td>West Nile fever</td>
<td>(Vol. 2) 526</td>
</tr>
<tr>
<td>Disease control recommendations</td>
<td>(Vol. 2) 526</td>
</tr>
<tr>
<td>Recommendations for trade in commodities</td>
<td>(Vol. 2) 528</td>
</tr>
<tr>
<td>Zoning</td>
<td>(Vol. 1) 109</td>
</tr>
<tr>
<td>Zoonoses transmissible from non-human primates</td>
<td>(Vol. 1) 293</td>
</tr>
</tbody>
</table>