TERRESTRIAL
ANIMAL HEALTH
CODE

VOLUME 2

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

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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 OIE International Committee, the general assembly of all National Delegates of OIE Members, which constitutes the organisation’s highest decision-making body. This 17th edition (August 2008) incorporates modifications to the Terrestrial Code agreed at the 76th OIE General Session in May 2008. The 2008 edition includes revised information on the following subjects: general definitions, notification criteria for listing diseases, obligations and ethics in international trade, import risk analysis, evaluation of Veterinary Services, zoning and compartmentalisation, animal health measures applicable before and at departure, border posts and quarantine stations in the importing country, international transfer and laboratory containment of animal pathogens, rabies, foot and mouth disease (FMD), rinderpest, contagious caprine pleuropneumonia, bovine tuberculosis, bovine spongiform encephalopathy (BSE), equine influenza, equine rhinopneumonitis, equine viral arteritis, African horse sickness (AHS), African swine fever, classical swine fever (CSF), avian influenza (AI) and Newcastle disease (ND).

The 2008 edition also contains revised information on prescribed and alternative diagnostic tests for OIE listed diseases, on categorisation of diseases and pathogenic agents by the International Embryo Transfer Society, on inactivation procedures for FMD virus and AI virus, on surveillance for BSE, FMD, CSF, AI and bluetongue, on animal welfare, on factors to consider in conducting BSE risk assessments and on model veterinary health certificates. This edition includes a new chapter dedicated to small hive beetle infection (Aethina tumida) and six new appendices covering the application of compartmentalisation, surveillance for AHS and ND, the design and implementation of identification systems to achieve animal traceability, the production of livestock and horses using somatic cell nuclear transfer (SCNT) and the role of the Veterinary Services in food safety.

The 2008 edition of the Terrestrial Code is a two-volume publication. Volume one contains recommendations that apply to a wide range of species, production sectors and/or diseases (so-called ‘horizontal standards’) and volume two contains recommendations on specific diseases (so-called ‘vertical standards’) including recommendations on agent inactivation and surveillance and risk assessment. While the format of the Terrestrial Code has thus been significantly modified, no significant changes in content (other than those approved during the 76th General Session of the OIE, as mentioned above) have been introduced.

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 Terrestrial 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 Terrestrial 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 International Committee 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 Members' 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 Terrestrial 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 17th edition of the Terrestrial Code.

President: Dr A. Thiermann
Vice-President: Dr W.-A. Valder
Secretary General: Dr S.C. MacDiarmid
Members: Dr J. Caetano, Dr A. Hassan and Dr S. Hargreaves

July 2008
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, the 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 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 the 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 OIE International Committee 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 the importing country 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) the 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 must 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.
G L O S S A R Y

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 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.

**Buffer 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 disease surveillance.

**Case**

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

**Central Bureau**

means the Permanent Secretariat of the World Organisation for Animal Health which headquarters are:
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 an OIE 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 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 under the control of the Veterinary Services for the timely detection and identification of animal diseases. Characteristics of the system must include:

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 and para-veterinarians for detecting and reporting unusual disease occurrence.

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.

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 the absence of the disease under consideration has not been demonstrated by the requirements specified in the Terrestrial Code being met.

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 OIE International Committee 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, 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, must 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 Central Bureau,
b) the Central Bureau informs 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 of live animals

means the operations whereby the Veterinary Services, knowing the location of the animals and the identity of their owner or responsible keeper, are able to apply appropriate animal health measures, as required.

Outbreak of disease or infection

means the occurrence of one or more cases of a disease or an infection 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).

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 outbreaks 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.

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 a premises under the control of the Veterinary Authority where animals are maintained in isolation with no direct or indirect contact with other animals, to prevent the transmission of specified pathogen(s) 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 to animal or human health in the importing country during a specified time period.

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 exchange of information on risk among risk assessors, risk managers 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 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 term 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.

**Surveillance zone**

means a zone established within, and along the border of, a free zone separating the free zone from an infected zone.

The surveillance zone should have an intensified degree of surveillance.

**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.

Uncertainty

means the lack of precise knowledge of the input values which is due to measurement error or to lack of knowledge of the steps required, and the pathways from hazard to risk, when building the scenario being assessed.

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 of a vaccine comprising antigens appropriate to the disease to be controlled.

Variability

means a real-world complexity in which the value of an input is not the same for each case due to natural diversity in a given population.

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 authorized 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 in the territory. The Veterinary Services are under the overall control and direction of the Veterinary Authority. Private sector organisations, veterinarians or veterinary para-professionals are normally accredited or approved to deliver functions by the Veterinary Authority.

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.
SECTION 8.

MULTIPLE SPECIES

CHAPTER 8.1.

ANTHRAX

Article 8.1.1.

General provisions

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.

Article 8.1.2.

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;
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.

Article 8.1.3.

Recommendations for the importation of products of animal origin (from ruminants, equines and pigs) 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. originate from animals not showing clinical signs of anthrax; or
2. have been processed to ensure the destruction of both bacillary and spore forms of Bacillus anthracis, in conformity with one of the procedures referred to in Chapter X.X. (under study).
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;
2. come from establishments which are not placed under quarantine on account of anthrax control and in which:
   a) there has been no case of anthrax during the 20 days prior to slaughter;
   b) no vaccination against anthrax has been carried out during the 42 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;
2. come from establishments which are not placed under quarantine on account of anthrax control.

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 animals showing no clinical signs of anthrax at the time of shearing;
2. originate from establishments where no case of anthrax has been reported since the previous shearing of all animals.

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 the products:

1. originate from animals showing no clinical signs of anthrax at the time of milking; or
2. were processed using a heat treatment at least equivalent to pasteurisation (under study).
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.

Article 8.2.2.

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 listed in Article 8.2.6. 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 must 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 listed in Article 8.2.6. 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 8.2.3.

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 listed in Article 8.2.6. 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 listed in Article 8.2.6. 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 8.2.4.

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 8.2.5.

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;

e) a number of breeding pigs from the establishment has been subjected, with negative results, to serological tests to the whole AD virus, applying a sampling procedure set out in conformity with the recommendations in Chapter X.X. (under study); these tests must have been carried out on two occasions, at an interval of 2 months; for establishments that contain no breeding pigs, the tests should be carried out only once on a comparable number of fattening or weaning pigs;

f) a surveillance and control programme has been in place to detect infected establishments located within a 5-kilometre radius of the establishment and no establishment is known to be infected within this zone.

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 8.2.6.

Trade in commodities

Commodities other than those listed below are not considered to have the potential to spread AD when they are the subject of international trade.

Veterinary Authorities of countries shall consider whether there is a risk with regard to AD in accepting importation or transit through their territory, from other countries, of the following commodities:
1. domestic and wild swine;
2. semen of domestic and wild swine;
3. embryos/ova of domestic and wild swine;
4. offal (head, and thoracic and abdominal viscera) of swine and products containing swine offal;
5. pathological material and biological products (see Chapter 5.8.).

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 Chapter 4.6.

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 Chapter 4.6.

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 Chapter 4.6.

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 Chapter 4.7.
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 Chapter 4.7.

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 Chapter 4.7.

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.

The global BTV distribution is currently between latitudes of approximately 53°N and 34°S but is known to be expanding in the northern hemisphere.

In the absence of clinical disease in a country or zone within this part of the world, 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.

Article 8.3.2.

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) the country or zone lies wholly north of 53°N or south of 34°S, and is not adjacent to a country or zone not having a free status; or
   b) 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
   c) a surveillance programme has demonstrated no evidence of Culicoides likely to be competent BTV vectors in the country or zone.

2. A BTV free country or zone in which surveillance has found no evidence that Culicoides likely to be competent BTV vectors 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.

3. A BTV free country or zone in which surveillance has found evidence that Culicoides likely to be competent BTV vectors 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 in accordance with the Terrestrial Manual at least 60 days prior to dispatch 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 that the animals are identified in the accompanying certification as having been vaccinated; or

b) the animals are not vaccinated, and a surveillance programme in accordance with Articles 8.3.16. to 8.3.21. has been in place in the source population for a period of 60 days immediately prior to dispatch, and no evidence of BTV transmission has been detected.

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 must be subjected to continuing surveillance. The boundaries of this zone must be clearly defined, and must take account of geographical and epidemiological factors that are relevant to BTV transmission.

Article 8.3.3.

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 likely to be competent BTV vectors.

For the application of Articles 8.3.6., 8.3.9. 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 likely to be competent BTV vectors.

For the application of Articles 8.3.6., 8.3.9. 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 likely to be competent BTV vectors.

A BTV seasonally free zone in which surveillance has found no evidence that Culicoides likely to be competent BTV vectors 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 8.3.4.

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 8.3.5.

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 in accordance with the Terrestrial Manual 60 days before the introduction into the free country or zone 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 likely to be competent BTV vectors at all times when transiting through an infected zone; or
   c) had been vaccinated in accordance with point 4 above.

Article 8.3.6.

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 in accordance with the Terrestrial Manual 60 days before the introduction into the free country or zone 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 likely to be competent BTV vectors at all times when transiting through an infected zone; or

c) were vaccinated in accordance with point 4 above.

Article 8.3.7.

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 likely to be competent BTV vectors since birth or for at least 60 days prior to shipment; or

2. were protected from attack from Culicoides likely to be competent BTV vectors for at least 28 days prior to 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 quarantine station; or

3. were protected from attack from Culicoides likely to be competent BTV vectors for at least 14 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 at least 14 days after introduction into the quarantine station; or

4. were vaccinated in accordance with the Terrestrial Manual at least 60 days before shipment, 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

5. are not vaccinated, a surveillance programme in accordance with Articles 8.3.16. to 8.3.21. has been in place in the source population for a period of 60 days immediately prior to shipment, and no evidence of BTV transmission has been detected;

AND

6. were protected from attack from Culicoides likely to be competent BTV vectors during transportation to the place of shipment; or

7. were vaccinated in accordance with the Terrestrial Manual 60 days before shipment or had antibodies against all serotypes whose presence in the zones of transit has been demonstrated through a surveillance programme in accordance with Articles 8.3.16. to 8.3.21.

Article 8.3.8.

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 Chapter 4.5.

Article 8.3.9.

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 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 Chapter 4.5.

Article 8.3.10.

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 likely to be competent BTV vectors 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 Chapter 4.5.
Article 8.3.11.

**Recommendations for the importation of in vivo derived bovine embryos/oocytes**

Regardless of the bluetongue status of the exporting country, Veterinary Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapter 4.7.

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

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 Chapter 4.7.

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 Chapter 4.7.
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 likely to be competent BTV vectors 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 Chapter 4.7.

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 likely to be competent BTV vectors during transport, taking into account the local ecology of the vector.

Potential risk management strategies include:

1. treating animals with chemical 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, ongoing and/or BTV modelling information 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., 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.

Susceptible wild ruminant populations should be included in surveillance when these animals are intended for trade.

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 must 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 BT, 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 day-to-day 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 8.3.10. 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 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 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 must be individually identifiable), or a combination of methods.

   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 surveillance 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 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 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 must 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

**Fig. 1. Application of laboratory tests in serological surveillance**

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 databases 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. 2. Application of laboratory tests in virological surveillance**
CHAPTER 8.4.

ECHINOCOCCOSIS/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.

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 can be separated from neighbouring infected countries by a buffer zone, or physical or geographical barriers, and animal health measures that effectively prevent the entry of the virus should be implemented.

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 both FMD and FMDV infection in accordance with Articles 8.5.40. to 8.5.46. is in operation;
   b) regulatory measures for the early detection, prevention and control of FMD have been implemented.
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 and 3b) 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 8.5.3.

FMD free country where vaccination is practised

Susceptible animals in the FMD free country where vaccination is practised can be separated from neighbouring infected countries by a buffer zone or by physical/geographical barriers, and animal health measures that effectively prevent the entry of the virus should be implemented.

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 that there has been no outbreak of FMD for the past 2 years and no evidence of FMDV circulation for the past 12 months, with documented evidence that:
   a) surveillance for FMD and FMDV circulation in accordance with Articles 8.5.40. to 8.5.46. is in operation, and that regulatory measures for the prevention and control of FMD have been implemented;
   b) routine vaccination is carried out for the purpose of the prevention of FMD;
   c) the vaccine used complies with the standards described in the Terrestrial Manual.

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 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.

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 can be separated by a buffer zone or by physical/geographical barriers from the rest of the country and from neighbouring countries if they are of a different animal health status, and animal health measures that effectively prevent the entry of the virus should be implemented.

A Member in which an FMD free zone where vaccination is not practised is to be established should:

1. have a record of regular and prompt animal disease reporting;
2. send a declaration to the OIE stating that it wishes to establish an FMD free zone where vaccination is not practised, and 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 8.5.9;
   e) documented evidence shows that surveillance in accordance with Articles 8.5.40. to 8.5.46. is in operation for both FMD and FMDV infection;

3. describe in detail:
   a) regulatory measures for the prevention and control of both FMD and FMDV infection,
   b) the boundaries of the proposed FMD free zone and, if applicable, the buffer zone or physical or geographical barriers,
   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 8.5.9. is implemented),

and supply documented evidence that these are properly implemented and supervised.

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 and 3c) above should be re-submitted annually and changes in the epidemiological situation or other significant events including those relevant to points 3a) and 3b) 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 can be separated by a buffer zone or by physical/geographical barriers from the rest of the country and from neighbouring countries if they are of a different animal health status, and animal health measures that effectively prevent the entry of the virus should be implemented.

A Member in which an FMD free zone where vaccination is practised is to be established should:

1. have a record of regular and prompt animal disease reporting;
2. send a declaration to the OIE that it wishes to establish an FMD free zone where vaccination is practised and 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 for the past 12 months;
   c) documented evidence shows that surveillance in accordance with Articles 8.5.40. to 8.5.46. is in operation for FMD and FMDV circulation;
3. supply documented evidence that the vaccine used complies with the standards described in the Terrestrial Manual;
4. describe in detail:
   a) regulatory measures for the prevention and control of both FMD and FMDV circulation,
b) the boundaries of the proposed FMD free zone where vaccination is practised and, if applicable, the buffer zone or physical or geographical barriers,

c) the system for preventing the entry of the virus into the proposed FMD free zone (in particular if the procedure described in Article 8.5.9. is implemented),

and supply evidence that these are properly implemented and supervised.

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 4c) above should be re-submitted annually and changes in the epidemiological situation or other significant events including those relevant to points 4a) and 4b) 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 this 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 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.

Article 8.5.7.

Establishment of a containment zone within an FMD free country or zone

In the event of a limited outbreak within an FMD free country or 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 outbreak is 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 8.5.40. to 8.5.46. in the rest of the country or zone has been carried out and has not detected any evidence of infection;

5. measures to prevent spread of the infection from the containment zone to the rest of the country or zone, including ongoing surveillance in the containment zone, are in place;

6. containment zone should be large enough to contain the disease and comprise both a restricted/protection zone and larger surveillance zone.

The free status of the areas outside the containment zone would be suspended pending the establishment of the containment zone. The suspension of free status of these areas could be lifted irrespective of the provisions of Article 8.5.8., once the containment zone is clearly established, by complying with points 1 to 5 above.

The recovery of the FMD free status of the containment zone should follow the provisions of Article 8.5.8.

Article 8.5.8.

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 8.5.40. to 8.5.46.; 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 8.5.40. to 8.5.46.; 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 8.5.40. to 8.5.46., 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 8.5.40. to 8.5.46. 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 8.5.40. to 8.5.46. are applied, provided that the serological surveillance based on the detection of antibodies to nonstructural proteins of FMDV demonstrates the absence of virus circulation.
Article 8.5.9.

Transfer directly to slaughter of FMD susceptible animals from an infected zone to a free zone within a country

FMD susceptible animals should only leave the infected zone if moved by mechanised transport to the nearest designated abattoir located in the buffer zone directly to slaughter.

