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# Activities of the Specialist Commissions

## SCIENTIFIC COMMISSION FOR ANIMAL DISEASES

**(90 SG/10SC3)**

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**February 2023 Meeting**

A meeting of the WOAH Scientific Commission for Animal Diseases (the Commission) was held from 13 to 17 February 2023 at the WOAH Headquarters in Paris, France, with additional virtual meetings organised on 22 and 23 February 2023.

## 1. Welcome

Dr Montserrat Arroyo, the WOAH Deputy Director General, International Standards and Science, welcomed the members of the Commission and thanked them for their ongoing contributions to the work of WOAH. Dr Arroyo shared the concern of the Commission for its ambitious agenda and extended her appreciation to the members' employing institutions and national governments.

Dr Arroyo informed the Commission that the selection process for experts seeking nomination for election to WOAH Specialist Commissions will start with the Call for experts in July 2023 and that the elections will take place during the 91st General Session in May 2024. The Performance Management Framework will fit into the process for current members wishing to be re-elected. More information will be provided to the Delegates in due course.

Dr Arroyo briefed the Commission that the 90th General Session will occur in a physical format. She indicated that there will be an Animal Health Forum on current global animal health issues, with a specific focus on avian influenza and that specific sessions throughout the General Session will be webcast for Members. She informed the Commission members that a pre-General Session webinar for each of the three Specialist Commissions involved in the standard-setting process covering texts being proposed for adoption will be organised between 18 to 20 April 2023 with simultaneous interpretation and will be recorded for publication on the WOAH website. She expressed her appreciation in advance for the participation of the members of the Commission in support of the webinar of the Terrestrial Animal Health Standards Commission (Code Commission). She also informed the Commission that the new WOAH acronym will be applied to the 2023 version of the Codes and Manuals.

Dr Arroyo provided an update on the ongoing WOAH initiatives for the revision of the basic Texts, the progress and soon-to-be-published call for tenders to implement a new online navigation tool for WOAH Standards and the work to promote the transparency of comments.

## 2. Meeting with the Director General

Dr Monique Eloit, the WOAH Director General, met with the Commission on 16 February 2023 and thanked its members for their continued commitment to working with the WOAH to meet its objectives.

Dr Eloit provided an update on the plan to organise an Animal Health Forum at the 90th General Session, which being the first in-person General Session since the COVID-19 pandemic, which will serve to encourage exchanges among the WOAH membership on animal health priorities. In particular, focus will be on avian influenza and strategic challenges to the global control of the disease.

Dr Eloit also updated the Commission on the initiative underway to document and review the WOAH's science system and ensure governance processes remain robust and fit-for-purpose to support the WOAH's expanded membership and activities. Dr Eloit assured the Specialist Commissions and World Assembly of Delegates that she would keep them informed as the process progresses.

The Commission thanked Dr Eloit for making time to meet with its members, and expressed its support to the ongoing work of the WOAH.

## 3. Adoption of the agenda

The draft agenda was adopted by the Commission. The meeting was chaired by Dr Cristóbal Zepeda and the WOAH Secretariat acted as rapporteur. The agenda and list of participants are attached as Annexes 1 and 2, respectively.

## 4. Terrestrial Animal Health Code

### 4.1. Member comments received for Commission consideration

### 4.1.1. Chapter 8.8. Infection with foot and mouth disease virus

The Commission addressed selected Member comments that had been forwarded by the Code Commission on the amended chapter that was circulated in the Code Commission's September 2022 report.

General comments

In response to a comment proposing the revision and parallel adoption of Chapter 1.11. Application for official recognition by WOAH of free status for FMD with the adoption of the revised Chapter 8.8., the Commission considered that, while the questionnaire of Chapter 1.11. should be revised after the adoption of Chapter 8.8., the proposed provisions on imports of vaccinated animals into a country or zone officially free from FMD where vaccination is not practised can still be addressed by the current version under the existing sections on surveillance and imports (points 5.c. and 6.d.). Nonetheless, the Commission will review the questionnaire of Chapter 1.11. after the adoption of Chapter 8.8., noting that changes should not significantly impact the Application for official recognition by WOAH.

Article 8.8.1. General provisions

The Commission considered a comment expressing concerns on the narrowed list of FMD susceptible species compared to the current text and re-inclusion of certain species (e.g. subfamily Antilopinae). The Commission mentioned that some wild Bovidae can be infected with FMD virus but are not considered to play a significant role in the epidemiology of the disease. FMD cases in these species are not generally notifiable. However, the Commission acknowledged that there are reports of infection in naïve populations with resulting high morbidity and mortality, as well as with spill over into domestic populations. These events should be reported under the provisions of Articles 1.1.3. and 1.1.5. of the *Terrestrial Code*. After extensive discussion on the susceptibility, epidemiological role and appropriate surveillance with regard to the different species, the Commission agreed to include the subfamily Antilopinae in the list of susceptible species and proposed revisions under Article 8.8.41. to address the difficulty of sampling wildlife.

