

**REPORT OF THE MEETING
OF THE OIE FISH DISEASES COMMISSION**

Paris 17–20 September 2001

The OIE Fish Diseases Commission (FDC) met at the OIE headquarters from 17 to 20 September 2001. The meeting was chaired by Prof. Tore Håstein, and Prof. Barry J. Hill, Secretary General, acted as Rapporteur. The Agenda and the List of Participants are given as Appendices I and II, respectively.

The Director General of the OIE, Dr Bernard Vallat, welcomed the FDC Members and gave a brief review of the OIE Third Strategic Plan for the period 2001–2005. In this context, Dr Vallat referred to the rationale for the increase in the OIE Member Country contributions and budget from 2001 onwards, which will allow new opportunities for increased activities by the OIE and its Specialist Commissions. For the FDC, this means that the number of meetings could be increased, and/or the length of meetings could be extended.

Dr Vallat also presented the new organisational structure of the OIE. The present Department of Information and International Trade will be split into two departments – one will be devoted to the safety and fluidity of international trade in animals and animal products. New topics within these areas will be food safety and animal welfare. Aquatic animals could be included in this work; many countries are concerned about welfare in aquatic animals, especially in respect to aquaculture. The second department will be the Animal Health Information Department.

Dr Vallat further stressed the need for harmonisation of outputs of the Fish Diseases Commission and the International Animal Health Code Commission.

Reference was also made to deliberations between the OIE and the World Bank. An Agreement has recently been signed between the two organisations that will help to raise awareness of animal disease control and the need for related research under a Global Challenge Programme. It is expected that this will facilitate the provision of research funds for projects on animal health, and that the OIE Reference Laboratories may take on a leading role in research, training and capacity building. The OIE Standards Commission will propose to the OIE International Committee a list of research priorities that should be considered from a global perspective, and the FDC was invited to suggest a priority aquatic animal disease for inclusion into this list. The FDC agreed to suggest white spot disease (WSD) as the most suitable candidate in this respect. The Commission prepared a short document (given as Appendix III) describing the WSD-associated global problems and how research under the Global Challenge Programme may assist in solving those problems.

Following Dr Vallat's talk, the FDC commented that aquatic animals should be included in the editorial note by Dr Vallat.

1. Comments on the report of the previous FDC meeting (February 2001)

1.1. FDC position on dealing with comments from Member Countries

The FDC noted that some countries comment on the entire FDC meeting report. Because responding to unsolicited comments is placing an additional burden on the FDC's workload during its meeting, the FDC decided for the future to be very specific in its meeting reports about which issues require comments.

1.2. Member Country comments

The FDC noted a Member Country's concern about the need for measures applicable to emerging diseases, i.e. provisions for countries to protect themselves against the risk of introducing such diseases before there is agreement from OIE Delegates on their inclusion in the list of notifiable or other significant diseases. The Member Country quoted the pearl oyster mortality in Japan as an example of a new emerging disease causing significant economic losses, but with as yet conflicting information on the causative agent. The FDC agreed that this issue needed in-depth consideration and will therefore deal with it separately (see Item 3.1.4. below).

The FDC noted a Member Country's comment that the OIE *Diagnostic Manual of Aquatic Animal Diseases* should only contain methods available to all OIE Member Countries. Given that the methods as recommended in the *Manual* can form the basis for health certification, the FDC agreed that it is indeed important that OIE Member Countries can apply those methods. On the one hand, it is recognised that not all OIE Member Countries will be able to conduct those techniques that require sophisticated laboratory support. On the other hand, the FDC agreed that the standards for aquatic animal disease diagnosis should not be lowered. Clearly, there is a need to increase the capacity of many countries in this respect, and the FDC noted the pertinent efforts by FAO¹ and NACA².

The FDC noted a Member Country's comments on the model health certificates, in particular relating to the differentiation between 'place of harvest' and 'origin of consignment' for live and dead crustaceans, but not for fish. The FDC clarified that this differentiation was given priority consideration in crustaceans because of the demonstrable risk associated with the international movement of live and dead shrimp. The same differentiation has been incorporated into the model health certificate for live molluscs and gametes. The FDC agreed that this should also happen to the model health certificate for live fish, however, for dead fish, the issue requires additional consideration, especially when fish are derived from the wild.

1.3. European Union comments

The FDC considered comments made in the EU³ submission. Particular attention was given to the EU's position that trade requirements should be based on equivalency taking into account the status of the importing country. The EU had commented that in this respect, equivalency should include criteria such as health status of the importing country – even with regard to the absence of particular strains of a certain agent – and the control or eradication measures in place. The FDC will discuss this issue in more detail when meeting with the Code Commission (see Item 3.1.2. below) in order to assess consistency with the *International Animal Health Code*.

The FDC also noted the EU's comment that it should be made clear in the *International Aquatic Animal Health Code* that confirmation of an infection (rather than clinical disease) constitutes a case of the disease and accordingly should be notified/reported as appropriate. The FDC noted that this is indeed detailed in the *Code* under Article 1.2.1.2., however, the wording could usefully be improved to be clearer.

1 FAO: Food and Agriculture Organization of the United Nations

2 NACA: Network of Aquaculture Centers in Asia-Pacific

3 EU: European Union

2. *International Aquatic Animal Health Code and Diagnostic Manual for Aquatic Animal diseases*

2.1. Schedule for preparation of Fifth Edition of the *International Aquatic Animal Health Code*

The *Code* will be published annually following the General Session.

2.2. Schedule for preparation of Fourth Edition of the *Diagnostic Manual for Aquatic Animal Diseases*

The *Manual* will be published every two years from the next edition (2003).

3. Discrepancies between the *International Aquatic Animal Health Code* and *International Animal Health Code*

3.1. Meeting with the International Animal Health Code Commission

The President of the Code Commission, Dr Alex Thiermann, welcomed the FDC to this first joint meeting of the two Commissions, expressing his hope that this would be the first in a series of joint meetings. He stressed the need for harmonisation within the OIE, acknowledging that due to the very nature of aquatic animal diseases, there would always be the need for flexibility and a modified approach. The meeting then proceeded to briefly discuss areas of possibly mutual concern and agreed to pursue discussions on a number of high priority areas out-of-session until the next joint meeting in January 2002. The two Commissions agreed each to draw up a list of five key issues for mutual discussion.