In the absence of an abattoir in the buffer zone, live FMD susceptible animals can be transported to the nearest abattoir in a free zone directly to slaughter only 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 must 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 must be subjected to thorough cleansing and disinfection immediately after use.

All products obtained from the animals and any products coming into contact with them must be considered infected, and treated in such a way as to destroy any residual virus in accordance with Articles 8.5.32. to 8.5.39.

Animals moved into a free zone for other purposes must be moved under the supervision of the Veterinary Authority and comply with the conditions in Article 8.5.12.

Article 8.5.10.

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

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 in an FMD free country or zone where vaccination is not practised since birth or for at least the past 3 months;
3. have not been vaccinated.
Recommendations for importation from FMD free countries where vaccination is practised or from FMD free 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.

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.

Recommendations for importation from FMD free countries where vaccination is not practised or FMD free zones where vaccination is not practised 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 in an FMD free country or zone where vaccination is not practised for at least
3 months prior to collection;

2. the semen was collected, processed and stored in conformity with the provisions of Chapter 4.5. or
Chapter 4.6., as relevant.

Article 8.5.14.

Recommendations for importation from FMD free countries where vaccination is not practised
or FMD free zones where vaccination is not practised
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 in an FMD free country or zone where vaccination is not practised for at least
      3 months prior to collection;

2. the semen was collected, processed and stored in conformity with the provisions of Chapter 4.5. or
Chapter 4.6., as relevant.

Article 8.5.15.

Recommendations for importation from FMD free countries where vaccination is practised or
from FMD free 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 in a country or zone free from FMD for at least 3 months prior to collection;
   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 Chapter 4.5. or
      Chapter 4.6., as relevant;
   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.
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 Chapter 4.5 or Chapter 4.6, as relevant;
   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.

Recommendations for the importation of in vivo derived embryos of cattle

Irrespective of the FMD status of the exporting country or zone, 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 Chapter 4.7 or Chapter 4.9.

Recommendations for importation from FMD free countries where vaccination is not practised or FMD free zones where vaccination is not 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 in a country or zone free from FMD at the time of collection;
2. fertilisation was achieved with semen meeting the conditions referred to in Articles 8.5.13., 8.5.14., 8.5.15. or 8.5.16., as relevant;

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

Article 8.5.19.

Recommendations for importation from FMD free countries where vaccination is practised or from FMD free 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 in a country or zone free from FMD for at least 3 months prior to collection;
   c) if destined for an FMD free country or zone where vaccination is not practised:
      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 8.5.13., 8.5.14., 8.5.15. or 8.5.16., as relevant;

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

Article 8.5.20.

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

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 since birth, or which have been imported in accordance with Article 8.5.10., Article 8.5.11. or Article 8.5.12.;

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 8.5.21.

Recommendations for importation from FMD free countries where vaccination is practised or from FMD free 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 since birth, or which have been imported in accordance with Article 8.5.10., Article 8.5.11. or Article 8.5.12.;
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 8.5.22.

Recommendations for importation from FMD free countries where vaccination is practised or from FMD free 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 since birth, or which have been imported in accordance with Article 8.5.10., Article 8.5.11. or Article 8.5.12.;
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 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 8.5.24.

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 8.5.32.;
3. the necessary precautions were taken after processing to avoid contact of the meat products with any potential source of FMD virus.

Article 8.5.25.

Recommendations for importation from FMD free countries or zones (where vaccination either is or is not practised) 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 the country or zone since birth, or which have been imported in accordance with Article 8.5.10., Article 8.5.11. or Article 8.5.12.

Article 8.5.26.

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 8.5.36. and in Article 8.5.37.;
2. the necessary precautions were taken after processing to avoid contact of the products with any potential source of FMD virus.

Article 8.5.27.

**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 8.5.28.

**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 8.5.33., 8.5.34. and 8.5.35.;

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 8.5.29.

**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 8.5.30.

**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 8.5.31.

**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 8.5.38.

Article 8.5.32.

**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 8.5.33.

**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 8.5.34.

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 8.5.35.

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 8.5.36.

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 8.5.37.

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 desiccation;

3. UHT combined with another physical treatment referred to in point 2 above.
Article 8.5.38.

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 - \( \text{Na}_2\text{CO}_3 \)) maintained at pH 11.5 or above for at least 48 hours;
4. soaking, with agitation, in a formic acid solution (100 kg salt [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 8.5.39.

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

For the inactivation of viruses present in casings of small 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 at about 20°C during this entire period.

Article 8.5.40.

Surveillance: introduction

Articles 8.5.40. to 8.5.46. define the principles and provide a guide for the surveillance of FMD in accordance with Chapter 1.4. applicable to Members seeking recognition from the OIE for freedom from FMD, either with or without the use of vaccination. This may be for the entire country or a zone within the country. Guidance for Members seeking reestablishment of freedom from FMD for the whole country or a zone within the country, either with or without vaccination, following an outbreak, as well as recommendations for the maintenance of FMD status are provided. Applications to the OIE for recognition of freedom should follow the format and answer all the questions posed by the “Questionnaire on FMD” available from the OIE Central Bureau.

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. It is axiomatic that the 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 8.5.41.

**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.).

Article 8.5.42.

**Surveillance strategies**

1. **Introduction**

   The target population for surveillance aimed at identifying disease and infection should cover all the susceptible species within the country or zone to be recognised as free from FMDV infection/circulation.

   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.

The principles involved in surveillance for disease/infection are technically well defined. 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.

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 Terrestrial Manual.

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

**Article 8.5.43.**

**Members applying for 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 Terrestrial Manual.
Members applying for 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 Terrestrial 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 Terrestrial 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.

Members re-applying for 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 8.5.8.

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.
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. Antibody titres against NSP at the time of retest should be statistically either equal to or lower than those 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 cattle 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 ruminants (sheep, goats) 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

Key:

<table>
<thead>
<tr>
<th>Test</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>

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CHAPTER 8.6.

HEARTWATER

Article 8.6.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial 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.

LEPTOSPIROSIS

Article 8.8.1.

Under study.
CHAPTER 8.9.

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

Article 8.9.1.

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 V eterinarian, 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 V eterinarian 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 V eterinarian;
   c) all animals have been prophylactically treated again by dipping or spraying as in point 2 above.

Article 8.9.2.

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 8.9.3.

**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 8.9.4.

**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 8.10.

PARATUBERCULOSIS

Article 8.10.1.

General provisions

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.
CHAPTER 8.11.

RABIES

Article 8.11.1.

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 8.11.2.

Rabies free country

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 an Australian or European Bat Lyssavirus;
5. no imported case in carnivores has been confirmed outside a quarantine station for the past 6 months.

Article 8.11.3.

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 8.11.5., 8.11.6. or 8.11.7.
Article 8.11.4.

**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 8.11.5.

**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 8.11.6.

**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 8.11.7.

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 12 months prior to shipment, in an establishment where no case of rabies was reported for at least 12 months prior to shipment.

Article 8.11.8.

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 8.11.9.

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.

1 [Note: For non-human primates, reference should be made to Chapter 6.9.]
CHAPTER 8.12.

RIFT VALLEY FEVER

Article 8.12.1.

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.

Standards for diagnostic tests are described in the Terrestrial Manual.

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.

Article 8.12.2.

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 8.12.1. 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 8.12.1. 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 8.12.3.

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 8.12.2.) 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 8.12.4.

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 8.12.5.

Trade in commodities

Commodities other than those listed below are not considered to have the potential to spread RVF when they are the subject of international trade.

Veterinary Authorities of countries shall consider whether there is a risk with regard to RVF infection in accepting importation or transit through their territory from other countries of the following commodities:

1. live ruminants;
2. meat and meat products of domestic and wild ruminants.

Article 8.12.6.

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 8.12.7.

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 8.12.8.

**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 RFV on the day of shipment;
2. were kept in a RFV infected country/zone free of disease since birth or for the last 6 months providing that climatic changes predisposing to outbreaks of RFV have not occurred during this time;
   OR
3. were vaccinated against RFV at least 21 days prior to shipment with a modified live virus vaccine;
   OR
4. 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 RFV and were protected from mosquitoes between quarantine and the place of shipment as well as at the place of shipment;
   AND
5. did not transit through an infected zone with disease during transportation of the place of shipment.

Article 8.12.9.

**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 RFV disease free country/zone 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 RFV 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 8.12.10.

**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 RFV on the day of shipment;
2. were vaccinated against RFV 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 RFV and were protected from mosquito attack between quarantine and the place of shipment as well as at the place of shipment.
Article 8.12.11.

**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 8.12.12.

**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.


CHAPTER 8.13.

RINDERPEST

Article 8.13.1.

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 rinderpest 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 8.13.2.

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,
and supply documented evidence that surveillance for both RP and RPV infection in accordance with Articles 8.13.20. to 8.13.27. is in operation and that regulatory measures for the prevention and control of RP have been implemented;

3. 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), 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 8.13.3.

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 8.13.20. to 8.13.27.; 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 8.13.20. to 8.13.27.; 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 8.13.20. to 8.13.27.

Where a stamping-out policy is not practised, the above waiting periods do not apply but Article 8.13.2. applies.

Article 8.13.4.

Infected country

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

Article 8.13.5.

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 8.13.6.

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 8.13.20. to 8.13.27.;

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 8.13.7.

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 Chapter 4.5.

Article 8.13.8.

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 8.13.20. to 8.13.27.;

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 Chapter 4.5.

Article 8.13.9.

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 Chapter 4.7.

Article 8.13.10.

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 8.13.20. to 8.13.27.;
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 Chapter 4.7.

Article 8.13.11.

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.
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 8.13.20. to 8.13.27.;
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 8.13.12. 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 8.5.32.;
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 8.13.15.

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 8.5.36. and 8.5.37.;
2. the necessary precautions were taken after processing to avoid contact of the products with any potential source of RPV.

Article 8.13.16.

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 8.13.17.

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 8.13.18.

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 8.5.33., 8.5.34. and 8.5.35.;
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.
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.

Recognition of RP freedom

In order to receive OIE recognition of rinderpest freedom, a country’s national authority must present for consideration a dossier of information relating to its livestock production systems, rinderpest vaccination and eradication history and the functioning of its Veterinary Services. The dossier must contain convincing evidence derived from an animal disease surveillance system that sufficient evidence has accrued to demonstrate that the presence of rinderpest virus would have been disclosed were it to be present. Recommendations on the structure and the functioning of Veterinary Services and diagnostic support services are provided in Chapters 3.1. and 3.2. of the Terrestrial Code. A Member must also be in compliance with its OIE reporting obligations (Chapter 1.1. of the Terrestrial Code).

Surveillance: definitions

1. **Rinderpest**

For the purpose of this Chapter, rinderpest is defined as an infection of large ruminants (cattle, buffaloes, yaks, etc.), small ruminants, pigs and various wildlife species within the order Artiodactyla, caused by rinderpest virus. In small ruminants and various species of wildlife, particularly antelopes, infection generally passes without the development of frank clinical signs. Characteristic clinical signs and pathological lesions are described in Chapter 2.1.15. of the Terrestrial Manual.

Outbreaks of rinderpest 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 Bos taurus), and variations in the virulence of the attacking strain. 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.

Freedom from rinderpest means freedom from rinderpest virus infection.

2. **Rinderpest vaccines**

For the purpose of this Chapter and the Terrestrial Code, OIE-recognised rinderpest vaccines currently in use, or likely to become so in the foreseeable future, are considered to be commercial modified live vaccines produced from attenuated rinderpest virus (referred to as ‘rinderpest vaccine’) produced in accordance with Chapter 2.1.15. of the Terrestrial Manual.
Surveillance activities

General recommendations on animal disease surveillance are outlined in Chapter 1.4. of the Terrestrial Code. Rinderpest must be a notifiable disease i.e. notification of outbreaks of rinderpest as soon as detected or suspected must be brought to the attention of the Veterinary Authority.

The precise surveillance information required for establishing freedom will differ from country to country depending on factors such as the former rinderpest status of the country, the regional rinderpest situation and accreditation status, the time elapsing since the last occurrence of rinderpest, livestock husbandry systems (e.g. extensive pastoralism, nomadism and transhumance versus sedentary agropastoralism) and trading patterns.

Evidence of efficiency of the surveillance system can be provided by the use of performance indicators.

Surveillance results presented will be expected to have accrued from a combination of surveillance activities including some or all of the following:

1. A routine national animal disease reporting system supported by evidence of its efficiency and follow-up - an on-going, statutory, centrally organised system of reporting
   Ideally disease reports should be expressed in a Geographical Information System environment and analysed for clustering of observations and followed up.

2. Emergency disease reporting systems and investigation of epidemiologically significant events ('stomatitis-enteritis syndrome')
   Emergency reporting systems can be devised to short-circuit normal passive reporting systems to bring suspicious events to the fore and lead to rapid investigation and tracing. All such investigations should be well documented for presentation as an outcome of the surveillance system.

3. Detection and thorough investigation of epidemiologically significant events ('stomatitis-enteritis syndrome') which raise suspicion of rinderpest supported by evidence of efficiency of the system
   Laboratory examination undertaken to confirm or rule out rinderpest is given extra credibility if it is accompanied by the results of differential diagnostic examinations.

4. Searching for evidence of clinical rinderpest
   Active search for disease might include participatory disease searching combined with village disease searching, tracing backwards and forwards, follow-up and investigation.

5. Serosurveillance
   a) Randomised serosurveys
      Statistically selected samples from relevant strata within the host populations are examined to detect serological evidence of possible virus circulation.

      A sampling unit for the purposes of disease investigation and surveillance is defined as a group of animals in sufficiently close contact that individuals within the group are at approximately equal risk of coming in contact with the virus if there should be an infectious animal within the group. In most circumstances, the sampling unit will be a herd which is managed as a unit by an individual or a community, but it may also be other epidemiologically appropriate groupings which are subject to regular mixing, such as all animals belonging to residents of a village. In the areas where nomadic or transhumant movements exist, the sampling unit can be the permanent bore holes, wells or water points. Sampling units should normally be defined so that their size is generally between 50 and 1,000 animals.

      i) Criteria for stratification of host populations
         Strata are homogeneously mixing sub-populations of livestock. Any disease surveillance activities must be conducted on populations stratified according to the management
system, and by herd size where this is variable. Herds, or other sampling units, should be selected by proper random statistical selection procedures from each stratum.

**ii) Field procedures and sample sizes**

Annual sample sizes shall be sufficient to provide 95% probability of detecting evidence of rinderpest if present at a prevalence of 1% of herds or other sampling units and 5% within herds or other sampling units. This can typically be achieved by examining 300 herds per stratum per year, but procedures for sampling should be in accordance with the “Guide to Epidemiological Surveillance for Rinderpest”\(^2\), or another procedure that would achieve the same probability of detection.

Where the sampling frame of herds is known, herds shall be selected for examination by the use of random number tables. Otherwise, samples of herds can be selected by taking the nearest herd to a randomly selected map reference, provided that the herds are evenly distributed. Failing this, any herd(s) within a fixed radius of randomly selected map references should be sampled. It must be compulsory for any selected herd to be examined or tested as required.

In carrying out clinical surveillance for evidence of rinderpest, all animals in selected herds or sampling units will be examined by a veterinarian for signs of the disease, especially mouth lesions. Any positive result shall be evaluated using epidemiological and laboratory methods to confirm or refute the suspicion of rinderpest virus activity. All animals born after the cessation of vaccination and more than one year old will be eligible for serological testing.

Where operational considerations require it, the number of eligible animals tested within each sampled herd may be reduced. This will reduce the probability of within-herd detection and there must be at least a compensatory increase in the number of herds sampled, so that the required 95% probability of detecting 1% between-herd prevalence is maintained.

**b) Risk-focussed serosurveillance**

Risk-focussed serosurveillance differs from randomised serosurveillance in that it increases detection sensitivity by obtaining samples from areas/populations determined to be at higher risk of infection, so as to detect serological evidence of possible virus circulation. The operational modalities for risk-based focussing of surveillance require definition (randomisation within defined focus, high risk animals, etc.). The extent to which randomisation needs to be retained in the generation of risk-focussed serosurveillance data needs to be established.