Article 8.8.2. Country or zone free from FMD where vaccination is not practised

The Commission considered comments by Members expressing concerns on the proposed amendments giving the possibility for FMD-free countries or zones where vaccination is not practised to introduce vaccinated animals without affecting their animal health status. The Commission acknowledged the concern expressed by Members regarding the additional burden that importation of vaccinated animals would have on the importing country. Indeed, in such case, a different surveillance strategy would be required that takes into consideration the vaccinated animals, whereas currently FMD-free countries or zones could rely solely on passive surveillance for the maintenance of their official FMD-free status. Nevertheless, noting that these imports are only allowed from 'FMD-free country/zones/compartments with vaccination' and that the provisions of Articles 8.8.11. and 8.8.11bis. enable the demonstration of absence of FMD virus infection/transmission in the animals to be imported, the Commission considers that the risk associated with importing vaccinated animals from 'FMD-free country/zones/compartments with vaccination' is negligible.

Article 8.8.5bis. Establishment of a protection zone within a country or zone free from FMD

The Commission agreed with a comment that for the implementation of a 'protection zone,' "intensified biosecurity" should be applied in the 'protection zone' and not necessarily in the rest of the country.

Article 8.8.6. Establishment of a containment zone within a country or zone previously free from FMD

The Commission considered modifications proposed by Members in points 1) and 2) according to which standstill of susceptible animals should be imposed in an area around an outbreak instead of the entire containment zone. The Commission agreed with the rationale provided by Members

that the boundaries of a containment zone can only be determined after the epidemiological investigation has been carried out, as outlined in Article 4.4.7. point 3, and proposed amendments in the aforementioned points to reflect this.

Article 8.8.40. General principles of surveillance

The Commission took note of a comment from a Member with regard to the recommendation made by the Commission to WOAH at its February 2022 meeting to develop FMD surveillance guidelines to assist Members on the design of surveillance to address the impact arising from importation of vaccinated animals into an FMD-free country or zone where vaccination is not practised. The Commission was of the opinion that the surveillance provisions of the current and adopted Chapter are sufficient and that such guidelines could be developed following the adoption of the Chapter to provide further guidance to Members.

The opinions of the Commission were forwarded to the Code Commission for consideration at its February 2023 meeting and were discussed at the meeting of the bureaus of both Commissions.

### 4.1.2. Chapter 8.14. Infection with rabies virus

The Commission was informed of some Members' disagreement with the proposed reduction in the waiting period after detection of antibodies from 3 months to 30 days for the importation of vaccinated dogs from infected countries or zones as described in the proposed amendments to draft Article 8.14.6.bis. of the *Terrestrial Code*.

The Commission noted that no new evidence had been provided by Members, which continued to refer to assessment done by the European Food Safety Authority (EFSA)[1]. The Commission reiterated its previous observation from its meeting is September 2022 that the EFSA assessment parameterised their model with the incubation period and thus considered a waiting period from time of exposure rather than from time of antibody detection as required by the provision of the *Terrestrial Code*. This could explain why the model's risk estimation is not in line with either empirical observations, or other peer-reviewed publications. The Commission invited further research be conducted to address the risk question which should be focused on the time between seropositivity and development of clinical signs.

The Scientific Commission and Code Commission discussed this item at the Bureaus meeting (see Item 9.1. of this report and Item 6.4. of the Code Commission February 2023 report).

### 4.1.3. Chapter 11.4. Bovine spongiform encephalopathy and Chapter 1.8. BSE questionnaire

The Commission addressed selected comments that had been forwarded by the Code Commission on the amended chapter that was circulated in the Code Commission's September 2022 report.

#### a) Chapter 11.4. Bovine spongiform encephalopathy

General comments

In response to a Member comment on reporting of atypical BSE cases, the Commission clarified that once the revised chapters (1.8. and 11.4.) are adopted, the notification to the WOAH of the occurrence of BSE cases, and the scope of BSE risk assessment described in point 1 of Article 11.4.2. and point 1 of Article 11.4.3. would be limited to classical BSE. The Commission further noted that information on atypical BSE cases would be collected as part of the annual reconfirmation in substantiating the effectiveness of the surveillance system. During annual reconfirmations (and when submitting a dossier for the official recognition of a BSE risk status), Members will need to document that there are measures

[1] EFSA (European Food Safety Authority), Alvarez, J, Nielsen, SS, Robardet, E, Stegeman, A, Van Gucht, S, Vuta, V, Antoniou, S-E, Aznar, I, Papanikolaou, A and Roberts, HC, 2022. Scientific Report on the risks related to a possible reduction of the waiting period for dogs after rabies antibody titration to 30 days compared with 90 days of the current EU legislative regime. EFSA Journal 2022; 20( 6):7350, 78 pp. https://doi.org/10.2903/j.efsa.2022.7350

in place to prevent recycling of the BSE agent, and provide evidence of the effectiveness of those measures.

In response to a Member request to extend the proposed transition period after the adoption of the revised chapters, to ensure that Members can prepare for and effectively implement the revised surveillance provisions mainly in terms of budgetary planning, the Commission as well as the Code Commission were of the view that the proposed revisions should reduce the cost of surveillance and Members already having an official status based on the current BSE standards should already meet the requirements of the revised standards. The Commission also reminded Members that, as explained in its September 2022 meeting report, the current questionnaire for application for official status recognition and annual reconfirmation form for maintenance of official status would be used until May 2024.