3.1.1. Testing for absence of pathogen versus absence of disease

Both *Codes* recognise that the presence of an infectious agent does not necessarily imply the presence of clinical disease, that is, both *Codes* recognise that the detection of infection in the absence of clinical disease may be sufficient to present a 'case' that requires notification to the OIE. This is a concept that is more widely acknowledged in the aquatic sector, where host and environment greatly influence the extent to which a subclinical infection may become clinical, or where animals surviving an infection may become lifelong carriers of the agent. Both Commissions did, however, express concern about trends to equate the detection of genome fragments with the presence of a viable infectious agent in a host, or the presence of an infectious process in a given population. The FDC will address this issue in future editions of the *Manual*.

3.1.2. Measures required by importing countries – *Code* recommendations and the SPS⁴ Agreement (e.g. health status of importing country)

The Commissions discussed the differences in approach in the two *Codes*. The aquatic *Code* suggests measures dependent on the importing country's health status based on the principle that movements of aquatic animals should take place only from countries/zones/aquaculture establishments of a higher to a lower health status, or between entities of equal status. Such movement provisions also serve as the basis for approval and maintenance of countries, zones or aquaculture establishments as 'free' of a disease notifiable to the OIE. However, there is no provision for countries that are infected with a particular disease to require that imported aquatic animals be free of that disease.

In contrast, the terrestrial animal *Code* chapters suggest measures independent of an importing country's sanitary conditions, considering only the exporting country status. The main reason for doing so is that for many terrestrial animal diseases, there are numerous categories of an exporting country's status, depending, for example, on whether a country

4 SPS: Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization

operates a control program. Adding to this, an importing country's status would render the *Code* chapters too cumbersome. Instead, the terrestrial *Code* chapters focus on the transmission of diseases and their agents from a scientific and technical point of view, and refer to fairness in trade via a reference in the 'User's Guide' to the provisions of the SPS Agreement.

3.1.3. Link between category of a disease and requirements for a health certification

This issue was deferred to the January 2002 meeting.

3.1.4. Measures applicable to emerging diseases

Both Commissions noted the importance of improving measures to deal with emerging diseases. The Commissions discussed whether it may, in the future, be possible to have *Code* provisions for 'emerging diseases' in order to justify putting trade restrictions in place before the disease is fully characterised. It was agreed that some guidelines could usefully be drawn up. Clearly, provisions are required for emerging diseases of public health importance.

3.1.5. Need for active surveillance versus passive surveillance

FDC Members mentioned their concern with the current requirements in the aquatic *Code* for continued targeted active surveillance to establish and maintain a status of 'freedom' from a disease notifiable to the OIE. FDC Members had previously discussed this particular issue at length and agreed that maintenance of a free status should rather be reached by a combination of testing and biosecurity measures. If, at one end of the scale, previous sampling and testing have established freedom from the disease in question, biosecurity measures are in place to safeguard against introduction, and a surveillance system ensures that suspicion of disease is immediately investigated, then continued targeted active surveillance (in the absence of disease suspicion) could cease. The resources thus freed could usefully be transferred to higher priority areas of aquatic animal health. The Code Commission mentioned that they are currently reviewing the provisions for so-called 'grandfather' recognition of freedom, that is, based on historical absence of disease.

4. Meeting with the Code and the FMD and Other Epizootics Commissions

4.1. Notification of diseases

4.1.1. Evaluation of questionnaire

The President of the Code Commission, Dr Thiermann, opened this session, presenting the background to the OIE Resolution XXII passed at the General Session in 2001. All three Commissions are asked to co-operate to achieve within the OIE a transparent system to identify diseases of sufficient concern to be listed for notification. Dr Thiermann stressed that under the SPS Agreement, there is no provision for allocating levels of importance to various diseases, and that the scope of this OIE co-operation is restricted to matters of notification only. As the first step, criteria for listing of diseases (including aquatic animal diseases) will need to be defined. The application of these criteria will lead to a list of diseases 'notifiable' to the OIE. As the second step, the listed diseases will be divided into two separate categories, the only distinction being the level of urgency for notification.

Dr Eva-Maria Bernoth presented a summary of the responses obtained from OIE Member Countries on the OIE Questionnaire on the Listing of Aquatic Animal Diseases. Only twenty-two countries and three aquatic animal disease experts had responded; the FDC expressed its disappointment at such a low return rate, particularly the lack of response by some OIE Member Countries that have significant international trade in aquatic animals. Some respondents commented on the provisional listing criteria suggested by the FDC and/or provided a suggested list of diseases considered of sufficient concern to their country to require listing by the OIE. Most respondents felt that the provisional criteria had been useful in developing their lists and demonstrated how they had used the provisional criteria.

Some respondents provided valuable editorial comments on the provisional criteria, fine-tuning and clarifying them. Some countries recommended a risk-based approach to listing, and public documents backing up the decision to list a disease and stating when the decision should be reviewed. One country provided a document that could be used as a basis for such deliberations.

Lists provided by individual respondents to a large extent covered diseases already listed, although some changes were suggested, underpinned by the provisional criteria. Some countries suggested that, if two lists are created to indicate different levels of urgency of dispatch of information, some re-grouping of currently listed diseases is necessary.

Prof. Hill brought to the attention of the Commissions the fact that deliberations on listing of aquatic animal diseases are currently taking place within the EU, and that a set of provisional criteria has been developed that may be useful for the three Commissions to examine.

4.1.2. Way forward

The three Commissions agreed to circulate a number of pertinent documents, including the revised set of the provisional criteria developed by the FDC and those being used in the EU. The three Commissions will – via e-mail – further edit and fine-tune the approach, and discuss an agreed draft set of criteria at their next joint meeting in January 2002. Dr Thiermann agreed to coordinate these discussions.