Focussing can be achieved by reference to some or all of the following:

i) Historical disease patterns (prior probability mapping) - clinical, participatory and laboratory-based

ii) Critical population size, structure and density

iii) Livestock husbandry and farming systems

iv) Movement and contact patterns - markets and other trade-related movements

v) Transmission parameters (e.g. virulence of the strain, animal movements)

vi) Wildlife and other species demography.

**Selection of cattle and buffaloes for serosurveillance**

Ageing cattle and Asian buffaloes for the purpose of 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.

Accounts of the ages for eruption of the incisor teeth vary markedly and are clearly dependent on species, breed, nutritional status and nature of the feed.

Pragmatically, and solely for the purposes of serosurveillance, it can be accepted that:

a) cattle having only one pair of erupted permanent central incisor teeth are aged between 21 and 36 months (Asian buffaloes 24-48 months);

b) cattle having only two pairs of erupted permanent central incisor teeth are aged between 30 and 48 months (Asian buffaloes 48-60 months).

Thus selecting a cohort of cattle possessing only one pair of permanent incisors will preclude any interference from maternal immunity derived from earlier vaccination or infection and ensure that vaccinated cattle are not included if vaccination ceased 3 years or more previously (for Asian buffaloes 4 years or more).

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 rinderpest.

**Wildlife surveillance where a significant susceptible wildlife population exists**

There are some key wildlife populations, especially African buffaloes, which act as sentinels for rinderpest infection. Where a significant population of a susceptible wildlife species exists, serosurveillance data are required to support absence of infection. These populations should be monitored purposively to support the dossiers to be submitted for freedom from rinderpest virus 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 most countries are unable to perform the full testing protocol for detecting rinderpest antibodies in wildlife sera.

Purposive sampling is the preferred method to provide wildlife data to evaluate the status of rinderpest infection. In reality, the capacity to perform purposive work in the majority of countries remains minimal. Opportunistic sampling (hunting) is feasible and it provides 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 country in a dossier (even if the sampling was not obtained in the country submitting). It is therefore recommended that the countries represented in a particular ecosystem should coordinate their sampling programmes.

The standards for serosurveillance are different from that set for cattle because the serological tests are not fully validated for wildlife species and financial and logistic constraints of sampling prevent collection of large numbers of samples.

From the collective experience of the laboratories and experts over the years, an appropriate test protocol is based on the high expected sero-prevalence in a previously infected buffalo herd (99% seroconversion of eligible animals within a herd), which is detected using a test, which is 100% sensitive. No single test can achieve this; however, combining H c-ELISA to VNT raises sensitivity close to 100%.

In the order of 1-2% of a herd of African buffaloes must be sampled to ensure that no positive case is missed. For example in a herd of 300 buffaloes, five animals should be sampled and the above multiple test protocol followed. 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. Appropriate sampling fraction for other wildlife species are less well defined, as social organization (herd structure, likely contact rates, etc.) vary. The sample needs to be taken according to the known epidemiology of the disease in a given species. Opportunistic samples, which are positive, should not be interpreted without a purposive survey to confirm the validity of these results. Opportunistic sampling cannot follow a defined protocol and therefore can only provide background information.

Article 8.13.25.

Evaluation of applications for accreditation of freedom from rinderpest

Evaluation of applications for the status of freedom from rinderpest will be the responsibility of the OIE Scientific Commission for Animal Diseases which can request the Director General if the OIE to appoint an ad hoc group in order to assist in reaching an informed decision to present to the OIE International Committee for approval.

The composition and method of selection of the ad hoc group shall be such as to ensure both a high level of expertise in evaluating the evidence and total independence of the group in reaching conclusions concerning the disease status of a particular country.


Steps to be taken to declare a country to be free from rinderpest

Recognition of the status 'free from rinderpest' is given to a Member. Where traditionally managed livestock move freely across international borders, groups of Members may usefully associate themselves into a group for the purposes of obtaining data to be used for mutually supportive applications for individual country accreditation.

For the purpose of this Chapter, the following assumptions are made:

a) that within most previously infected countries, rinderpest vaccine will have been used to control the rate of infection;

b) that within an endemically infected population there will be a large number of immune hosts (both vaccinees and recovered animals);

c) that the presence of a proportion of immune hosts within a vaccinated population could have led to a slowing of the rate of virus transmission and possibly the concomitant emergence of strains of reduced virulence, difficult to detect clinically;

d) that the virulence of the virus (and therefore the ease of clinical detection) may or may not increase as the herd immunity declines following withdrawal of vaccination; however, continuing transmission will generate serological evidence of their persistence.

Before accreditation can be considered, countries which have controlled the disease by the use of rinderpest vaccine must wait until an unvaccinated cohort is available to allow meaningful serological surveillance to be conducted.

The OIE has concluded that the majority of countries have stopped vaccinating for a sufficient length of time for it now to be feasible that a single submission of evidence gained over 2 years of appropriate surveillance shall be sufficient to gain rinderpest free accreditation.

A Member accredited as free from rinderpest must thereafter submit annual statements to the Director General of the OIE indicating that surveillance has failed to disclose the presence of rinderpest, and that all other criteria continue to be met.
Chapter 8.13 - Rinderpest

A country previously infected with rinderpest which has not employed rinderpest vaccine for at least 25 years and has throughout that period detected no evidence of rinderpest virus disease or infection may be accredited as free from rinderpest by the OIE based on historical grounds, provided that the country:

- has had throughout at least the last 10 years and maintains permanently an adequate animal disease surveillance system along with the other requirements outlined in Article 8.13.25.;

- is in compliance with OIE reporting obligations (Chapter 1.1.).

The Veterinary Authorities of the Member must submit a dossier containing evidence supporting their claim to be free from rinderpest on a historical basis to the Director General of the OIE for evaluation by the OIE Scientific Commission for Animal Diseases and accreditation by the OIE International Committee. The dossier should contain at least the following information:

- a description of livestock populations, including wildlife;

- the history of rinderpest occurrence in the country and its control;

- an affirmation that rinderpest has not occurred for 25 years, that vaccine has not been used during that time, and that rinderpest is a notifiable disease;

- evidence that in the last 10 years the disease situation throughout the Member has been constantly monitored by a competent and effective veterinary infrastructure that has operated a national animal disease reporting system submitting regular (monthly) disease occurrence reports to the Veterinary Authority;

- the structure and functioning of the Veterinary Services;

- the Member operates a reliable system of risk analysis based importation of livestock and livestock products.

Evidence in support of these criteria must accompany the Member's accreditation application dossier. In the event that satisfactory evidence is not forthcoming, the OIE may seek clarification or refer the dossier back to the originators, giving its reasons for so doing. Under such circumstances a fresh dossier would be entertained in due course.

OR

A Member having eradicated rinderpest within the last 25 years, wishing to be accredited free from rinderpest and having ended rinderpest vaccination must initiate a two-year surveillance programme to demonstrate freedom from rinderpest whilst banning further use of rinderpest vaccine. The step of accreditation as free from rinderpest is subject to meeting stringent criteria with international verification under the auspices of the OIE.

A country historically infected with rinderpest but which has convincing evidence that the disease has been excluded for at least 2 years and is not likely to return, may apply to OIE to be accredited as free from rinderpest. The conditions which apply include that an adequate animal disease surveillance system has been maintained throughout at least that period.

The Veterinary Authority of the Member must submit a dossier containing evidence supporting their claim to be free from rinderpest to the Director General of the OIE for evaluation by the OIE Scientific Commission for Animal Diseases and accreditation by the OIE International Committee showing that they comply with:

- the provisions outlined in this Chapter;

- OIE reporting obligations outlined in Chapter 1.1. of the Terrestrial Code.

Other conditions that apply are:

- The Member affirms that rinderpest has not occurred for at least 2 years, that vaccine has not been used during that time, and that rinderpest is a notifiable disease.

- The Veterinary Authority has issued orders curtailing the distribution and use of rinderpest vaccine in livestock.
- The Veterinary Authority has issued orders for the recall and destruction of rinderpest vaccine already issued.

- The Veterinary Authority has issued orders restricting the importation of rinderpest vaccine into, or the further manufacture of rinderpest vaccine within, the territory under his jurisdiction. An exception can be made for establishing a safeguarded rinderpest emergency vaccine bank under the control of the Chief Veterinary Officer who can demonstrate that no calls have been made on that vaccine bank.

- The Veterinary Authority has set in place a rinderpest contingency plan.

- Over the previous 2 years at least, the disease situation throughout the Member has been constantly monitored by a competent and effective infrastructure that has operated a national animal disease reporting system submitting regular (monthly) disease occurrence reports to the Veterinary Authority.

- All outbreaks of disease with a clinical resemblance to rinderpest have been thoroughly investigated and routinely subjected to laboratory testing by an OIE recognised rinderpest-specific test within the national rinderpest laboratory or at a recognised reference laboratory.

The dossier shall contain:

- the results of a continuous surveillance programme, including appropriate serological surveys conducted during at least the last 24 months, providing convincing evidence for the absence of rinderpest virus circulation;

- a description of livestock populations including wildlife;

- the history of rinderpest occurrence in the country and its control;

- an affirmation that rinderpest has not occurred for at least 2 years, that vaccine has not been used during that time, and that rinderpest is a notifiable disease;

- evidence that in the last 2 years the disease situation throughout the Member has been constantly monitored by a competent and effective veterinary infrastructure that has operated a national animal disease reporting system submitting regular (monthly) disease occurrence reports to the Veterinary Authority;

- the structure and functioning of the Veterinary Services;

- the Member operates a reliable system of risk analysis based importation of livestock and livestock products.

In the event that satisfactory evidence in support of the application is not forthcoming, the OIE may seek clarification or refer the dossier back to the originators, giving its reasons for so doing. Under such circumstances a fresh dossier would be entertained in due course.

**Article 8.13.27.**

**Rinderpest outbreaks after accreditation and recovery of rinderpest free status**

Should there be an outbreak, or outbreaks, of rinderpest in a Member at any time after recognition of rinderpest freedom, the origin of the virus strain must 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. The virus must be isolated and compared with historical strains from the same area as well as those representatives of other possible sources. The outbreak itself must be contained with the utmost rapidity using the resources and methods outlined in the Contingency Plan.

After elimination of the outbreak, a Member wishing to regain the status ‘free from rinderpest’ must undertake serosurveillance to determine the extent of virus spread.

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. The country
must satisfy the OIE Scientific Commission for Animal Diseases that the outbreaks were contained, eliminated and did not represent endemic infection.

An application to regain the status free from rinderpest shall not generally be accepted until both clinical and serological evidence shows that there has been no virus transmission for at least 3 or 6 months, depending on whether or not stamping-out or vaccination respectively has been applied.

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1 [Note: International veterinary certificates for animal products coming from RP infected countries, may not be required if the products are transported in an approved manner to premises controlled and approved by the Veterinary Authority of the importing country for processing to ensure the destruction of the RPV as described in Articles 8.5.33, 8.5.34. and 8.5.35.]

CHAPTER 8.14.

TRICHINELLOSIS

(Trichinella spiralis)


General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 8.14.2.

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 8.14.3.

Trichinellosis free herd

(under study).

Article 8.14.4.

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 8.14.5.

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 8.15.

TULAREMIA

Article 8.15.1.

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 8.15.2.

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 8.15.3.

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 8.15.4.

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 8.15.5.

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 8.16.

VESICULAR STOMATITIS

Article 8.16.1.

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 8.16.2.

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 8.16.3.

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 8.16.4.

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.

Article 8.16.5.

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 8.16.6.

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 8.16.7.

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 8.16.8.

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 Chapter 4.7. or Chapter 4.9., as relevant.
Article 8.16.9.

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 Chapter 4.7. or Chapter 4.9., as relevant.
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 *A. cerana*). It is caused by the Tarsenemid 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.

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 the health of honey bees should have current knowledge of, and authority over, all domesticated apiaries in the whole country.
Article 9.1.3.

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 9.1.2. 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 9.1.2. and when:

a) the Veterinary Authority or other competent authority with responsibility for the health 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 case; 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 9.1.4.

Recommendations on safe commodities

Regardless of the acarapisosis status of the exporting country, Veterinary Authorities should authorise without restriction the import or transit through their territory of the following commodities:

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.
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* subsp. *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.

**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 the health of honey bees should have current knowledge of, and authority over, all domesticated apiaries in the country.

Article 9.2.3.

**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 9.2.2. 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 9.2.2. and when:

a) the Veterinary Authority or other competent authority with responsibility for the health 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 Apis 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 9.2.4.

Recommendations on safe commodities

Regardless of the American foulbrood status of the exporting country, Veterinary Authorities should authorise without restriction the import or transit through their territory of honey bee semen and honey bee venom.

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.

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* 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* larvae, in conformity with one of the procedures referred to in Chapter X.X. (under study).
CHAPTER 9.3.

EUROPEAN FOUL BROOD 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 pluton*. 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.

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 the health of honey bees should have current knowledge of, and authority over, all apiaries in the whole country.

Article 9.3.3.

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 9.3.2, 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 9.3.2. and when:

a) the Veterinary Authority or other competent authority with responsibility for the health 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 9.3.4.**

**Recommendations on safe commodities**

Regardless of the European foulbrood status of the exporting country, Veterinary Authorities should authorise without restriction the import or transit through their territory of honey bee semen and honey bee venom.

**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 Melissococcus pluton by bacterial culture or PCR.

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 Melissococcus pluton, 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 Melissococcus pluton, 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. must 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 in the beetle population is rapid, leading to high 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.

Article 9.4.2.

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 Competent Authority with responsibility for the health of honey bees should have current knowledge of, and authority over, all domesticated apiaries in the country.
Article 9.4.3.

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 9.4.2. 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 9.4.2. and when:

a) the Competent Authority with responsibility for the health 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 Competent 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 Competent 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 9.4.4.

Recommendations on safe commodities

Regardless of the status of the exporting country with regard to A. tumida infestation, Competent Authorities should authorise without restriction the import or transit through their territory of the following commodities:

1. honey bee semen and honey bee venom;

2. packaged extracted honey, refined or rendered beeswax, propolis and frozen or dried royal jelly.
Article 9.4.5.

Recommendations for the importation of individual consignments containing a single live queen honey bee, accompanied by a small number of associated attendants (a maximum of 20 attendants per queen)

Competent 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

Competent Authorities of importing countries should require the presentation of an international veterinary certificate including an attestation from the Competent 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

Competent 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.

Article 9.4.7.

Recommendations for the importation of eggs, larvae and pupae of honey bees

Competent 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 (under study); and

OR

2. have been isolated from queens in a quarantine station; and
3. are from hives or come from hives or colonies which were inspected immediately prior to entry into the quarantine station and show no signs or suspicion of the presence of A. tumida or its eggs or larvae or pupae then and during the quarantine period.
Article 9.4.8.

**Recommendations for the importation of used equipment associated with beekeeping**

Competent 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

   AND

2. all precautions have been taken to prevent infestation/contamination.

Article 9.4.9.

**Recommendations for the importation of honey-bee collected pollen and beeswax (in the form of honeycomb)**

Competent 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.

Article 9.4.10.

**Recommendations for the importation of comb honey**

Competent 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
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2. contains no live honey bees or bee brood.
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 mite Tropilaelaps daraneae and T. koenigerum. The mite is an ectoparasite of brood of Apis mellifera L., A. laboriosa and A. 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.

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 infestations 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 the health of honey bees should have current knowledge of, and authority over, all domesticated apiaries in the country.

Article 9.5.3.

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 9.5.2, but without formally applying a specific

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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 9.5.2. and when:

a) the Veterinary Authority or other competent authority with responsibility for the health 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, has 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 case; 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 9.5.4.

Recommendations on safe commodities

Regardless of the status of the exporting country with regard to Tropilaelaps infestation, Veterinary Authorities should authorise without restriction the import or transit through their territory of the following commodities:

1. honey bee semen, honey bee eggs and honey bee venom;

2. extracted honey and beeswax (not in the form of honeycomb).

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. 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 the 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.

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 the health of honey bees should have current knowledge of, and authority over, all domesticated apiaries in the country.

Article 9.6.3.

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 9.6.2, 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 9.6.2. and when:

a) the Veterinary Authority or other competent authority with responsibility for the health 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 hives; 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 case; 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 *A. 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.

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**Article 9.6.4.**

**Recommendations on safe commodities**

Regardless of the varroosis status of the exporting country, Veterinary Authorities should authorise without restriction the import or transit through their territory of the following commodities:

1. honey bee semen, honey bee eggs and honey bee venom;
2. extracted honey and beeswax (not in the form of honeycomb).

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**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.

ALES

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 chlamydirosis may prohibit importation or transit through their territory, from countries considered infected with avian chlamydirosis, 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 chlamydirosis on the day of shipment;

2. were kept under veterinary supervision for the 45 days prior to shipment and were treated against avian chlamydirosis 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 shall 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 6.3.;
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 6.3.;
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 6.3.;
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 shall 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 6.3.;
2. have not been vaccinated against ILT; or
3. were vaccinated against ILT (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 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 6.3;
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 6.3;
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 trade bans in response to a notification of infection with HPAI and LPAI virus in birds other than poultry according to Article 1.2.3. of the Terrestrial Code.

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 further investigated. In the case of isolated serological positive results, NAI infection may be ruled out on the basis of a thorough epidemiological 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 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 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 Articles 10.4.20. or 10.4.21. 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 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 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 required surveillance, in accordance with Articles 10.4.27. to 10.4.33., has been carried out on the establishment within at least the past 21 days;
4. if vaccinated, the poultry have been vaccinated in accordance with Articles 10.4.27. to 10.4.33.; in that case, the nature of the vaccine used and the date of vaccination should be 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, zone or compartment of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the birds showed no clinical sign of infection with a virus which would be considered NAI in poultry 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 with a virus which would be considered NAI in poultry during the isolation period;
3. the birds were 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.

If the birds have been vaccinated, the nature of the vaccine used and the date of vaccination should be 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;
Chapter 10.4. - Avian influenza

3. if the poultry or the parent flocks were vaccinated, vaccination was carried out in accordance with Articles 10.4.27. to 10.4.33.; in that case, the nature of the vaccine used and the date of vaccination should be 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 were vaccinated, vaccination was carried out in accordance with Articles 10.4.27. to 10.4.33.; in that case, the nature of the vaccine used and the date of vaccination should be 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, zone or compartment, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the birds showed no clinical signs suggestive of NAI 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 NAIV;
4. the birds are transported in new or appropriately sanitized containers.
If the birds or parent flocks were vaccinated against NAI, the nature of the vaccine used and the date of vaccination should be 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. if the parent flocks were vaccinated, vaccination was carried out in accordance with Articles 10.4.27. to 10.4.33.; in that case, the nature of the vaccine used and the date of vaccination should be attached to the certificate;
4. the eggs are transported in new or appropriately sanitized containers.
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 NAI free 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 sanitised (in accordance with Chapter 6.3.) and are transported in new packing material;
4. if the parent flocks were vaccinated, vaccination was carried out in accordance with Articles 10.4.27. to 10.4.33.; in that case, the nature of the vaccine used and the date of vaccination should be 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, zone or compartment 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 6.3.) and are transported in new or appropriately sanitized packing material;
3. the parent flocks have not been vaccinated against NAI; if parent flocks were vaccinated against NAI, the nature of the vaccine used and the date of vaccination should also be attached to the certificate.

Article 10.4.13.

Recommendations for importation from a NAI 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 a NAI free country, zone or compartment;
2. the eggs are transported in new or appropriately sanitized packaging material.

Article 10.4.14.

Recommendations for importation from a HPNAI 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 a HPNAI free country, zone or compartment;
2. the eggs have had their surfaces sanitized (in accordance with Chapter 6.3.) and are transported in new or appropriately sanitized packing material.
Article 10.4.15.

**Recommendations for importation from a NAI free country, zone or compartment for egg products**

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the egg products come from, and were processed in, a NAI free country, zone or compartment.

Article 10.4.16.

**Recommendations for importation from a country, zone or compartment not considered free from NAI for egg products**

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

1. the egg products are derived from eggs which meet the requirements of Articles 10.4.11. or 10.4.14.; or
2. the egg products were processed to ensure the destruction of NAI virus in accordance with Article 10.4.25.;
3. the necessary precautions were taken after processing to avoid contact of the commodity with any source of NAI virus;
4. the eggs are transported in new or appropriately sanitized packaging material.

Article 10.4.17.

**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 10.4.18.

**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 10.4.19.

**Recommendations for the importation of semen of birds other than poultry**
Regardless of the NAI status of the country, zone or compartment 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 10.4.20.

**Recommendations for importation from a NAI 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 NAI 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 a NAI 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 signs suggestive of NAI.

Article 10.4.21.

**Recommendations for importation from a 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 HPNAI 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 a HPNAI 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 signs suggestive of NAI.

Article 10.4.22.

**Recommendations for the importation of meat products of poultry**

Regardless of the NAI status of the country, zone or compartment 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 Articles 10.4.20. or 10.4.21.; or
2. the commodity has been processed to ensure the destruction of avian influenza virus in accordance with Article 10.4.26.;
3. the necessary precautions were taken to avoid contact of the commodity with any source of NAI virus.
Recommendations for the importation of products of poultry origin intended for use in animal feeding, or for agricultural or industrial use

Regardless of the NAI status of the country, zone or compartment of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities come from poultry which have been kept in a NAI free country, zone or compartment since they were hatched or for at least the past 21 days; or
2. these commodities have been processed to ensure the destruction of avian influenza virus (under study);
3. the necessary precautions were taken to avoid contact of the commodity with any source of NAI virus.

Recommendations for the importation of feathers and down of poultry

Regardless of the NAI status of the country, zone or compartment of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities come from poultry which have been kept and processed in a NAI free country, zone or compartment since they were hatched or for at least the past 21 days; or
2. these commodities have been processed to ensure the destruction of avian influenza virus (under study);
3. the necessary precautions were taken to avoid contact of the commodity with any source of avian influenza virus.

Procedures for the inactivation of the AI virus in eggs and egg products

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Temperature (°C)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole egg</td>
<td>60</td>
<td>188 seconds</td>
</tr>
<tr>
<td>Whole egg blends</td>
<td>60</td>
<td>188 seconds</td>
</tr>
<tr>
<td>Whole egg blends</td>
<td>61.1</td>
<td>94 seconds</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td>55.6</td>
<td>870 seconds</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td>56.7</td>
<td>232 seconds</td>
</tr>
<tr>
<td>10% salted yolk</td>
<td>62.2</td>
<td>138 seconds</td>
</tr>
<tr>
<td>Dried egg white</td>
<td>67</td>
<td>0.83 days</td>
</tr>
<tr>
<td>Dried egg white</td>
<td>54.4</td>
<td>21.38 days</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.

Procedures for the inactivation of the AI virus in meat

A procedure which produces a core temperature of 70°C for 3.5 seconds is suitable for the inactivation of HPNAI virus present in meat.
<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>60.0</td>
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<tr>
<td>65.0</td>
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<tr>
<td>70.0</td>
<td>3.5 seconds</td>
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<tr>
<td>73.9</td>
<td>0.51 seconds</td>
</tr>
</tbody>
</table>

Article 10.4.27.

**Surveillance: introduction**

Articles 10.4.27. to 10.4.33. define the principles and provide a guide on the surveillance of 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. It is axiomatic that the 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 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 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 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. 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 should be followed up with 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 HPNAI 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 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 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 be classified as infected until evidence to the contrary is produced.

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 NAIV;
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 must 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 must 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 A1 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:

<table>
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<th>Description</th>
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<td>AGID</td>
<td>Agar gel immunodiffusion</td>
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<tr>
<td>DIVA</td>
<td>Differentiating infected from vaccinated animals</td>
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<tr>
<td>ELISA</td>
<td>Enzyme-linked immunosorbant assay</td>
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<tr>
<td>HA</td>
<td>Haemagglutinin</td>
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<tr>
<td>HI</td>
<td>Haemagglutination inhibition</td>
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<tr>
<td>NA</td>
<td>Neuraminidase</td>
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<tr>
<td>NP/M</td>
<td>Nucleoprotein and matrix protein</td>
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<td>NSP</td>
<td>Nonstructural protein</td>
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<td>S</td>
<td>No evidence of NAIV</td>
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The above diagrams indicate the tests which are recommended for use in the investigation of poultry flocks.

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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 shall 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 6.3.;
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 6.3.;
2. come from establishments free from avian mycoplasmosis and from hatcheries which comply with the standards referred to in Chapter 6.3.;
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 shall 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 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 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 6.3;
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 shall 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 6.3.;
2. have not been vaccinated against DVH; or
3. were vaccinated against DVH (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 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.
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 6.3.;
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 6.3.;
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 shall 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.

**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 6.3.;
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 6.3.;
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 6.3.;
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 6.3.;
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. came 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 shall 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. came from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.3.;
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 shall 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 6.3;
2. come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.3;
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 shall 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 6.3.;
2. were vaccinated against MD (the nature of the vaccine used and the date of vaccination shall 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 6.3.;
2. come from establishments which are regularly inspected by the Veterinary Authority and from hatcheries which comply with the standards referred to in Chapter 6.3.;
3. come from establishments in which vaccination against MD is practised (the nature of the vaccine used and the date of vaccination shall 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.
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 trade bans in response to reports of infection with NDV in birds other than poultry according to Article 1.2.3. of the Terrestrial Code.

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 10.13.20. to 10.13.24.;
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 has not been present in the country, zone or compartment for the past 12 months, based on surveillance in accordance with Articles 10.13.20. to 10.13.24.

If infection has occurred 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 10.13.20. to 10.13.24. 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.

If the birds were vaccinated against ND, the nature of the vaccine used and the date of vaccination should be attached to the certificate.

Recommendations for the importation of live birds other than poultry

Regardless of the ND status of the country, zone or compartment of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the birds showed no clinical sign suggestive of ND 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. the birds were 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.

If the birds were vaccinated against ND, the nature of the vaccine used and the date of vaccination should also be attached to the certificate.

Article 10.13.6.

**Recommendations for importation from an ND free country, zone or compartment as defined in Article 10.13.3.**

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;
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.

If poultry or parent flocks were vaccinated against ND, the nature of the vaccine used and the date of vaccination should also be 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, zone or compartment, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:
1. the birds showed no clinical sign suggestive of ND 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.

If the birds or parent flocks were vaccinated against ND, the nature of the vaccine used and the date of vaccination should also be attached to the certificate.

Article 10.13.8.

**Recommendations for importation from an ND free country, zone or compartment as defined in Article 10.13.3.**

for hatching eggs of poultry
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the birds:
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 packing material.

If parent flocks were vaccinated against ND, the nature of the vaccine used and the date of vaccination should also be attached to the certificate.

Article 10.13.9.

Recommendations for the importation of hatching eggs from birds other than poultry

Regardless of the ND status of the country, zone or compartment 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 are transported in new or appropriately sanitized packing material.

If parent flocks were vaccinated against ND, the nature of the vaccine used and the date of vaccination should also be attached to the certificate.

Article 10.13.10.

Recommendations for importation from an ND free country, zone or compartment as defined in Article 10.13.3.

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 packing material

Article 10.13.11.

Recommendations for importation from an ND free country, zone or compartment as defined in Article 10.13.3.

for egg products

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

1. the egg products come from, and were processed in, an ND free country, zone or compartment;
2. the egg products are transported in new or appropriately sanitized containers.

Article 10.13.12.

Recommendations for importation from a country, zone or compartment not considered free from ND

for egg products

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

1. the egg products are processed to ensure the destruction of NDV (under study);
2. the necessary precautions were taken after processing to avoid contact of the egg products with any source of NDV;
3. the egg products are transported in new or appropriately sanitized containers.

Article 10.13.13.

Recommendations for importation from an ND free country, zone or compartment as defined in Article 10.13.3.
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.


Recommendations for the importation of semen of birds other than poultry
Regardless of the ND status of the country, zone or compartment 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.

Article 10.13.15.

Recommendations for importation from an ND free country, zone or compartment as defined in Article 10.13.3.
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 10.13.16.

Recommendations for importation from an ND free country, zone or compartment
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. the commodity is derived from fresh meat which meets the requirements of Article 10.13.15. and has been processed in an ND free country, zone or compartment;
2. the necessary precautions were taken to avoid contact of the commodity with any source of NDV.

Article 10.13.17.

Recommendations for importation from a country, zone or compartment not considered free from ND

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

1. the entire consignment of meat comes from poultry which have been slaughtered in an approved abattoir 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 ND;
2. the commodity has been processed to ensure the destruction of NDV (under study);
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 products of poultry origin intended for use in animal feeding, or for agricultural or industrial use

Regardless of the ND status of the country, zone or compartment of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities come from poultry which have been kept and processed in an ND free country, zone or compartment since they were hatched or for at least the past 21 days; 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 10.13.19.

Recommendations for the importation of feathers and down

Regardless of the ND status of the country, zone or compartment of origin, Veterinary Authorities should require the presentation of an international veterinary certificate attesting that:

1. these commodities come from poultry which have been kept and processed in an ND free country, zone or compartment since they were hatched or for at least the past 21 days; 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.
Surveillance: introduction

Articles 10.13.20. to 10.13.24. 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 prevalence 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.

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 10.13.22.

Surveillance strategies

1. Introduction

The principles involved in surveillance for disease/infection are technically well defined. 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 surveillance of 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 must 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 disease 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 must 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 must be in close contact with, but should be identified to be clearly differentiated from, the target population. Sentinel poultry must 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 10.13.23.**

**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 must comply with the provisions of the Terrestrial Manual.

   In vaccinated populations there is a need to perform surveillance (Article x.x.x.) to ensure the absence of NDV circulation. The use of sentinel poultry may provide further confidence of the absence of virus circulation. The surveillance must 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.
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 must be carried out between 3 and 6 months of age, in which case these female cattle must 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 Chapter 4.5.

**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 Chapter 4.7.

**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 Chapter 4.5.;

3. the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapter 4.7.
CHAPTER 11.4.

BOVINE CYSTICERCOSIS

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 fresh meat of cattle

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

1. comes from animals which have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for bovine cysticercosis with favourable results;
2. has been recognised as being free from bovine cysticercosis; or
3. in cases of moderate infestation, has been processed using one of the methods provided in the "Recommended International Code of Practice for ante-mortem and post-mortem judgement of slaughter animals and meat", namely: freezing or heat treatment at 60°C (140°F) (FAO/WHO - Codex Alimentarius Commission CAC/ RCP 34-1985).
CHAPTER 11.5.

BOVINE GENITAL CAMPYLOBACTERIOSIS

Article 11.5.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.5.2.

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 11.5.3.

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 11.5.4.

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 11.6.

BOVINE SPONGIFORM ENCEPHALOPATHY

Article 11.6.1.

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) protein-free tallow (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 30 months of age or less, 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 11.6.14.;

   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.

Standards for diagnostic tests are described in the Terrestrial Manual.
Article 11.6.2.

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 gravers from the indigenous ruminant population;

      iii) imported meat-and-bone meal or graver;

      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 11.6.14. and may have been fed to cattle;

      vii) imported products of ruminant origin intended for in vivo use in cattle.

      The results of any epidemiological investigation 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 graver 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 graver 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 11.6.20. to 11.6.22. ;

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 11.6.20. to 11.6.22.

When the risk assessment fails to demonstrate negligible risk, the Member should conduct Type A surveillance in accordance with Articles 11.6.20. to 11.6.22.