5. Amendments to the *International Aquatic Animal Health Code*

5.1. Chapter on import risk analysis

5.1.1. Chronological risk assessment versus matrix approach

The current version of the chapter recommends a chronological approach to risk assessment. This means that a consequence assessment need not be conducted if the release or exposure assessments demonstrate no significant risk. The FDC accepts that this chronological approach provides a minimum level of risk assessment, but some countries may wish to follow the more comprehensive matrix approach to better justify protective measures they have taken or proposed to take.

5.1.2. Semi-quantitative risk analysis

Concerns were expressed during the General Session that the text on semi-quantitative risk analysis was removed from the chapter. Preparation of this chapter took into account outcomes of the OIE International Conference on Risk Analysis in Aquatic Animal Health (February 2000), which led the FDC to conclude that semi-quantitative risk analysis is inappropriate. Also, the chapter in the aquatic *Code* should remain consistent with the chapter in the terrestrial *Code*.

5.1.3. Outcomes of the OIE International Conference on Risk Analysis in Aquatic Animal Health

The FDC discussed proposals as given in the proceedings of the OIE International Conference on Risk Analysis in Aquatic Animal Health (February 2000). FDC proposed to establish an Ad hoc Group on Risk Analysis consisting of leading experts to advise on what needs to be done. Dr Christian Michel agreed to liaise between the FDC and the Ad hoc Group. The Central Bureau will be requested to make a decision on this proposal before the FDC meeting of January 2002.

5.2. Development of mechanisms for OIE official recognition of ‘free country’ or ‘free zone’

Examples of application forms devised by the FMD Commission were used to support the discussion of the FDC about guidelines and applications to be made available for Member Countries wishing to request ‘free’ status recognition. Although the situation is less complex in the case of aquatic animal diseases, the number of diseases to be considered is high, and special characteristics of water and hydrographic systems need some adaptations. A ‘check-up’ document will be prepared by Prof. Hill before the next meeting in January 2002 during which definitive criteria and applications will be established for submission to the International Committee.

5.3. Addition/removal of diseases to/from the aquatic Code

5.3.1. Herpesvirus infection in Koi carp

Reports of cases of herpesvirus infection in Koi carp indicate an increase in the frequency and geographic distribution of the disease. This emergent disease requires the consideration of the FDC for possible future listing.

5.3.2. Use of *Bonamia exitiosus* as the valid name of *Bonamia* sp. in the Code and Manual

Bonamiosis in the *Code* and *Manual* refers to disease caused by *Bonamia ostreae* and *Bonamia* sp. Considering the ambiguity and uncertainty caused by the use of this terminology, and the recent re-description of *Bonamia* sp. in peer reviewed literature, the FDC suggests in future editions of the *Code* and *Manual* to designate *Bonamia* sp. as *Bonamia exitiosus*, the name proposed by these authors. (See Appendix IV for the references in support of this text.)

5.3.3. Transfer of *Haplosporidium costale* on the list of other significant diseases

In the *Code* and *Manual*, haplosporidiosis refers to the disease caused by the two parasites *Haplosporidium nelsoni* and *H. costale*. It appears to the FDC that the main reasons for including *H. costale* in the list of notifiable diseases was the fact that this pathogen is present in the same host, *Crassostrea virginica*, and that it has overlapping geographical distribution with *H. nelsoni*. Also, based on recommended diagnostic procedures (histology) discrimination between the two species, *H. nelsoni* and *H. costale*, is difficult to achieve. However, the current edition of the *Manual* recommends an *in situ* hybridisation method for the identification of *H. nelsoni* using a species specific DNA probe, removing this difficulty. Bearing this in mind, the FDC is recommending the transfer of *H. costale* from the list of notifiable diseases onto the list of other significant diseases. (See Appendix IV for the references in support of this text.)

5.3.4. Distinct mikrocell diseases caused by *Mikrocytos mackini* and *M. roughleyi*

Denman Island disease of Pacific oysters, *Crassostrea gigas*, is included in the list of notifiable disease as mikrocytosis. The causative agent is the protozoan *Mikrocytos mackini*, which lacks mitochondria, and does not display classic haplosporidians ultrastructure. On the other hand, winter mortality is also given in the *Code* as mikrocytosis. This disease is associated with *Mikrocytos roughleyi*, a haplosporidian parasite very similar to *Bonamia* spp. based on sequences of 18SrDNA. The FDC discussed these findings which are in favour of a redefinition of bonamiosis and mikrocytosis in the *Code* and *Manual*. (See Appendix IV for the references in support of this text.)

5.3.5. Consideration on the *Perkinsus olseni*/atlanticus complex

Perkinsus olseni is one of the causative agent of perkinsosis regarded as a disease notifiable to the OIE. It was originally reported as the cause of mass mortality outbreaks in South Australia among abalone, *Haliotis* spp. *Perkinsus* spp. have since been found in many bivalve species and families on the Great Barrier Reef and Western Australia, in the Cook Islands and New Zealand, *Ruditapes philippinarum* in Korea, and in Japan. Molecular studies

indicate that the isolates from the Great Barrier Reef, New Zealand, Korea and Japan, are all *P. olseni*. A recent study has shown that isolates of *P. atlanticus* infecting *R. philippinarum* and *R. decussatus* are so similar to *P. olseni* as to be conspecific, confirming previous statements. Given these considerations, the FDC proposes that *Perkinsus olseni* and *P. atlanticus* should be recognised as one species, *Perkinsus olseni*. The FDC considers that molecular methods (PCR⁵ and sequencing) should be used by Member Countries in order to clarify the host and geographic distributions of this species. (See Appendix IV for the references in support of this text.)