**Article 11.6.3.**

**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 11.6.2., 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 11.6.20. to 11.6.22. 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 11.6.2. have been complied with for at least 7 years; and
      ii) it has been demonstrated through an appropriate level of control and audit that for at least 8 years neither meat-and-bone meal nor greaves derived from ruminants has been fed to ruminants;
   O R
   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 11.6.2. have been complied with for at least 7 years; and
      ii) it has been demonstrated through an appropriate level of control and audit that for at least 8 years neither meat-and-bone meal nor greaves derived from ruminants has been fed to ruminants; and
      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 11.6.4.

**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 11.6.2., 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 11.6.20. to 11.6.22. 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 11.6.2. are complied with, and it can be demonstrated through an appropriate level of control and audit 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 11.6.2. 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 11.6.2. are complied with, and it can be demonstrated through an appropriate level of control and audit 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 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 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 11.6.5.

**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 11.6.6.

**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 11.6.1.

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the country, zone or compartment complies with the conditions in Article 11.6.3.

Article 11.6.7.

**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 11.6.3;  
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 11.6.8.

**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 11.6.4.;  
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 11.6.4.;  
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 11.6.9.

**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 grãves derived from ruminants was effectively enforced.

**Article 11.6.10.**

**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 11.6.1.)

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 11.6.3.;
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 grãves derived from ruminants had been effectively enforced.

**Article 11.6.11.**

**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 11.6.1.)

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 11.6.4.;
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 11.6.14.,
   b) mechanically separated meat from the skull and vertebral column from cattle over 30 months of age.
Article 11.6.12.

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 11.6.1.)

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 grases 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 11.6.14.,
   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 11.6.13.

Recommendations on ruminant-derived meat-and-bone meal or graves

1. Ruminant-derived meat-and-bone meal or graves, or any commodities containing such products, which originate from a country, zone or compartment defined in Article 11.6.3., 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 graves derived from ruminants had been effectively enforced.

2. Ruminant-derived meat-and-bone meal or graves, or any commodities containing such products, which originate from a country, zone or compartment defined in Articles 11.6.4. and 11.6.5. should not be traded between countries.


Recommendations on commodities that should not be traded

1. From cattle of any age originating from a country, zone or compartment defined in Articles 11.6.4. and 11.6.5., 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 11.6.4., 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 11.6.5., 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 11.6.15.

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) skulls and vertebral columns 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°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 11.6.16.

Recommendations for the importation of tallow (other than as defined in Article 11.6.1.) 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 11.6.14.
Article 11.6.17.

**Recommendations for the importation of dicalcium phosphate (other than as defined in Article 11.6.1) 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 11.6.15.

Article 11.6.18.

**Recommendations for the importation of tallow derivatives (other than those made from protein-free tallow as defined in Article 11.6.1) 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 11.6.16.; or
3. they have been produced by hydrolysis, saponification or transesterification using high temperature and pressure.

Article 11.6.19.

**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 11.6.20.

**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;
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 11.6.2. 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 11.6.20. to 11.6.22.

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 11.6.21.

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 herd 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 11.6.2.), 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).

Surveillance activities

In order to implement efficiently a surveillance strategy for BSE, a Member must 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%.

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 also be carried out by countries, zones or compartments of negligible BSE risk status (Article 11.6.3.) 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 11.6.4.), 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 1. Points targets for different adult cattle population sizes in a country, zone or compartment

<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>
</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, zone or compartment. 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 ≥1 year and &lt;2 years</td>
<td>0.01</td>
<td>0.2</td>
<td>0.4</td>
<td>N/A</td>
</tr>
<tr>
<td>Age ≥2 years and &lt;4 years (young adult)</td>
<td>0.1</td>
<td>0.2</td>
<td>0.4</td>
<td>260</td>
</tr>
<tr>
<td>Age ≥4 years and &lt;7 years (middle adult)</td>
<td>0.2</td>
<td>0.9</td>
<td>1.6</td>
<td>750</td>
</tr>
<tr>
<td>Age ≥7 years and &lt;9 years (older adult)</td>
<td>0.1</td>
<td>0.4</td>
<td>0.7</td>
<td>220</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 11.6.23.

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.

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 11.6.24.

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 11.6.27. 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.
A assumption: That meat-and-bone meal or gravaes of ruminant origin plays the only significant role in BSE transmission.

Question to be answered: Has meat-and-bone meal, graves, 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, graves or feedstuffs containing either meat-and-bone meal or graves, is necessary to assess the risk of release of BSE agent. Meat-and-bone meal and graves originating in countries of high BSE risk pose a higher release risk than that from low risk countries. Meat-and-bone meal and graves originating in countries of unknown BSE risk pose an unknown release risk.

Evidence required:
- Documentation to support claims that meat-and-bone meal, graves or feedstuffs containing either meat-and-bone meal or graves have not been imported, OR

- Where meat-and-bone meal, graves 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, graves 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, graves or feedstuffs containing them.

- Documentation, from the country of production, supporting why the rendering processes used to produce meat-and-bone meal, graves 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 graves.

Article 11.6.25.

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 stud.

- 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 2.2.3.).

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 grèves, 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 11.6.26.

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 BSEs 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 2.2.3.).

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 11.6.14.);
- 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 grèves, 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 11.6.27.

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 11.6.3. and 11.6.4.)?

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 11.6.28.

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 cannot 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 11.6.19.
- 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 11.6.29.

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 must 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 11.7.

BOVINE TUBERCULOSIS

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) bovines including cattle (Bos taurus, B. indicus and B. grunniens), water buffaloes (Bubalus bubalis) and wood bisons (Bison bison and B. bonasus).

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.7.2.

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 did not detect M. bovis infection in at least 99.8% of the herds and 99.9% of the animals 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 has not detected infection with M. bovis 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 or zone or herd free from bovine tuberculosis or comply with the relevant provisions in Article 11.7.5. or in Article 11.7.6.

Article 11.7.3.

Compartment free from bovine tuberculosis (under study)

To qualify as a compartment free from bovine tuberculosis, a herd or herds of cattle, water buffalo or wood bison should be certified by the Veterinary Authority as satisfying the following requirements:

1. cattle, water buffalo and wood bison in the herd or herds:
   a) showed no sign of bovine tuberculosis or lesions at ante-mortem or post-mortem inspection for at least 3 consecutive years;
b) over 6 weeks of age, 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) showed a negative result to an annual tuberculin test to ensure the continuing absence of bovine tuberculosis; or

   i) 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

   ii) 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

   iii) 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.

Article 11.7.4.

**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 or a zone 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 3 consecutive years;

   b) over 6 weeks of age, 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) showed a negative result to an annual tuberculin test to ensure the continuing absence of bovine tuberculosis; or

      i) 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

      ii) 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

      iii) 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.

Article 11.7.5.

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 and prior to entry into the herd were subjected to at least two tuberculin tests carried out at a six-month interval with negative results.

Article 11.7.6.

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 11.7.7.

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:
   a) showed no signs of bovine tuberculosis on the day of collection of the semen;
   b) 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
   c) 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 Chapter 4.5.
Article 11.7.8.

**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:**
   a) and all other susceptible animals in the herd of origin showed no signs of bovine tuberculosis during the 24 hours prior to embryo collection;
   b) originated from a herd free from bovine tuberculosis in a country, zone or compartment free from bovine tuberculosis; or
   c) 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 Chapter 4.7., Chapter 4.8. or Chapter 4.9., as relevant.**

Article 11.7.9.

**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 11.7.10.

**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 11.8.

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.

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

Article 11.8.2.

CBPP free country

To be declared free from either disease or infection by the OIE, a country should meet the requirements contained in Article 11.8.14.

Article 11.8.3.

CBPP free zone

To be declared free from either disease or infection by the OIE, a zone defined according to the provisions of Chapter 4.3. should meet the requirements contained in Article 11.8.14.

Article 11.8.4.

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 11.8.5.

Trade in commodities

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

Article 11.8.6.

Recommendations for importation from CBPP free countries
for domestic bovidae

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. were kept in a CBPP free country since birth or for at least the past 6 months.

Article 11.8.7.

Recommendations for importation from CBPP free countries for wild bovidae

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. come from a CBPP free country;
   if the country of origin has a common border with a country considered infected with CBPP:
3. were kept in a quarantine station for the 6 months prior to shipment.

Article 11.8.8.

Recommendations for importation from CBPP infected countries for bovidae for breeding

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. 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 shipment;
3. were isolated from other domestic bovidae from the day of the first complement fixation test until shipment;
4. were kept since birth, or for the past 6 months, in an establishment where no case of CBPP was officially reported during that period, and that the establishment was not situated in a CBPP infected zone;
5. have not been vaccinated against CBPP; or
6. were vaccinated using a vaccine complying with the standards described in the Terrestrial Manual not more than 4 months prior to shipment. In this case, the condition laid down in point 2 above is not required.

Article 11.8.9.

Recommendations for importation from CBPP infected countries

Chapter 11.8. - Contagious bovine pleuropneumonia
for bovidae 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. were kept since birth, or for the past 6 months, in an establishment where no case of CBPP was officially reported during that period, and that the establishment was not situated in a CBPP infected zone.

Article 11.8.10.

Recommendations for importation from CBPP infected countries

for wild bovidae

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. were kept, for the 180 days prior to shipment, in a quarantine station where no case of CBPP was officially reported during that period, and that the quarantine station was not situated in a CBPP infected zone;
3. have not been vaccinated against CBPP; or
4. were vaccinated using a vaccine complying with the standards described in the Terrestrial Manual not more than 4 months prior to shipment; in this case, the condition laid down in point 2 above is not required.

Article 11.8.11.

Recommendations for importation from CBPP infected countries

for fresh meat of bovidae

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

1. which showed no lesion of CBPP;
2. which have been slaughtered in an approved abattoir and have been subjected to ante-mortem and post-mortem inspections for CBPP with favourable results.

Article 11.8.12.

Recommendations for importation from CBPP free countries

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 referred to in points a) and b) above and in Chapter 4.5.;
3. the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapter 4.7.

Article 11.8.13.

Recommendations for importation from CBPP infected countries
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;
   e) have not been vaccinated against CBPP; or
   f) 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 oocytes were fertilised with semen meeting the conditions referred to in points a) to f) above and in Chapter 4.5.;

3. the embryos/oocytes were collected, processed and stored in conformity with the provisions of Chapter 4.7.


Surveillance for CBPP

1. Introduction

The Ad hoc Group on Contagious Bovine Pleuropneumonia (CBPP) Surveillance Systems held a meeting on 7-9 June 1993 with the purpose of formulating these standards, which describe surveillance systems suited to the declaration of countries and zones free of disease and free of infection. Background information is contained in the report of the meeting. In order to write these standards, the Group reviewed the following:

a) epidemiological and non-disease factors influencing the choice of CBPP surveillance systems;

b) sampling and surveillance strategies;

c) diagnostic methods applicable to CBPP surveillance systems;

d) the implications of CBPP vaccination for surveillance systems.

This last point was the subject of lengthy discussions during the meeting of the OIE Committee in May 1994. A revised text was submitted at the following meeting of the Committee (May 1995), which requested that a small group of experts formulate revised proposals. The present text is the product of their consensus.
2. Definition and purposes of surveillance

Disease surveillance is necessary to provide evidence that a country or zone is free from a disease or infection.

Disease surveillance should be implemented by both:

a) a system of reporting any signs of disease activity which come to the notice of Veterinary Services or livestock owners; and

b) an active programme of examination of statistically selected samples from host populations in order to detect clinical signs or other indications of the occurrence of disease or transmission of infection.

In either case, suspicion of disease activity should be followed by quarantine, confirmatory diagnostic work and any necessary disease control measures. Surveillance thus implies that official action will follow from the discovery of evidence of disease or infection. It can be contrasted with monitoring, in which the gathering of data from the field takes place similarly, but no official action based on the findings is implied in the data-gathering activity.

Within the context of pleuropneumonia, specific measures need to be implemented, such as an exhaustive inspection of all lungs of bovines throughout the country or zone.

3. Steps to be taken to declare a country free from contagious bovine pleuropneumonia

The current goal in CBPP control is to achieve freedom from disease in particular countries and later of entire world regions, with the ultimate aim of achieving global eradication. It is therefore necessary to institute a system for verifying the steps towards these short and long-term aims, and to assist countries which wish to trade in livestock or livestock products, but face difficulties due to the presence or past occurrence of CBPP.

In conformity with the general principles for assessing disease status developed by the OIE, a four-stage process should be applied:

- intention to eradicate pleuropneumonia: the longest phase, depending on prevalence of the disease in the country or zone, geographical, socio-economic and administrative conditions, and the capacity of the animal health infrastructure;
- once a country is free from CBPP and that disease is unlikely to be re-introduced, the country can declare itself provisionally free from disease, provided it meets the criteria listed below;
- declaration of freedom from clinical CBPP, after international verification carried out under the auspices of the OIE;
- declaration of freedom from CBPP, where a country meets more stringent surveillance and control criteria.

The last three stages are strictly covered by the epidemiological surveillance methods of the OIE.

The sequence of operations differs both in terms of tactics and duration depending on whether or not the country wishing to eradicate CBPP practises vaccination.

'Disease' in the context of declaration of freedom means that the particular pathogenic agent is present and causes significant pathological effects on animals which become infected with the agent. Thus 'freedom from disease' means that there is no evidence in animals within the country or zone of any pathological effects occurring (including clinical signs) due to the presence of the agent, and from all the evidence pathogenic strains of the particular agent have been eliminated.

COUNTRIES PRACTISING VACCINATION

The process is summarised in the following chart:
Fig. 1. Requirements for the declaration of freedom from disease and freedom from CBPP

The specific criteria proposed for each stage of this process are as follows:

a) Provisional freedom from disease

For a country to declare the whole or a zone of its territory provisionally free from disease, it must fulfil certain conditions, which are:

i) no clinical or pathological evidence of CBPP should have been detected for at least 3 years;

ii) there is an effective Veterinary Service which is able to monitor the animal health situation in the country;

iii) there is effective meat inspection at approved abattoirs, and effective surveillance of populations in which significant numbers of slaughtered susceptible livestock are not subject to meat inspection;

iv) all evidence suggestive of CBPP is investigated by field and laboratory methods (including serological and microbiological assessment) to refute a possible diagnosis of CBPP;

v) there is an effective reporting system, both from the field to the central veterinary authority, and by that body to the OIE;

vi) there is an effective system to prevent the introduction of infection, including appropriate border control, quarantine etc.;

vii) if vaccination has been used, all vaccination against CBPP has ceased by the date of declaration; the OIE and neighbouring countries having been notified in writing, giving the date from which vaccination was discontinued.
b) Freedom from clinical CBPP

A country which has declared itself or a zone to be provisionally free from disease may be declared by the OIE free from clinical CBPP, provided that the following criteria are met:

i) no clinical or pathological evidence of CBPP has been detected for at least 5 years;

ii) no CBPP vaccination has taken place for at least 2 years;

iii) the country operates surveillance and disease reporting systems for CBPP adequate to detect disease if it were present, and ensures that veterinary staff are adequately trained in the recognition of CBPP;

iv) all susceptible livestock at recognised abattoirs are subject to meat inspection procedures adequate to detect lung lesions, with diagnostic procedures to refute a possible diagnosis of CBPP;

v) there has been a programme of surveillance (using serological, pathological and microbiological techniques) for at least 2 years on any populations of susceptible domestic livestock where more than 10% of slaughtering is not subject to adequate meat inspection procedures;

vi) all evidence suggestive of CBPP is investigated by field and laboratory methods (including serological and microbiological assessment) to refute a possible diagnosis of CBPP;

vii) there are effective measures in force to prevent re-introduction of the disease.

On meeting these criteria, a country may apply to the OIE for all, or a zone, of its territory to be declared free from clinical CBPP.

An Expert Panel for the Verification of Disease Status of the OIE will evaluate the application and decide whether or not to approve it. In coming to its decision, the Expert Panel will consider evidence presented by the country and will gather information on the extent to which the criteria are met. This information-gathering will usually include sending members of the Panel to make a field visit to the country. The Expert Panel will report its findings to the OIE Scientific Commission for Animal Diseases. The Commission will report its conclusions annually to the International Committee for endorsement.

To maintain this status, a country must continue to meet these requirements until it is declared free from CBPP, and must report to the OIE an annual summary of developments.

Should there be a localised temporary outbreak of disease due to re-introduction of CBPP to a country which has met, or is within 2 years of meeting, the requirements for a declaration of freedom from clinical CBPP, that country should implement a stamping-out policy, which may be supported by intensive perifocal vaccination, to eradicate the outbreak. In such circumstances if no vaccination was carried out, it will then require at least one year from the date of the last case before the country becomes eligible to apply for a declaration of freedom from clinical CBPP. If vaccination was used, this period is extended to 2 years from the date of the last case or the last vaccination (whichever occurs later). In making an application under these special circumstances, it must be shown that the outbreak did not represent endemic infection, and that the disease has been eradicated by the actions taken.

The declaration of zones to be free from clinical CBPP will not remove the requirement for the country subsequently to meet the criteria for declaration of freedom from clinical CBPP for the country as a whole; if it wishes to achieve that status, it will have to meet all of the requirements specified above before it can apply for a declaration of freedom from clinical CBPP for the entire country.
c) **Freedom from CBPP**

A country or a zone of its territory which has within the last 10 years either vaccinated against CBPP, or found clinical or pathological evidence of CBPP, may be declared by the OIE to be free from CBPP if the following criteria are met:

i) it has been declared free from clinical CBPP at least 2 years earlier, and continues to meet the requirements for this status;

ii) there has been effective abattoir surveillance for at least 4 years, covering all susceptible domestic livestock;

iii) use has been made of diagnostic procedures capable of differentiating *Mycoplasma mycoides* from other bovine *Mycoplasma* infections in the investigation of respiratory disease, and the findings are consistent with freedom from *M. mycoides* infection;

iv) there has been a programme of surveillance, including serological, pathological and microbiological components, for at least 3 years on any populations of susceptible domestic livestock where more than 10% of slaughter stock are not subject to adequate meat inspection procedures.

On satisfying these criteria, a country may apply to the OIE to be declared free from CBPP. An Expert Panel for the Verification of Disease Status of the OIE will evaluate the application and decide whether or not to approve it. In coming to its decision, the Expert Panel will consider evidence presented by the country and will gather information on the extent to which the criteria are met. This information-gathering will usually include sending members of the Panel to make a field visit to the country.

The Expert Panel will report its findings to the OIE Scientific Commission for Animal Diseases. The Commission will report its conclusions annually to the International Committee for endorsement.

In the special case of a country or zone which has been considered to be continuously free from CBPP for at least 10 years, and meets all of the following requirements:

v) has not vaccinated against CBPP for at least 10 years;

vi) throughout that period found no clinical or pathological evidence of CBPP infection;

vii) had throughout that period, and undertakes to maintain permanently, an adequate disease surveillance and reporting system, covering all susceptible domestic livestock;

viii) in appropriate circumstances, made use of diagnostic procedures capable of differentiating *Mycoplasma mycoides* from other bovine *Mycoplasma* infections in the investigation of respiratory disease, with findings consistent with freedom from *M. mycoides* infection;

the country or zone may be declared by the OIE to be free from CBPP without the necessity to proceed through the normal intermediate steps. This declaration will be based on the conclusions of the Expert Panel for the Verification of Disease Status.

Declaration of freedom from CBPP can be made for the country as a whole, or for zones within a country.

Should there be a localised temporary outbreak of disease due to re-introduction of CBPP to a country which has met, or is within one year of meeting, the requirements for a declaration of freedom from CBPP, that country may take special measures (excluding the use of vaccination) to eradicate the outbreak. In such circumstances, it will then require at least 2 years from the date of the last case before the country becomes eligible to apply for a declaration of freedom from CBPP. In making an application under these special circumstances, the country must demonstrate that the outbreak did not represent endemic infection, and that the disease has been eradicated by the actions taken.

In order to maintain this status, the country must continue to operate an efficient disease surveillance and reporting system, which would detect CBPP if it occurred.
COUNTRIES NOT PRACTISING VACCINATION

These are generally countries with a solid animal health infrastructure (with a system for individually identifying animals) where CBPP has been accidentally introduced.

The specific criteria proposed for each stage of this process are as follows:

a) Provisional freedom from disease

A country may declare the whole or a zone of its territory provisionally free from disease one year after the last infected herds and in-contact herds have been slaughtered, on condition that:

i) there has been no vaccination in the country or zone for at least 2 years;

ii) all treatment against CBPP is prohibited for sick animals or suspected cases;

iii) a stamping-out policy is implemented after any CBPP outbreaks. Within the framework of the declaration, a minimum period of 12 months will be required after the last sick or in-contact herd has been slaughtered;

iv) an epidemiological investigation, including serological tests, has been carried out to determine the prevalence of the disease in the country or infected zone. Special attention should be given to screening animals transported into or out of the infected herds during the 6 months preceding detection of the outbreak(s);

v) a system of livestock identification and movement control has been set up in the country or zone for the purposes of CBPP control and surveillance as follows:

- all herds are officially registered and all animals of susceptible species aged over 12 months are individually identified;

- before being moved, other than for immediate slaughter, all animals of susceptible species are to be clinically inspected and serologically tested for CBPP;

vi) all animals of susceptible species in herds or establishments within a 3-km radius of an outbreak, and any animals with a possible epidemiological link, are individually identified, placed in quarantine for at least 6 months, and

- all animals of susceptible species in the aforementioned herds or establishments are serological tested on two occasions at an interval of 2 to 8 weeks; microbiological investigations are to be carried out on any serologically positive animal;

- during the quarantine period, animals in the aforementioned herds or establishments are not to be moved other than to an officially approved abattoir, where they are to be immediately slaughtered and subjected to sanitary inspection after slaughter;

- microbiological tests should be carried out on animals presenting lesions suggestive of CBPP;

vii) surveillance is carried out in abattoirs in the contaminated country. Any lesion suggestive of CBPP should be examined microbiologically and, if the result is positive, the herd of origin must be found and subjected to serological testing;

viii) the diagnostic tests used in the country or zone comply with OIE standards and are conducted in a nationally approved laboratory.
b) **Freedom from contagious bovine pleuropneumonia**

A country or zone may be declared by the OIE to be free from CBPP 2 years after the last infected and in-contact herds have been slaughtered if the conditions listed in paragraphs a)i) to a)iii) continue to be met.

4. **Epidemiological methods**

a) **Surveillance systems**

In demonstrating that a country or zone is free of disease, it is necessary to conduct a surveillance programme which would have a very high probability of detecting the disease if it were present. Surveillance for CBPP will include a combination of clinical, pathological, serological and microbiological methods, built around an epidemiological surveillance approach. The mix of procedures used will depend on the specific circumstances of the country or zone.

The most efficient means of detecting CBPP is through effective meat inspection procedures at abattoirs followed by laboratory examination of suspect lesions. Where a very high proportion of susceptible domestic livestock are slaughtered in controlled abattoirs, this will provide a very sensitive surveillance system covering the whole population. It is possible that structured investigation of a statistical sample of carcasses might be used to augment the routine meat inspection procedures.

Where large numbers of susceptible livestock are exported for slaughter, it may be necessary to obtain meat inspection data from the importing country.

Where a significant proportion of susceptible domestic livestock are not subject to meat inspection at the abattoir, then it will be necessary to use alternative surveillance methods based on
the examination of samples of herds so as to achieve a standard probability of detection. Animals in sampled herds would be subjected to clinical examination for signs of CBPP, but not all infected animals exhibit clinical signs. Serological testing can be useful in identifying infected herds, but due to the limitations of the currently available serological tests, and the possibility that the disease may be present at very low prevalence, such surveillance systems are not very efficient in proving freedom from disease and require large numbers of herds to be sampled.

b) Definition of sampling units

A sampling unit for the purposes of disease investigation and surveillance is defined as a group of animals in sufficiently close contact that individuals in the group would be at approximately equal risk of coming into contact with the disease agent if there were an infectious animal within the group. In most circumstances, the sampling unit would be a herd which is managed as a unit by an individual or a community, but there may be other epidemiologically appropriate groupings which are subject to regular mixing, such as all the animals belonging to residents of a village. Sampling units should normally be defined so that the majority of units contain between 50 and 1,000 animals.

c) Criteria for the stratification and sampling of host populations

'Serological surveillance would only be adopted for CBPP in circumstances where the preferred slaughterhouse surveillance system described in item 3(c) of this Chapter could not be carried out on an adequate scale because too low a proportion of animals was slaughtered in a slaughterhouse. Thus the following system would be used as an exceptional case, rather than as the usual procedure'.

Any disease surveillance activities must be conducted on populations stratified according to disease risk, which depends principally upon the environment and management system. The cattle production systems of most countries would be categorised into between two and six strata.

Annual sample sizes must be sufficient to provide 95% probability of detecting evidence of CBPP if it were present at a prevalence of 1% of herds or other sampling units. Given perfect sensitivity of the within-herd testing procedure, this would require the examination of 300 herds from each stratum per year. However, the currently available serological tests have rather low sensitivity. The sensitivity of the test procedure at herd level is further reduced when only a sample of the herd is tested. It is possible to compensate for lower sensitivity by increasing the numbers of herds examined. The required sample size is determined by adjusting the prevalence to allow for the lack of sensitivity. For example, if there was 50% probability of detecting a sampled infected herd (sensitivity 0.5), then a true disease prevalence of 1% of herds would result in a detectable prevalence of 0.5%, and this detectable prevalence would be used to determine the required sample size.

Herd, or other sampling units, must be selected from each stratum by proper random methods, which are described in the Guide to Epidemiological Surveillance for Rinderpest published by the OIE. Any randomly selected herd must be examined in order to achieve the required probability of detection. However, this probability can often be increased by an important but unquantifiable margin by sampling additional herds based on subjective assessment of risk, or information gained during field work.

5. Contagious bovine pleuropneumonia vaccines

T1 strain (and its streptomycin-resistant variant) is the recommended vaccine, and the following facts are relevant to disease surveillance activities:

Current vaccines do not induce life-long immunity; the duration of protection after vaccination is about one year.

A significant proportion of vaccinated animals do not develop a serological response detectable by currently used techniques, although such animals may be protected against challenge. Where the serological response to vaccination is detectable by the complement fixation test, it usually persists for less than 3 months.
As their immunity wanes, vaccinated cattle are more likely to develop chronic lesions (sequestra) after infection.

6. Diagnostic methods

The diagnosis of CBPP depends on:
- clinical signs in the live animal;
- gross pathological findings;
- serological tests;
- culture and identification of the causative organism.

a) Clinical diagnosis

The clinical signs of CBPP may be slight or non-existent. Furthermore, the use of anti-microbial or anti-inflammatory drugs can mask the clinical expression of the disease. For these reasons, clinical signs are an unreliable indicator of the presence of the disease. However, if respiratory disease is observed in a livestock population, then the diagnosis of CBPP should be considered and confirmed or rejected on the basis of further pathological, microbiological or serological investigations.

b) Gross pathology

The lung lesions of CBPP are distinctive. Consequently, abattoir meat inspection is the most practical single method for maintaining CBPP surveillance. The pleura and lungs should be examined by palpation and section. A mixture of acute lesions and chronic lesions (sequestra) may be found in the same herd or even the same animal. In case of chronic infection, post-mortem diagnosis may be the only way of detecting asymptomatic animals, which may not react to serological tests.

c) Serological diagnosis

The serological test of choice is the complement fixation test (CFT). The specificity of this test can be as high as 99.5%, but the frequency of false positive reactions may temporarily be higher in certain herds. The sensitivity of the test is limited, and it may fail to identify four classes of animals:

i) animals in the very early stages of the disease;
ii) animals in the very late stages of the disease (the CFT appears to fail to detect 30% of animals containing sequestra);
iii) animals with massive lesions, where the antibodies produced are overwhelmed by the antigen;
iv) animals which have been treated in the early stages of the disease may fail to develop a detectable serological response.

Despite these limitations, the CFT is a useful herd test.

The CFT reaction after vaccination is inconstant and short-lived (generally less than 3 months).

An indirect enzyme linked immunosorbent assay (ELISA) is under field evaluation in several countries. It is at least as sensitive as the CFT, but as with other ELISA systems, increased sensitivity can only be achieved at the expense of specificity, and vice versa. It is a useful tool to measure the efficacy of vaccination programmes, as the detectable response is more reliable than the CFT, and may persist for as long as one year after vaccination.

Monoclonal and competitive ELISA systems are being developed and should offer higher specificity.

The passive haemagglutination test, while not used routinely, may have a place in serological diagnosis. It is more sensitive than the CFT in early and late stages of disease, but the specificity is lower. It has a potential role as a screening test.
The slide agglutination test is simple to perform and could be used as a pen-side test. It is more sensitive than the CFT in the early stages of the disease, but it lacks specificity.

d) **Culture and identification of the causative organism**

It is desirable that all diagnoses are confirmed by isolation of the causative organism. It may prove difficult to isolate *Mycoplasma* from chronic lesions and also after animals have been treated with anti-microbial drugs.

The causative organism is normally identified by growth inhibition tests and/or the immunofluorescence test. Closely related *Mycoplasma* may cause cross-reactions in these tests. Several new techniques which may overcome this problem are being developed, and these include immunobinding, immunoperoxidase and polymerase chain reaction (PCR) tests. These need further evaluation.

e) **Testing imported animals**

In formulating its recommendations for a system of declaration of freedom, the Group acknowledged that existing serological tests for CBPP are quite variable in sensitivity and specificity. Hence serological methods alone are unlikely to prevent the introduction of infection if live animals are imported from CBPP-infected countries. The chronic course of the disease may mean that diagnosis following introduction of CBPP may be delayed by a number of years. In the longer term there is a need for more sensitive and specific diagnostic tests. Pending the development of such tests, serological methods are necessary, but not sufficient to prevent introduction of the disease in live animals.
CHAPTER 11.9.

DERMATOPHILOSIS

Article 11.9.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.9.2.

Recommendations for importation from countries considered infected with dermatophilosis for ruminants and equines

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

1. showed no clinical sign of dermatophilosis on the day of shipment;
2. were treated with acaricides prior to shipment and were completely free of ticks.
CHAPTER 11.10.

ENZOOTIC BOVINE LEUKOSIS

Article 11.10.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.10.2.

Country or zone free from enzootic bovine leukosis

1. Qualification

To qualify as free from enzootic bovine leukosis (EBL), a country or zone must 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 animals 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 must 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 bovines (except for slaughter) comply with the provisions of Article 11.10.4.;

c) all imported bovine semen and embryos/ova fulfil the requirements referred to in Article 11.10.5. and in Article 11.10.6., respectively.

Article 11.10.3.

Herd free from enzootic bovine leukosis

1. Qualification

To qualify as free from EBL, a herd must 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 animals 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) animals introduced into the herd after the first test have fulfilled the conditions of Article 11.10.4;

d) all bovine semen and embryos/ova introduced into the herd after the first test have fulfilled the conditions referred to in Article 11.10.5. and in Article 11.10.6., respectively.

2. Maintenance of free status

For a herd to maintain its EBL free status, the animals in the herd over 24 months of age on the day of sampling must 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 animals react positively to a diagnostic test for EBL or a virological test (under study) for bovine leukosis virus, the status of the herd shall be suspended until the following measures have been taken:

a) the animals which have reacted positively, and their progeny since the last negative test, must be removed from the herd immediately; however, any animal 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 animals must 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 animals and their progeny.

Article 11.10.4.

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 animals:

1. come from a country or zone free from EBL; or

2. come from an EBL free herd; or

3. meet the following three conditions:

   a) the animals 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 animals 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 animals 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 animals 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 11.10.5.