5.3.6. *Marteilia refringens* and *M. maurini*

Aber disease is caused by the paramyxean parasite *Marteilia refringens*. *Marteilia refringens* and another *Marteilia* species, *M. maurini*, overlap in host and geographical distribution. The FDC recommends that recently developed confirmatory methods (*in situ* hybridisation and PCR-RFLP⁶) should be used by Member Countries in order to clarify the host and geographic distributions of these species in Europe. Considering this situation, it appears to the FDC that using the name 'marteiliosis' in the *Code* and *Manual* may introduce some confusion with regards to infections by other species of the same genus. For this reason and in order to clarify information available on major concerns, the FDC recommends the use of basonyms of diseases rather than genus-based names, which in the particular case of marteiliosis are Aber disease and QX disease (caused by *M. sydneyi*) rather than marteiliosis. (See Appendix IV for the references in support of this text.)

5.3.7. Proposing withering syndrome of abalones for possible listing

Withering syndrome of abalones is caused by a rickettsial agent recently identified as being *Candidatus Xenohalictis californiensis*. This agent causes withering of the foot and death both in cultured and wild abalones. The syndrome has been reported from several species of abalone (*Haliotis* spp.) from San Francisco, California, to Baja California, Mexico. Considering these data and the increasing development of abalone aquaculture in different parts of the world, the FDC regards this as an emerging disease, and may recommend it for listing in the future. (See Appendix IV for the references in support of this text.)

5.4. Fallowing of sites

A definition of and a draft chapter on fallowing were prepared by the President of FDC. The text is at Appendix V. Member Countries are invited to send their comments to the Central Bureau by **14 December 2001**.

5.5. Chapter 2.1.1. Epizootic haematopoietic necrosis (EHN)

An expert has queried the discrepancy between the Aquatic *Code* and *Manual* chapters on epizootic haematopoietic necrosis (EHN). Inadvertently, sheatfish and catfish had not been listed in the *Code* chapter as susceptible species. This omission may have led to a misunderstanding by OIE Member Countries as regards reporting of EHN in sheatfish and catfish, as the Commission is aware that two Member Countries have the disease, but are not reporting it in their annual report to the OIE. The necessary amendments to include the two fish species will be made for the next edition of the *Code* (see Appendix VI). Member Countries are invited to send their comments to the Central Bureau by **14 December 2001**.

5.6. Discussion on how to resolve YHV–GAV and related agents (LOV and other YHV related viruses/YHV complex; *Gyrodactylus salaris* versus *G. teuchis*)

Given that the FDC's expert on crustacean diseases could not attend the meeting, the FDC deferred any detailed discussion on YHV and GAV to the next meeting in January 2002. However, the FDC also discussed the YHV/GAV issue in the wider context of the listing of taxonomically similar

5 PCR: Polymerase chain reaction

6 RFLP: Restriction fragment length polymorphism

agents, e.g. the various strains of VHS virus that have been reported from North America and Europe. The FDC noted that in many cases, those agents or strains may be taxonomically similar, however, they do not cause the same disease. Confusion arises because viruses are often, and inappropriately, named after the diseases they cause, for example, the virus causing yellowhead disease is called yellowhead disease virus, and similar viruses are then called 'yellowhead disease-like viruses'. If viruses were rather named according to their taxonomical designation, such confusion could be avoided. The FDC also noted the reverse difficulties arising from naming diseases after infectious agents, as is the case with all the notifiable diseases of molluscs (see Item 5.3.5.). The FDC considered this such an important general issue that they will dedicate an entire day to discussing the nomenclature of infectious aquatic animal disease agents at their next meeting in January 2002.

The OIE Central Bureau will forward Australia's comments on YHV and GAV to Prof. Don Lightner who will consult with other experts in preparation for discussion at the next FDC meeting. The FDC President will discuss the issue of *Gyrodactylus salaris* versus *G. teuchis* with the designated OIE expert.

5.7. Model health certificates

5.7.1. Basic principles for health certification

The FDC agreed that there is no need to make any changes to the basic principles for health certification at this stage.

5.7.2. Consistency between *Code* chapters and the model certificates

Some inconsistency in the wording between *Code* chapters and the model certificates were discussed and amendments were made as shown at Appendices VII, VIII and IX.

Changes were made in the *Code* chapters 4.1.X.8. in order to remove the restrictions for certification to head on commodity imported for human consumption.

Member Countries are invited to send their comments to the Central Bureau by **14 December 2001**.

6. Amendments to the *Diagnostic Manual for Aquatic Animal diseases*

6.1. Sampling schedules and numbers – Fish (general information chapter)

As decided at the last FDC meeting, the FDC is conducting an in-depth review of the *Manual's* sampling requirements to demonstrate freedom of a country/zone/aquaculture establishment from one or more of the OIE listed diseases of fish, molluscs and crustaceans. Before establishing any new requirements, it would be advisable to await the outcome of joint discussions with the Code Commission and Foot and Mouth Disease and Other Epizootics Commission on different approaches for accumulating evidence to allow a Member Country to officially declare itself, or one or more zones within its territory, free of specified disease(s).

6.2. Approval of new or improved diagnostic methods for aquatic animal diseases, confirmation of writing assignments

This issue had been raised by Prof. Lightner. In his absence, the Commission agreed it would not be productive to discuss the matter and that it should be postponed until the next FDC meeting.

6.3. Chapter on BP/BMV – should the chapter be split into two parts?

See Item 6.2.

6.4. New chapter/chapters on GAV – YHV?

See Item 6.2.

7. Reference laboratories – Role and functions

7.1. Redefinition of reference laboratories for molluscs and crustaceans

The issue was discussed at length. For the mollusc diseases, the FDC felt the need for a designated expert for mikrocystosis. The OIE will send a formal letter to the suggested expert. The OIE Reference Laboratory for all mollusc pathogens should have the responsibility for bonamiosis and marteiliosis specifically. An OIE Reference Laboratory for specifically for haplosporidiosis and perkinsosis has already been designated.

For crustacean diseases the FDC felt that it would be appropriate to have more specialised Reference Laboratories for specific crustacean disease rather than crustacean diseases in general.