**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 Chapter 4.5.

Article 11.10.6.

**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 Chapter 4.7.
CHAPTER 11.11.

HAEMORRHAGIC SEPTICAEMIA
(Pasteurella multocida serotypes 6:b and 6:e)

Article 11.11.1.

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 11.11.2.

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 11.11.3.

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 11.11.6. or 11.11.7.

Article 11.11.4.

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 11.11.5.

**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 11.11.6.

**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 11.11.7.

**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 11.12.

INFECTIOUS BOVINE RHINOTRACHEITIS/
INFECTIOUS PUSTULAR VULVOVAGINITIS

Article 11.12.1.

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 11.12.2.

Country or zone free from IBR/ IPV

1. Qualification

To qualify as free from IBR/ IPV, a country or zone must 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 11.12.4.;

c) all imported bovine semen and embryos/ova fulfil the requirements referred to in Articles 11.12.6. or 11.12.7., and in Article 11.12.8., respectively.

Article 11.12.3.

Herd free from IBR/ IPV

1. Qualification

To qualify as free from IBR/ IPV, a herd of cattle must 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 11.12.6. or 11.12.7. and in Article 11.12.8., respectively.

2. Maintenance of free status

For a herd to maintain its status free from IBR/ IPV, it must 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 must satisfy the conditions provided in point 1c) above, and semen and embryos/ ova used in the herd must satisfy the conditions provided in Articles 11.12.6. or 11.12.7. and in Article 11.12.8., respectively.

Article 11.12.4.

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 11.12.5.

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 11.12.6.

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 Chapter 4.5.

Article 11.12.7.

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, with negative results; and
4. the semen was collected, processed and stored in conformity with the provisions of Chapter 4.5.

Article 11.12.8.

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 Chapter 4.7.
CHAPTER 11.13.

LUMPY SKIN DISEASE
(caused by group III virus, type Neethling)

Article 11.13.1.

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 11.13.2.

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 11.13.3.

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 11.13.4.

Recommendations for importation from LSD free countries for domestic bovines

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 11.13.5.

Recommendations for importation from LSD free countries
for wild bovines
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 11.13.6.

Recommendations for importation from countries considered infected with LSD
for domestic bovines
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 11.13.7.

Recommendations for importation from countries considered infected with LSD
for wild bovines
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 11.13.8.

Recommendations for importation from LSD free countries
for semen of bovines
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the donor animals:
1. showed no clinical sign of LSD on the day of collection of the semen and for the following 28 days;
2. were kept in an LSD free country.

Article 11.13.9.

Recommendations for importation from countries considered infected with LSD
for semen of bovines

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

1. showed no clinical sign of LSD on the day of collection of the semen and for the following 28 days;
2. 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.

Article 11.13.10.

Recommendations for importation from LSD free countries

for products of animal origin (from bovines) 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 11.13.11.

Recommendations for importation from countries considered infected with LSD

for products of animal origin (from bovines) 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 11.13.12.

Recommendations for importation from countries considered infected with LSD

for raw hides of bovines

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that these products were stored for at least 40 days before shipment.

THEILERIOsis


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 11.14.2.

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.
CHAPTER 11.15.

TRICHOME NOSIS

Article 11.15.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 11.15.2.

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 11.15.3.

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.

Article 11.15.4.

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 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 Chapter 4.5.
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; 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.

**AH SV seasonally free zone**

1. An AHSV seasonally free zone is a part of an infected country or an infected zone for which for part of a year, ongoing surveillance and monitoring demonstrate no evidence of AHSV transmission and 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.

**AH SV 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 vaccinated against AHS 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 vaccinated against AHS 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 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 embryos/oocytes; or
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 embryos/oocytes collection for this consignment;

2. the embryos were collected, processed and stored in conformity with the provisions of Chapter 4.7;

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 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, 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 AHHSV surveillance. However, the principles of survey design described in these recommendations and the requirements for a statistically valid survey for the presence of AHHSV infection should not be compromised.

The results of random or targeted serological surveys are important in providing reliable evidence that no AHHSV 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 AHHSV 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 AHHSV, 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 AHHSV. An AHHSV free country or zone may be protected from an adjacent infected country or infected zone by a buffer zone.

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

3. Virological surveillance

Isolation and genetic analysis of AHHSV 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 managed at fixed locations and sampled regularly to detect new AHHSV infections.

The primary purpose of a sentinel equid programme is to detect AHHSV 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 AHHSV. 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 AHHSV 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 AHHSV 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 2-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.

EPIZOOTIC LYMPHANGITIS

Article 12.4.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.4.2.

Recommendations for the importation of domestic horses

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

1. showed no clinical sign of epizootic lymphangitis on the day of shipment;
2. were kept in establishments in which no case of epizootic lymphangitis was officially reported during the 2 months prior to shipment.
CHAPTER 12.5.

EQUINE ENCEPHALOMYELITIS
(Eastern and Western)

Article 12.5.1.

General provisions

Standards for diagnostic tests and vaccines 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 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 12.6.

EQUINE INFECTIOUS ANAEMIA

Article 12.6.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.6.2.

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 12.7.

EQUINE INFLUENZA

Article 12.7.1.

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 horses from horses 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 equine influenza is 21 days.

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

Article 12.7.2.

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 horses.

Article 12.7.3.

Equine influenza free country, zone or compartment

A country or a zone or a compartment may be considered free from EI provided the disease is notifiable in the whole country and it shows evidence of an effective surveillance programme, planned and implemented according to the general principles in Chapter 1.4. 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, a zone or a compartment seeking freedom from EI, in which vaccination is practised, should also demonstrate that EIV has not been circulating in the domestic horse population during the past 12 months, through surveillance, in accordance with Chapter 1.4. In a country in which vaccination is not
practised, surveillance could be conducted using serological testing. In countries where vaccination is practised, the surveillance should include methods of virus detection.

If an outbreak of clinical equine influenza 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 12-month period in accordance with Chapter 1.4.

Article 12.7.4.

Recommendations on safe commodities

Regardless of the EI status of the exporting country, zone or compartment, the Veterinary Authority of a country, zone or compartment should authorise without restriction on account of EI the importation into their territory of the following commodities:

1. semen;
2. in vivo derived equine embryos collected, processed and stored in conformity with the provisions of Chapter 4.7. (under study).

Article 12.7.5.

Recommendations for the importation of horses for immediate slaughter

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the horses showed no clinical sign of EI on the day of shipment.

Article 12.7.6.

Recommendations for the importation of horses for unrestricted movement

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

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 horse, 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.

Article 12.7.7.

Recommendations for the importation of horses which will be kept in isolation (see Article 12.7.1)
Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the horses:

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 horse, information on its vaccination status should be included in the veterinary certificate;

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2. showed no clinical sign of EI in any premises in which the horses 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.

Article 12.7.8.

Recommendations for the importation of fresh meat of horses, mules or donkeys

Veterinary Authorities should require the presentation of an international veterinary certificate attesting that the fresh meat came from horses, mules or donkeys which had been subjected to ante-mortem and post-mortem inspections as described in Chapter 6.2.
CHAPTER 12.8.

EQUINE PIROPLASMOSIS

Article 12.8.1.

General provisions

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 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 12.8.3.

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 12.8.2. 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 12.9.

EQUINE RHINOPNEUMONITIS

Article 12.9.1.

General provisions
Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.9.2.

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, 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 was reported during that period.

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CHAPTER 12.10.

EQUINE VIRAL ARTERITIS

Article 12.10.1.

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 12.10.2.

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:

1. showed no clinical sign of EVA on the day of shipment and during the 28 days prior to shipment;

2. 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 either:
   a) on a single blood sample collected during the 28 days prior to shipment with negative result, or
   b) on blood samples taken on two occasions at least 14 days apart within 28 days prior to shipment, which demonstrated stable or declining antibody titres; or

3. were isolated for the 28 days prior to shipment and 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

4. were isolated for the 28 days prior to shipment and 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

5. 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 12 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 28 days prior to shipment.
Article 12.10.3.

**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:

1. 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;

2. 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 either:
   a) on a single blood sample collected during the 28 days prior to shipment with negative results, or
   b) 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

3. were isolated for the 28 days prior to shipment and were subjected, between 6 and 9 months of age, to a diagnostic test for EVA, as prescribed in the Terrestrial Manual, carried out on two blood samples collected at least 14 days apart, with negative results or stable or declining titre, and immediately vaccinated for EVA and regularly revaccinated.

Article 12.10.4.

**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:

1. 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;

2. showed no clinical sign of EVA on the day of semen collection;

3. were subjected between 6 and 9 months of age to a test for EVA as prescribed in the Terrestrial Manual on a blood sample with stable or decreasing titre, immediately vaccinated for EVA and regularly revaccinated according to the manufacturer’s instructions; or

4. 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

5. 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 for 14 days prior to blood sampling from the time of the taking of the blood sample until the end of semen collection; or

6. have been subjected to a test for EVA as prescribed in the Terrestrial Manual on a blood sample with positive results and then: either
   a) were subsequently test mated to two mares within 12 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 one year prior to collection of the semen to be exported.
CHAPTER 12.11.

GLANDERS

Article 12.11.1.

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 12.11.2.

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 12.11.3.

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 12.11.4.

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 12.12.

HORSE MANGE

Article 12.12.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 12.12.2.

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 horse mange on the day of shipment;
2. were kept for the 3 months prior to shipment in an establishment where no case of horse mange was officially reported during that period.
Recommenda tions 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 horse pox on the day of shipment;
2. were kept for the 3 months prior to shipment in an establishment where no case of horse pox was officially reported during that period.

VENEZUELAN EQUINE ENCEPHALOMYELITIS


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.


VEE free 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 12.14.5.

Article 12.14.3.

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.


Recommendations for importation from VEE free 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.


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
4. 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 6.3., not more than 7 days prior to shipment.
SECTION 14.
OVIDAE AND CAPRIDAE

CHAPTER 14.1.
CAPRINE AND OVINE BRUCELLOSIS
(excluding Brucella ovis)

Article 14.1.1.

General provisions

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

Article 14.1.2.

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 must 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 must 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 must be subjected each year to a diagnostic test for brucellosis, with negative results.
   For a flock containing up to 1,000 animals, the sample must 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 must 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 must 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 must 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 must 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 must 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 must 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 Chapter 4.5.

Article 14.1.9.

**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 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 Chapter 4.7.
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.
C H A P T E R 1 4 . 3 .

C O N T A G I O U S A G A L A C T I A

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;
if the animals originated from an area adjacent to a country considered infected with CCPP:
3. 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 conditions laid down in Chapter 4.7.

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 conditions laid down in Chapter 4.7.

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 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 EPIDIDYMİTIS
(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 Chapter 4.7.

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 Chapter 4.7.


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

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.

The recommendations in the present Chapter are not intended, or sufficient, to manage the risks associated with the potential presence of the bovine spongiform encephalopathy agent in small ruminants. Standards for diagnostic tests are described in the Terrestrial Manual.

Article 14.9.2.

Determination of the scrapie status of a country, zone or compartment

The scrapie status of a country, a zone or an establishment can 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) epidemiological situation concerning all animal transmissible spongiform encephalopathies (TSE) in the country, zone or establishment;
   b) importation or introduction of small ruminants or their embryos/oocytes potentially infected with scrapie;
   c) extent of knowledge of the population structure and husbandry practices of sheep and goats in the country or zone;
   d) feeding practices, including consumption of meat-and-bone meal or greaves derived from ruminants;
   e) importation of meat-and-bone meal or greaves potentially contaminated with an animal TSE or feedstuffs containing either;
   f) 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;

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 all sheep and goats showing clinical signs compatible with scrapie;

d) examination in an approved laboratory of appropriate material from sheep and goats older than 18 months displaying clinical signs compatible with scrapie taking into account the recommendations in Chapter X.X. (under study);

e) maintenance of records including the number and results of all investigations for at least 7 years.

Article 14.9.3.

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 have been taken for the relevant period of time to manage any risk identified;

AND EITHER

2. the country or the zone have demonstrated historical freedom taking into account the recommendations in Articles 14.9.13. and 14.9.14.;

OR

3. for at least 7 years, a surveillance and monitoring system as referred to in Article 14.9.2. has been in place, and no case of scrapie has been reported during this period;

OR

4. for at least 7 years, a sufficient number of investigations has been carried out annually, to provide a 95% level of confidence of detecting scrapie if it is present at a prevalence rate exceeding 0.1% out of the total number of all chronic wasting conditions in the population of sheep and goats older than 18 months of age (under study) and no case of scrapie has been reported during this period; it is assumed that the occurrence rate of chronic wasting conditions within the population of sheep and goats older than 18 months of age is at least 1%;

OR

5. all establishments containing sheep or goats have been accredited free as described in Article 14.9.4.;

AND

6. the feeding to sheep and goats of meat-and-bone meal or greaves potentially contaminated with an animal TSE has been banned and effectively enforced in the whole country for at least 7 years;

AND

7. introductions of sheep and goats, semen and 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.

For maintenance of country or zone free status, the investigations referred to in point 4 above should be repeated every 7 years.
Scrapie free establishment

An establishment may be considered eligible for accreditation as a scrapie free establishment if:

1. in the country or zone where the establishment is situated, the following conditions are fulfilled:
   a) the disease is compulsorily notifiable;
   b) a surveillance and monitoring system as referred to in Article 14.9.2. is in place;
   c) affected sheep and goats are slaughtered and completely destroyed;
   d) the feeding to sheep and goats of meat-and-bone meal or greaves potentially contaminated with an animal TSE has been banned and effectively enforced in the whole country;
   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 should be 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 established and maintained;
   c) introductions of animals are allowed only from establishments of an equal or higher stage in the process of accreditation; however, rams and bucks complying with the provisions in point 2 of Article 14.9.8. may also be introduced;
   d) an official veterinarian inspects sheep and goats in the establishment and audits the records at least once a year;
   e) no case of scrapie has been reported;
   f) sheep and goats of the establishment should have no direct or indirect contact with sheep or goats from establishments of a lower status;
   g) all culled animals over 18 months of age are inspected by an Official Veterinarian, and a proportion of those exhibiting neurological or wasting signs are tested in a laboratory for scrapie. The selection of the animals to be tested should be made by the Official Veterinarian. Animals 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 emergency slaughter).

Recommendations on safe commodities

Regardless of the scrapie status of the exporting country, Veterinary Authorities should authorise without restriction the import or transit through their territory of meat (excluding materials as referred to in Article 14.9.11.), milk, milk products, wool and its derivatives, hides and skins, tallow, derivatives made from this tallow and dicalcium phosphate originating from sheep and goats.

Recommendations for importation from countries 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 a zone or an establishment free from scrapie as described in Article 14.9.3. and in Article 14.9.4.

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) a surveillance and monitoring system as referred to in Article 14.9.2. is in place;
   c) affected sheep and goats are slaughtered 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. in the country or zone:
   a) the disease is compulsorily notifiable;
   b) a surveillance and monitoring system as referred to in Article 14.9.2. is in place;
   c) affected sheep and goats are slaughtered and completely destroyed;
   d) the feeding of sheep and goats with meat-and-bone meal or greaves potentially contaminated with an animal TSE has been banned and effectively enforced in the whole country;
2. the donor animals:
   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 semen collection;
3. the semen was collected, processed and stored in conformity with the provisions of Chapter 4.5.

Article 14.9.9.

Recommendations for importation from countries or zones not considered free from scrapie for embryos/oocytes of sheep and goats
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) a surveillance and monitoring system as referred to in Article 14.9.2. is in place;

c) affected sheep and goats are slaughtered and completely destroyed;

d) the feeding to sheep and goats of meat-and-bone meal or greaves potentially contaminated with animal TSE has been banned and effectively enforced in the whole country;

2. the donor animals:

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 Chapter 4.7.

Article 14.9.10.

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 14.9.11.