The FDC also discussed the mandate and internal rules for Reference Laboratories. In the mandate, the FDC will request the Standards Commission to amend the second indent in order to cover diseases of aquatic animals and not just List A and B diseases considering the Article 8 in the internal rules. The FDC from this point will review the Reference Laboratories after a 4-year period and, if necessary, request OIE Member Countries to submit any proposals for additional Reference Laboratories for specific diseases. The Vice-President, Dr Michel, will prepare guidelines for the application of such laboratories, describing the basic criteria the laboratories will have to fulfil.

7.2. Providing standards

The mandate clearly requires that OIE Reference laboratories store and distribute biological reference products and other reagents. This is creating a problem for some laboratories because the requests for such products is increasing, and the laboratories may not be able to cope with this increasing demand and the costs incurred. The FDC agrees that OIE Reference laboratories should attempt to meet demands for standards and reagents, but that they are entitled to recoup costs on a non-profit basis.

7.3. Request from ‘new laboratories’ for supply of diagnostic reagents and standards for all OIE-listed diseases

This topic is covered under 7.2.

7.4. Funding of cost/recovery for reagents, standards, testing etc. for Reference Laboratories

This issue was discussed at some length under 7.2.

Cost-recovery, or charging services, by OIE Reference laboratories are not specifically mentioned in the mandate; thus, a decision is left to each individual laboratory. For reasons of consistency, the FDC recommends that OIE draw the attention on this issue to the OIE Reference Laboratories, and suggest avenues to provide financial support to the OIE Reference Laboratories.

8. The role and activities of the OIE in the field of aquatic animals

8.1. Representation at international meetings and workshops

Prof. Håstein represented the OIE FDC at the ‘WHO Consultation on the Monitoring of Antimicrobial Usage in Food Animals for the Protection of Human Health’, Oslo, Norway.

Prof. Hill represented the OIE/FDC and presented a paper on the use of PCR for the diagnosis of aquatic animal diseases at the joint OIE/WAVLD⁷ Biotechnology Seminar in Parma, Italy on 4 July 2001.

8.2. Publications

8.2.1. Status of book on OIE International Conference on Risk Analysis in Aquatic Animal Health

Ms Gill Dilmitis was invited to report on the proceedings, which have now been published. A total of 1,100 copies were printed. Approximately 550 copies will be sent to the participants of the conference, authors, officials and Member Countries and to several scientific journals.. Price will be 40 Euros, and an announcement of the book is to be displayed on both the OIE and FDC Web sites.

8.2.2. OIE *Scientific and Technical Review* – issue on aquatic animal diseases

An initial proposal, made by the Central Bureau of the OIE in December 2000 had not received the agreement of the FDC, due to deadlines being too short and to excessive focusing on salmonid diseases. A new and more realistic possibility could be considered for volume 23 (1) in August 2004. This means that a co-ordinator should be committed to collect manuscripts by the 15 December 2003. The content will have to be defined, but it is agreed that it should illustrate the socio-economic impact of aquatic animal pathogens. A difficulty was raised, however, when the FAO observer, Dr Rohana Subasinghe, proposed a joint publication in which the FAO should appear as co-publisher. Such an arrangement does not fit with the *Scientific and Technical Review* (the *Review*) standards. The FDC eventually decided on two different approaches: a joint OIE/FAO publication on the socio-economic impact of diseases in aquaculture and their control, with Prof. Hill and Dr Subasinghe as co-ordinators. In addition, a special issue of the *Review*, in August 2004, will cover putting the risk of aquatic animal diseases into perspective and the need for a risk-based approach to devise justifiable measures for prevention and control. Dr Michel will be co-ordinator with the assistance of Dr Eva-Maria Bernoth.

8.3. Status of diagnostic cards for listed diseases

Most of the translations from English to French and Spanish have been done but some of them are still being revised . The only missing card is for white sturgeon iridovirus; the author will receive a new request.

9. Any other business

9.1. Cooperation and partnership with other international organisations and regional organisations

Dr Subasinghe made a short presentation on the progress and status of the FAO/NACA/OIE joint activities. The FAO Asia Regional Technical Co-operation Project is being completed and the *Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing Consensus and Implementation Strategy (TGBCIS)* has been published. The accompanying *Manual of Procedures* and the *Asia Diagnostic Guide* will be published by November 2001. The *Technical Guidelines* was adopted by the 9th Meeting of the Association of Southeast Asian Nations (ASEAN) Fisheries Working Group held in September 2001 in Bali, Indonesia. He also mentioned that Asia Regional Quarterly Disease Report is being continuously published. On behalf of FAO and NACA, Dr Subasinghe thanked OIE and OIE/FDC for continuous strong support and contributions.

7 WAVLD: World Association of Veterinary Laboratory Diagnosticians

A meeting between OIE/FDC and FAO/Fisheries Department was held in Rome from 2 to 3 July 2001 to discuss the opportunities for further cooperation and collaboration concerning aquatic animal health management issues. The meeting was attended by Drs Pearson, Hill and Subasinghe. The meeting report was made available to the FDC for discussion.

As a result of the Asia Regional Programme and on the request by the NACA member governments, an Asia Advisory Group on Aquatic Animal Health will be established and OIE has been invited to take part.

Recently, FAO has launched a Latin America Regional Technical Co-operation Project with 14 countries aiming at assisting shrimp health management in the region and the OIE Regional Office for the Americas will collaborate in this important activity. Dr Subasinghe will discuss with the OIE Regional Office for the Americas the possibility of establishing a Regional Diseases Reporting System, taking into account the experience gained in Asia. An initiative by the Asia Pacific Economic Co-operation (APEC), NACA and FAO on providing technical training on Import Risk Assessment for Asia and Latin America, will be operational in April 2002.

The FAO initiative on holding an Expert Consultation on Policies and Regulatory Frameworks for Responsible Movement of Live Aquatic Animals - Towards Reducing the Risk of Trans-boundary Aquatic Animal Disease was introduced to OIE/FDC. Department of Fisheries and Oceans of Canada will collaborate with FAO on this initiative and FAO invited OIE to become a collaborator.

Dr Subasinghe thanked OIE and OIE/FDC for their co-operation and collaboration with FAO Fisheries Department on aquatic animal health issues.

The FDC welcomes co-operation with the FAO and would like this to continue. Concerning the Advisory Group meeting in November, the Central Bureau proposes to ask Dr Ozawa to represent the OIE; specialist technical support will be provided by Dr Eva-Maria Bernoth who intends to be present as a member of the Advisory Group in a non-FDC capacity.

With regard to the proposed FAO Expert Consultation entitled 'Policies and Regulatory Frameworks for Responsible Movement of Live Aquatic Animals – Towards Reducing the Risk of Trans-boundary Aquatic Animal Diseases', the FDC agreed that further clarification of its scope and objectives was needed before it could agree to joint participation. Dr Subasinghe will provide a concept note on the aims and objectives of the Expert Consultation for the FDC to consider at its next meeting.

9.2. Status of FDC Internet activities – FDC Web site

Ms Caroline Malotau of the Central Bureau joined the meeting to explain the current status of the development of the FDC Web pages. The prototype version had been commented on by FDC members prior to this meeting and all suggested amendments had been made. The amended version was demonstrated to the Commission and final amendments made. It was agreed that the target date for making the Web pages publicly available will be 10 October 2001. The Central Bureau will discuss and arrange the publicity for the launch. As the editor for future management of the FDC Web pages, Prof. Hill will have the means to remotely make any future changes, particularly the addition of items under 'Latest News'.

9.3. Collaborating Centre – status of new version of disease database

Prof. Hill gave an update of the development of the new, faster version of the on-line database being prepared for the OIE Collaborating Centre for Information of Aquatic Animal Diseases, Weymouth, United Kingdom. Significant delay has been caused by an unexpected technical difficulty in preparing the new versions for use via the Web. It is hoped it will be ready in time for the launch of the FDC Web pages which will have a direct link to the database.

9.4. Amphibian disease issues

The FDC had been urged by the OIE Working Group on Wildlife Diseases to monitor scientific information on infectious diseases of amphibians, and to determine the extent to which trade in those animals and their products may spread these diseases internationally. The FDC discussed this issue in some detail but concluded that at the present time they have insufficient knowledge about trade in amphibians.

Member Countries and the FAO are invited to provide information on trade in amphibians and their products to the Central Bureau by **14 December 2001**.

9.5. Future role of the OIE Working Group on Biotechnology

As decided at the General Session in May 2001, the OIE Central Bureau requested the FDC (and other Specialist Commissions) to give an opinion on the future activity of the Biotechnology Working Group. The meeting examined the reports of the Working Group's meetings of December 1998 and November 2000. It was agreed that the Working Group could provide valuable expert advice to the FDC on such issues as:

- the validation of molecular diagnostic methods to demonstrate absence of a pathogen in health certification programmes;
- advantages and disadvantages of DNA vaccines.

The FDC concluded that the Biotechnology Working Group should continue its activities but consider asking a specialist in aquatic animal diseases to join then, membership to provide advice and opinion in this field.

9.6. Antimicrobial resistance

The FDC was requested to endorse Resolution No. XXV on Antimicrobial Resistance. The FDC agrees on most of the positions developed in this Resolution of the International Committee. The FDC examined the conclusions of the 'WHO Consultation on the Monitoring of Antimicrobial Usage in Food Animals for the Protection of Human Health'. The FDC is of the opinion that the conclusion reached at that meeting should be considered by the Ad hoc Group on Antimicrobial Resistance.

9.7. Report of the meeting of the Presidents of the OIE Specialist Commissions

The FDC discussed the report in brief. As regards the invitation and role of observers, it was made clear to the Commission that all proposals for inviting observers to meetings have to go through the President of the Commission. The President will then discuss a formal invitation with the OIE headquarters. The advice to the Commission to schedule time for discussing critical issues was noted in order to be followed at their meetings.

9.8. Letter from Dr Kibenge

The letter from Dr Kibenge requesting endorsement of a research proposal was discussed. The FDC agreed that it would be difficult for the Commission to have a coordination function for research projects proposed by research institutions as such work would not be within the framework of the FDC's responsibility.

9.9. Date of next meeting

The FDC agreed that its next meetings will be from 14 to 17 January; and from 17 to 20 June, and 2 to 5 December 2002.

.../Appendices

REPORT OF THE MEETING OF THE OIE FISH DISEASES COMMISSION

Paris, 17–20 September 2001

Agenda

- 1. Comments on the report of the previous FDC meeting (February 2001)**
 - 1.2. FDC position on dealing with comments from Member Countries
 - 1.2. Member Country comments
 - 1.3. European Union comments
- 2. *International Aquatic Animal Health Code and Diagnostic Manual for Aquatic Animal diseases***
 - 2.1. Schedule for the preparation of the Fifth edition of the *Code*
 - 2.2. Schedule for the preparation of the Fourth edition of the *Manual*
- 3. Discrepancies between the *International Aquatic Animal Health Code* and *International Animal Health Code***
 - 3.1. Meeting with the International Animal Health Code Commission
 - 3.1.1. Testing for absence of pathogen versus absence of disease
 - 3.1.2. Measures required by importing countries – *Code* recommendations and the SPS Agreement (e.g. health status of importing country)
 - 3.1.3. Link between category of a disease and requirements for a health certification
 - 3.1.4. Measures applicable to emerging diseases
 - 3.1.5. Need for active surveillance versus passive surveillance
- 4. Meeting with the Code and the FMD and Other Epizootics Commissions**
 - 4.1. Notification of diseases
 - 4.1.1. Evaluation of questionnaire
 - 4.1.2. Way forward
- 5. Amendments to the *International Aquatic Animal Health Code***
 - 5.1. Chapter on import risk analysis
 - 5.1.1. Chronological risk assessment versus matrix approach
 - 5.1.2. Semi-quantitative risk analysis
 - 5.1.3. Outcomes of the OIE International Conference on Risk Analysis in Aquatic Animal Health
 - 5.2. Development of mechanisms for OIE official recognition of 'free country' or 'free zone'
 - 5.3. Addition/removal of diseases to/from the aquatic *Code*
 - 5.3.1. Herpesvirus infection in Koi carp
 - 5.3.2. Use of *Bonamia exitiosus* as the valid name of *Bonamia* sp. in the *Code* and *Manua*
 - 5.3.3. Transfer of *Haplosporidium costale* on the list of other significant diseases
 - 5.3.4. Distinct mikrocell diseases caused by *Mikrocytos mackini* and *M. roughleyi*
 - 5.3.5. Consideration on the *Perkinsus olseni/atlanticus* complex