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. in the country or zone:

   a) the disease is compulsorily notifiable;

   b) a surveillance and monitoring system as referred to in Article 14.9.2. is in place;

   c) affected sheep and goats are slaughtered and completely destroyed;

2. the materials come from sheep and goats that showed no clinical sign of scrapie on the day of slaughter.

Article 14.9.12.

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.

Principles for declaring a country or zone historically free from scrapie

Articles 14.9.13. and 14.9.14. outline principles for declaring a country or zone free from scrapie.

An essential prerequisite to provide the guarantees required for the recognition of freedom from disease/infection is that the Veterinary Services of the Member comply with the provisions of Chapter 3.1. on evaluation of Veterinary Services, and, if relevant, with the provisions of Chapter 4.3. on zoning and compartmentalisation.

The provisions of the above-mentioned articles are based on the principles developed in Chapter 1.4. and the following premises:

1. the sheep population of the country or zone includes a range of genotypes known to be susceptible to scrapie;

2. the Veterinary Services have the competence, capacity and mandate to investigate, diagnose and report scrapie, if present;

3. the absence of scrapie over a long period of time can be substantiated by effective disease investigation and reporting by the Veterinary Services of an OIE Member.


Requirements to declare a country or zone historically free from scrapie

A country or zone may be recognised free from scrapie without having applied the requirements of Article 14.9.3. when:

a) scrapie has been notifiable for at least 25 years; and

b) a formal programme of targeted surveillance and monitoring can be documented as having been in place for at least 10 years; and

c) the presence of a range of scrapie susceptible genotypes in this sheep population can be documented; and

d) appropriate measures to prevent scrapie introduction can be documented as having been in place for at least 25 years; and

i) either scrapie has never been reported; or

ii) no case of scrapie has been reported for at least 25 years.
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 practised 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 infested 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.

SUIDAЕ

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 (Hylochoerus 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 a) 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 Chapter 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 Chapter 4.6.

Article 15.1.10.

Recommendations for importation from ASF free countries, zones or compartments
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 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 Chapter 4.7.

Article 15.1.11.

Recommendations for importation from countries or zones considered infected with ASF
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 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 Chapter 4.7.

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 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 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.

ATROPHIC RHINITIS OF SWINE

Article 15.2.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 15.2.2.

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 atrophic rhinitis on the day of shipment;
2. were kept in the exporting country, since birth or for the 6 months prior to shipment, in an establishment where no case of atrophic rhinitis was officially reported during the past year.
CHAPTER 15.3.

CLASSICAL SWINE FEVER

Article 15.3.1.

General provisions

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 breeds and wild boar. For the purposes of this Chapter, a distinction is made between domestic pigs (permanently captive and owned free-range pigs) and wild pigs (including feral pigs).

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 7-10 days, and are usually infective between post-infection days 5 and 14, but up to 3 months in cases of chronic infections.

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

Article 15.3.2.

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. a risk assessment has been conducted, identifying all potential factors for CSF occurrence and their historic perspective;
2. CSF should be notifiable in the whole country, and all clinical signs suggestive of CSF 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 CSF;
4. the Veterinary Authority should have current knowledge of, and authority over, all domestic pigs in the country, zone or compartment;
5. the Veterinary Authority should have current knowledge about the population and habitat of wild pigs in the country or zone.

Article 15.3.3.

CSF free country, zone or compartment

1. CSF free status in the absence of an outbreak
   a) Historically free status
      A country, zone or compartment may be considered free from the disease after conducting a risk assessment as referred to in Article 15.3.2. but without formally applying a specific surveillance programme, if the provisions of Article 1.4.6. are complied with.
   b) Free status as a result of a specific surveillance programme
A country, zone or compartment which does not meet the conditions of point 1 above may be considered free from CSF when a risk assessment as referred to in Article 15.3.2. has been conducted, surveillance in accordance with Articles 15.3.26. to 15.3.31. has been in place for at least 12 months, and when no outbreak has been observed for at least 12 months.

2. CSF free status following an outbreak

A country, zone or compartment which does not meet the conditions of point a) or b) above may be considered free from CSF if surveillance in accordance with Articles 15.3.26. to 15.3.31. has been in place and after a risk assessment as referred to in Article 15.3.2. has been conducted; and

a) where a stamping-out policy without vaccination is practised and no outbreak has been observed in domestic pigs for at least 6 months;

OR

b) where a stamping-out policy with vaccination is practised, and either:

i) vaccinated pigs are slaughtered, and no outbreak has been observed in domestic pigs for at least 6 months after the last vaccinated pig was slaughtered; or

ii) where there are validated means of distinguishing between vaccinated and infected pigs, no outbreak has been observed in domestic pigs for at least 6 months;

OR

c) where a vaccination strategy is practised without a stamping-out policy:

i) vaccination has been banned in all domestic pigs in the country, zone or compartment for at least 12 months, unless there are validated means of distinguishing between vaccinated and infected pigs;

ii) if vaccination has been practised within the past 5 years, surveillance in accordance with Articles 15.3.26. to 15.3.31. has been in place for at least 6 months to demonstrate the absence of infection within the population of domestic pigs 6 months to one year old; and

iii) no outbreak has been observed in domestic pigs for at least 12 months;

AND

in all cases, based on surveillance in accordance with Articles 15.3.26. to 15.3.31., CSF infection is not known to occur in any wild pig population in the country or zone.

Article 15.3.4.

Country free of CSF in domestic pigs but with a wild pig population

Requirements in points 2a to 2c of Article 15.3.3., as relevant, are complied with. As CSF infection may be present in the wild pig population, the following additional conditions are complied with:

1. a programme for the management of CSF in wild pigs is in place, taking into account the measures in place to manage the disease in the wild pig population, the presence of natural boundaries, the ecology of the wild pig population, and an assessment of the risk of disease spread;

2. zoning or compartmentalisation is applied to prevent transmission of CSF from wild pigs to domestic pigs.
Article 15.3.5.

Recovery of free status

Should a CSF outbreak occur in a free country, zone or compartment, the status of the country, zone or compartment may be restored not less than 30 days after completion of a stamping-out policy where surveillance in accordance with Articles 15.3.26. to 15.3.31. has been carried out with negative results.

If emergency vaccination has been practised within the CSF domestic pig control area, recovery of the free status cannot occur before all the vaccinated pigs have been slaughtered, unless there are validated means of distinguishing between vaccinated and infected pigs.

Article 15.3.6.

Country or zone free of CSF in wild pigs

A country or zone may be considered free from CSF in wild pigs when:

1. the domestic pig population in the country or zone is free from CSF infection;
2. surveillance in accordance with Articles 15.3.26. to 15.3.31. has been in place to determine the CSF status of the wild pig population in the country, and in the country or zone:
   a) there has been no clinical evidence, nor virological evidence of CSF in wild pigs during the past 12 months;
   b) no seropositive wild pigs have been detected in the age class 6-12 months during the past 12 months;
3. there has been no vaccination in wild pigs for the past 12 months;
4. the feeding of swill to wild pigs is forbidden, unless the swill has been treated to destroy any CSF virus that may be present, in conformity with one of the procedures referred to in Article 15.3.24.;
5. imported wild pigs comply with the relevant requirements set forth in the present Chapter.

Article 15.3.7.

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 validated means of distinguishing between vaccinated and infected pigs.

Article 15.3.8.

Recommendations for importation from countries free of CSF in domestic pigs but with a wild pig population
Recommendations for importation from countries or zones with CSF infection in domestic pigs

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

1. have not been vaccinated against CSF nor are they the progeny of vaccinated sows, unless there are validated means of distinguishing between vaccinated and infected pigs;
2. were kept since birth or for the past 3 months in a CSF free compartment;
3. showed no clinical sign of CSF on the day of shipment.

Article 15.3.10.

Recommendations for importation from countries or zones free of CSF

for wild 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. have been captured in a country or zone free from CSF;
3. have not been vaccinated against CSF, unless there are validated means of distinguishing between vaccinated and infected pigs;

and, if the zone where the animal has been captured is adjacent to a zone with infection in wild pigs:

4. 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 15.3.11.
**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 Chapter 4.6.

**Article 15.3.12.**

**Recommendations for importation from countries free of CSF in domestic pigs but with a wild pig population**

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 in domestic pigs 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;
2. the semen was collected, processed and stored in conformity with the provisions of Chapter 4.6.

**Article 15.3.13.**

**Recommendations for importation from countries or zones considered infected with CSF in domestic pigs**

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 in domestic pigs 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) have not been vaccinated against CSF, and were subjected to a serological test performed at least 21 days after collection, with negative results;
2. the semen was collected, processed and stored in conformity with the provisions of Chapter 4.6.

**Article 15.3.14.**

**Recommendations for importation from countries, zones or compartments free of CSF**

for in vivo derived embryos of 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 Chapter 4.7.

Article 15.3.15.

**Recommendations for importation from countries free of CSF in domestic pigs but with a wild pig population**

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) were kept in a country, zone or compartment free of CSF in domestic pigs 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;
2. the embryos were collected, processed and stored in conformity with the provisions of Chapter 4.7.

Article 15.3.16.

**Recommendations for importation from countries or zones considered infected with CSF in domestic pigs**

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) were kept in a compartment free of CSF in domestic pigs 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) have not been vaccinated against CSF and were subjected, with negative results, to a serological test performed at least 21 days after collection;
2. the embryos were collected, processed and stored in conformity with the provisions of Chapter 4.7.

Article 15.3.17.

**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 meat comes from animals which:

1. have been kept in a country, zone or compartment free of CSF since birth or for at least the past 3 months;
2. have been slaughtered in an approved abattoir, have been subjected to ante-mortem and post-mortem inspections, and have been found free of any sign suggestive of CSF.
Article 15.3.18.

Recommendations for importation from countries or zones free of CSF in domestic pigs but with a wild pig population for fresh meat of domestic pigs

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

1. were kept in a country, zone or compartment free of CSF in domestic pigs since birth or for at least the past 3 months;
2. have been slaughtered in an approved abattoir, have been subjected to ante-mortem and post-mortem inspections and have been found free of any sign suggestive of CSF.

Article 15.3.19.

Recommendations for importation from countries or zones free of CSF for fresh meat of wild pigs

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

1. the entire consignment of meat comes from animals which:
   a) have been killed in a country or zone free of CSF;
   b) have been subjected to a post-mortem inspection in an approved examination centre, and have been found free of any sign suggestive of CSF;

   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 shot, and has been subjected to a virological test and a serological test for CSF, with negative results.

Article 15.3.20.

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 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 Articles 15.3.17., 15.3.18. or 15.3.19., 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 15.3.17., 15.3.18. or 15.3.19., 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 CSF virus in conformity with one of the procedures referred to in Article 15.3.25.
Article 15.3.21.

**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 of importing countries should require the presentation of an international veterinary certificate attesting that the products:
1. have been prepared:
   a) exclusively from products meeting the conditions laid down for fresh meat in Articles 15.3.17., 15.3.18. or 15.3.19., as relevant;
   b) in a processing establishment:
      i) approved by the Veterinary Authority for export purposes;
      ii) processing only products meeting the conditions laid down in point a) above;

   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 15.3.25.

Article 15.3.22.

**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:
1. come from a country, zone or compartment free of CSF; 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.

Article 15.3.23.

**Recommendations for the importation of litter and manure (from pigs)**

Veterinary Authorities of importing countries should require:
the presentation of an international veterinary certificate attesting that the products:
1. come from a country, zone or compartment free of CSF; 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.

Article 15.3.24.

**Procedures for the inactivation of the CSF virus in swill**

For the inactivation of classical swine fever (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.

Article 15.3.25.

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 must 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 15.3.26.

Surveillance: introduction

Articles 15.3.26. to 15.3.31. 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 must 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 must 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 15.3.27.

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 15.3.28.

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 historically 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 I.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 must justify the choice of design prevalence and confidence level based on the objectives of surveillance and the epidemiological situation, in accordance with Chapter I.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. If herds predominated by adult animals, such as nucleus herds and artificial insemination studs, are not 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 CSF;

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 must 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.

Article 15.3.29.

Country or zone historically free of CSF: additional surveillance procedures

The free status should be reviewed whenever evidence emerges to indicate that changes which may alter the underlying assumption of continuing historical freedom, has occurred. Such changes include but are not limited to:

1. an emergence or an increase in the prevalence of CSF in countries or zones from which live pigs or products are imported;
2. an increase in the volume of imports or a change in their country or zone of origin;
3. an increase in the prevalence of CSF in the domestic or wild pigs of adjacent countries or zones;
4. an increased entry from, or exposure to, infected wild pig populations of adjacent countries or zones.
Article 15.3.30.

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 in the above-mentioned articles, 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:

   a) periodic clinical and serological monitoring of herds in the country or zone, and adjacent wild pig populations following these recommendations;
   b) herd registration;
   c) official accreditation of biosecurity plans;
   d) 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 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 15.3.31.

Recovery of free status: additional surveillance procedures

1. Countries or zones seeking re-establishment of freedom from CSF following an outbreak

In addition to the general conditions described in the above-mentioned articles, a Member seeking re-establishment 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 re-establishment 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.

2. Surveillance for CSF in wild pigs

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.

The design of a monitoring system for wild pigs is dependent on several factors such as the organisation of the Veterinary Service 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.

Estimates of wild pig populations can be made using advanced methods (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).

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.

The monitoring programme should also include animals found dead, road kills, animals showing abnormal behaviour or exhibiting gross lesions during dressing.

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 high wild pig density;
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 15.4.

PORCINE BRUCELLOSIS

Article 15.4.1.

General provisions

Standards for diagnostic tests are described in the Terrestrial Manual.

Article 15.4.2.

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 15.4.3.

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 15.4.4.

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 15.4.5.

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 Chapter 4.6.
CHAPTER 15.5.

SWINE VESICULAR DISEASE

Article 15.5.1.

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 15.5.2.

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 15.5.3.

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 15.5.4.

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;

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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 15.5.5.

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 15.5.6.

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 15.5.7.

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 15.5.8.

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 15.5.9.

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 Chapter 4.6.

Article 15.5.10.

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 Chapter 4.6.

Article 15.5.11.

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 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 15.5.12.

**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 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 15.5.13.

**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 15.5.14.

**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 15.5.15.

**Recommendations for importation from SVD free countries**

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 15.5.16.

**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 15.5.17.

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 15.5.18.

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 15.5.19.

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 15.6.

TESCHOVIRUS ENCEPHALOMYELITIS
(previoulsy enterovirus encephalomyelitis, Teschen disease, Talfan disease)

Article 15.6.1.

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 15.6.2.

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 15.6.3.

Enterovirus 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 15.6.4.

Trade in commodities
Veterinary Authorities of Teschovirus encephalomyelitis free countries may prohibit importation or transit through their territory, from countries considered infected with Teschovirus encephalomyelitis, of the following commodities:
1. domestic and wild pigs;
2. semen of domestic and wild 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 Teschovirus encephalomyelitis virus;
5. products of animal origin (from pigs) intended for use in animal feeding or for agricultural or industrial use;
6. products of animal origin (from pigs) intended for pharmaceutical or surgical use.

Article 15.6.5.

Recommendations for importation from Teschovirus encephalomyelitis free countries
for domestic pigs

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 15.6.6.

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 15.6.7.

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 an 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 15.6.8.

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 15.6.9.

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 15.6.10.

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 an Teschovirus encephalomyelitis infected zone.

Article 15.6.11.

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 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 15.6.12.

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:

1. which have not been kept in an Teschovirus encephalomyelitis infected zone;
2. which have been slaughtered in an approved abattoir not situated in an Teschovirus encephalomyelitis infected zone and have been subjected to ante-mortem and post-mortem inspections for Teschovirus encephalomyelitis with favourable results.

Article 15.6.13.

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 15.6.14.

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 15.6.15.

**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 15.6.16.

**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 15.7.

TRANSMISSIBLE GASTROENTERITIS

Article 15.7.1.

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 15.7.2.

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 15.7.3.

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.
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 Chapter 4.6.
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