Appendix I (contd)

- 5.3.6. *Marteilia refringens* and *M. maurini*
 - 5.3.7. Proposing withering syndrome of abalones for possible listing
 - 5.4. Following of sites
 - 5.5. Chapter 2.1.1. Epizootic haematopoietic necrosis (EHN)
 - 5.6. Discussion on how to resolve YHV–GAV and related agents (LOV and other YHV related viruses/YHV complex; *Gyrodactylus salaris* versus *G. teuchis*)
 - 5.7. Model health certificates
 - 5.7.1. Basic principles for health certification
 - 5.7.2. Consistency between *Code* chapters and the model certificates
 - 6. Amendments to the *Diagnostic Manual for Aquatic Animal diseases***
 - 6.1. Sampling schedules and numbers – Fish (general information chapter)
 - 6.2. Approval of new or improved diagnostic methods for aquatic animal diseases, confirmation of writing assignments
 - 6.3. Chapter on BP/BMV – should the chapter be split into two parts?
 - 6.4. New chapter/chapters on GAV – YHV?
 - 7. Reference laboratories – Role and functions**
 - 7.1. Redefinition of reference laboratories for molluscs and crustaceans
 - 7.2. Providing standards
 - 7.3. Request from ‘new laboratories’ for supply of diagnostic reagents and standards for all OIE listed diseases
 - 7.4. Funding of cost/recovery for reagents, standards, testing etc. for reference laboratories
 - 8. The role and activities of the OIE in the field of aquatic animals**
 - 8.1. Representation at international meetings and workshops
 - 8.2. Publications
 - 8.2.1. Status of book on OIE International Conference on Risk Analysis in Aquatic Animal Health
 - 8.2.2. OIE *Scientific and Technical Review* – issue on aquatic animal diseases
 - 8.3. Status of diagnostic cards for listed diseases
 - 9. Any other business**
 - 9.1. Cooperation and partnership with other international organisations and regional organisations
 - 9.2. Status of FDC Internet activities – FDC Web site
 - 9.3. Collaborating Centre – status of new version of disease database
 - 9.4. Amphibian disease issues
 - 9.5. Future role of the OIE Working Group on Biotechnology
 - 9.6. Antimicrobial resistance
 - 9.7. Report of the meeting of the Presidents of the OIE Specialist Commissions
 - 9.8. Letter from Dr Kibenge
 - 9.9. Date of next meeting
-

**REPORT OF THE MEETING
OF THE OIE FISH DISEASES COMMISSION
Paris, 17–20 September 2001**

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CHAPTER X . X . X .

GUIDELINES FOR FALLOWING IN AQUACULTUREArticle X.X.X.1.Introduction

Fallowing is a procedure commonly used to restore the environment of an aquaculture establishment. Fallowing starts immediately after a site has been emptied of aquatic animals, and in accessible facilities it should be carried out after cleaning and disinfection have taken place.

Fallowing is usually carried out as a routine hygienic measure prior to the introduction of new populations of aquatic animals into a given site. Fallowing has, however, a specific application as a disease control tool after an outbreak of disease in an aquaculture establishment, to increase confidence that the site is free of the disease agent after the aquatic animals have been removed and disinfection has taken place.

A number of diseases of aquatic animals pose a threat to the aquaculture sector, as well as to wild stocks of aquatic animals.

In order to diminish problems caused by diseases of socio-economic importance, the Veterinary Authorities or other Competent Authority responsible for aquatic animal health in a country should seek to establish satisfactory procedures for fallowing of aquaculture establishments in connection with control and eradication of disease.

The Veterinary Authorities or other Competent Authority should also seek to recommend fallowing procedures in aquaculture establishments even if disease problems are not present, i.e. before stocking a site with a new population of aquatic animals.

Article X.X.X.2.Legal powers

In cases where fallowing may be a compulsory measure, for instance to help in the eradication of specific diseases or to restore disease free zone status, countries will have to establish the necessary legal framework that is needed for the implementation of fallowing procedures in aquaculture establishments. Legal provisions could include:

- Provisions for the circumstances under which fallowing has to be carried out,
- Listing of those diseases for which fallowing procedures are compulsory,
- Cleaning and disinfection procedures prior to fallowing,
- General procedures for fallowing of aquaculture establishments,
- Length of fallowing period,
- Restocking procedures after fallowing.

Article X.X.X.3.

Fallowing of aquaculture establishments

For disease prevention purposes, all aquaculture establishments should be regularly emptied and left fallow in accordance with current guidelines issued by the Veterinary Authorities or other Competent Authority responsible for aquatic animal health. These guidelines will be broad as they must address different kinds of aquaculture establishments; they must not target specified diseases and thus can only stipulate fallowing periods generally recognised to have a beneficial impact.

If a serious communicable disease is suspected or has been confirmed in an aquaculture establishment, all farms (sites) in control or surveillance zones established by the Veterinary Authorities or other Competent Authority should be subjected to a statutory period of fallowing, regardless of whether the farm (site) is only suspected of being infected, whether there are signs of the disease, or whether the disease has been confirmed.

Under certain conditions and based on the information provided, the Veterinary Authorities or other Competent Authority may determine that installations shall be emptied and left fallow in accordance with a co-ordinated plan for measurements taken to combat a disease.

Technical parameters for the development of a statutory fallowing plan:

Fallowing should start immediately after removal of all stocked aquatic animals.

The length of a statutory fallowing period should be based on scientific evidence of the likelihood of an disease agent surviving outside its host in the aquaculture environment, but also on the social and economical factors that prevail in the countries or zones concerned.

As a general basis, fallowing of aquaculture establishments without disease problems should be no less than one month in the 'summer' and two months during the 'winter season'. For aquaculture establishments in temperate regions that culture tropical species, fallowing during the 'winter season' may be a normal part of the culture cycle. For aquaculture establishments located in tropical regions, the length of time aquaculture establishments are fallowed may have to be adjusted to accommodate the difficult situation imposed by extended rainy seasons ('winter' in some regions), which may make successful fallowing impossible (i.e. a total dry-out cannot be achieved).

Within a control or combat zone in which a notifiable disease has been suspected or confirmed and for which compulsory fallowing is ordered, the length of a fallowing period should be assessed in relation to the number of sites, the qualities of the sites, and the extent of the disease outbreak.

Article X.X.X.4.

Instructions

Countries establishing fallowing procedures should develop a detailed set of instructions for clearance, cleaning and disinfection of aquaculture establishments prior to fallowing. For the purpose, the set of instructions set out in Section 5.2., Appendices 5.2.2., 5.2.3. and 5.2.4. in this Code should be used as guidelines.

Article X.X.X.5.

Restocking

All aquaculture establishments that have been under restriction as regards the occurrence of a notifiable disease should not be restocked until the statutory fallowing period has been completed.

The restocking of such farms should be from *aquaculture establishments* approved by the *Veterinary Authorities* or other *Competent Authority*.

Fallowing

means an operation where an *aquaculture establishment* is emptied of *aquatic animals* in order to break disease cycles and/or to allow the environment to recover.

CHAPTER 2.1.1.

EPIZOOTIC HAEMATOPOIETIC NECROSIS

Article 2.1.1.1.

For the purposes of this *Code*, susceptible host species for epizootic haematopoietic necrosis (EHN) are: redfin perch (*Perca fluviatilis*), rainbow trout (*Oncorhynchus mykiss*), Macquarie perch (*Macquaria australasica*), mosquito fish (*Gambusia affinis*), silver perch (*Bidyanus bidyanus*), mountain galaxias (*Galaxias olidus*), sheatfish (*Silurus glanis*) and catfish (*Ictalurus melas*).

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

CHAPTER 4.1.X.

NOTIFIABLE DISEASES OF CRUSTACEANS

Article 4.1.X.8.

In general, the *Competent Authority* of a country importing dead *crustaceans* belonging to the susceptible host species listed in Article 4.1.X.1 [and destined for human consumption] should require that the consignment be accompanied by an *international aquatic animal health certificate*, conforming to the Model Certificate No. 5, issued by the *Competent Authority* in the exporting country [of origin if these *crustaceans* are to be imported head on].

This certificate should declare the health status of the place of harvest of the consignment in respect of DISEASE NAME and the other crustacean diseases listed in this *Code*.

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CHAPTER 2.2.X.

OTHER SIGNIFICANT DISEASES OF FISH

Article 2.2.X.2.

When importing live or dead fish of a *susceptible species* or their *gametes* or *eggs* or dead unviscerated *fish*, the *Competent Authority* of the *importing country* with an official control policy for DISEASE NAME may wish to require the presentation of an *international aquatic animal health certificate* issued by the *Competent Authority* in the *exporting country*, attesting that the country, zone or *aquaculture establishment* of origin has been regularly subjected to appropriate tests for DISEASE NAME with negative results.

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CHAPTER 4.2.X.

OTHER SIGNIFICANT DISEASES OF CRUSTACEANS

Article 4.2.X.2.

Competent Authorities of Importing countries may require:

for live postlarvae, juveniles, [and] broodstock and dead crustaceans

the presentation of an *international aquatic animal health certificate* attesting that:

1. the shrimps showed no sign of *DISEASE AGENT* on the day of shipment/by the examination of faeces;

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Global Challenge Programme: Aquatic Animal Diseases

The aquatic animal disease of choice is:

White Spot Disease caused by White Spot Diseases Syndrome Virus – WSSV.

Aquaculture has in recent years become an important economic activity in the coastal areas of many countries. Indeed, it offers an important opportunity to contribute to poverty alleviation, community development and food security in many coastal regions of the tropical developing world. Rapid expansion of shrimp farming in some countries in Asia and Latin America focused attention on the need for effective management strategies. Such strategies should tap the potential of the sector for economic growth and poverty alleviation, whilst controlling the negative environmental and social impacts that can accompany poorly planned and regulated development.

White Spot Virus (WSSV) and other shrimp diseases have seriously constrained shrimp aquaculture throughout the world, and caused production to decrease considerably in many countries. The resulting economic losses have significantly affecting national economies and the livelihoods of many people in the region. When considering the epidemiology and spread patterns of shrimp diseases, especially viral pathogens, there is convincing evidence that disease outbreaks are associated with movement of live broodstock and postlarvae.

The ultimate solution for combating shrimp disease problems is to culture certified, domesticated, pathogen free stocks on nutritious, dry feeds in biosecure ponds under conditions that are non-stressful to shrimp. This should be the goal for the shrimp industry, and wide cooperation programs are critical for success. In achieving this goal, there are a number of important research areas which need to be addressed. These research themes could be dealt by competent national or regional laboratories with close collaboration with the relevant OIE Reference Laboratories. These research areas have the potential to consider for inclusion in the bid for financial assistance from the World Bank under the Global Challenge Programme. They are:

- Domestication of *Penaeus vannamei* and *P. monodon*
- Genetic improvements and research into developing specific pathogen free (SPF) *P. vannamei* and *P. monodon*.
- Development of practical, effective, sensitive, low-cost rapid diagnostic tools for major viral diseases of shrimp.

Standardisation, validation and inter-calibration of diagnostic methods used for major shrimp viral diseases.