Similarly, in response to a Member question on when the revised annual reconfirmation form for maintenance of BSE risk status would be re-circulated to Members, the Commission encouraged Members to refer to the September 2022 meeting report of the Commission, where the latest version was shared (Appendix 4 of the meeting of the *ad hoc* Group report on the revision of BSE standards and the maintenance of official BSE risk status). The final version, to be used for the annual reconfirmation in November 2024, will be finalised after the adoption of the revised chapters and circulated to Members in the September 2023 meeting report of the Commission.

Article 11.4.5bis.

The Commission agreed with the paragraph added by the Code Commission in Article 11.4.5bis. clarifying that the BSE risk status of a country or zone is not affected by imported cases of BSE or cases of BSE born before the date from which the risk of BSE agents being recycled within the bovine population has been negligible, or by any bovine affected by atypical BSE, as long as they are managed in accordance with Articles 11.4.3. or 11.4.4.

The Commission agreed with the Code Commission's decision not to add the sentence 'However, when the Member Country fails to identify the source of infection, it could remove the environmental risk, including the replacement of feed chain' at the end of Article 11.4.5bis., as suggested by a Member. The Commission agreed with the rationale of the Code Commission that if Members having an official BSE risk status cannot demonstrate that they continue to comply with points 1 to 4 of Article 11.4.3., they will lose the official BSE risk status. Measures to remove the environmental risk may not be justified, a recently published modelling study on cases born after reinforced feed bans (BARB), which was referred to in February 2022 meeting report of the Code Commission, showed an exponential decline in the number of the BARB cases. The Commission further agreed with the Code Commission that occurrence of a limited number of indigenous cases of BSE in animals born after the date from which the risk of BSE agents being recycled within the bovine population has been negligible did not necessarily reflect a failure of effective control measures as repeatedly explained in previous relevant Commission and *ad hoc* Group meeting reports.

Article 11.4.18.

The Commission agreed with the Code Commission's decision not to set an age limit of 30 months for the BSE passive surveillance in point 2 of Article 11.4.18., as suggested by a Member. Both Commissions explained that the rationale not to set an age limit for testing had been provided in the October 2018 report of the *ad hoc* Group on BSE surveillance.

The Commission and the Code Commission agreed with a Member's proposed amendments in points 2(a) to 2(d) of Article 11.4.18., which suggested that only animals whose clinical presentation cannot be attributed to other common causes of behavioural or neurological signs should be followed up with appropriate laboratory testing to confirm or rule out the presence of BSE agents, instead of animals with clinical signs suggestive of BSE where other common causes of behavioural or neurological signs had been ruled out.

Both Commissions considered that the term 'ruling out' implies the need to test for multiple causes of behavioural or neurological signs.

**b) Chapter 1.8. Application for official recognition by WOAH of risk status for bovine spongiform encephalopathy**

The Commission did not agree with a Member comment proposing the provision for countries to seek a review by WOAH of their draft risk assessment prior to the formal submission of the entire dossier when applying for the official recognition of their BSE risk status, as it considered that the risk assessment was only one of the criteria for official recognition of BSE risk status as specified in Article 11.4.3. Indeed, in addition to the risk assessment, Members need to provide sufficient evidence that surveillance in bovine population and history of occurrence and management of cases of BSE are in accordance with the relevant provisions of Chapter 11.4.

Article 1.8.5.

In response to a Member comment that the implications of the use of fertilisers for a country's risk status is not clear, the Commission noted that the current text asks: i) whether or not fertilisers containing ruminant-derived protein meal are applied to land where bovines graze or where forage is harvested for feeding bovines, and ii) to provide information on the extent and frequency of their use. However, noting that it does not specify the need to describe any risk mitigation measures in place, the Commission agreed with the amendments made by the Code Commission to address this point. Furthermore, the Commission agreed with the Code Commission that while the parameters for rendering specified in revised Article 11.4.17. reduce the infectivity of the BSE agent in bovine protein meal, these do not completely eliminate infectivity and therefore the risk via accidental ingestion (or exposure) when grazing or harvesting fodder remains.

## 4.2. Other considerations

### 4.2.1. Chapter 10.4. Infection with high pathogenicity avian influenza viruses

The Commission was informed that the WOAH had received a letter signed by the International Veterinary Pigeon Association, Racing Pigeon Partners and the Fédération Colombophile Internationale requesting that racing pigeons should be subject to no or limited restrictions in case of an outbreak of high pathogenicity avian influenza virus (HPAI) as they are not susceptible to HPAI and do not play a role in the transmission of HPAI. The request was accompanied by scientific literature and risk assessments of selected national authorities. The Commission also noted that the Secretariat had obtained the opinion of a subject-matter expert.

The Commission highlighted that racing pigeons are not considered 'poultry' in the Glossary definition of the *Terrestrial Code*, provided that they have no direct or indirect contact with poultry or poultry facilities.

In examining the evidence, the Commission agreed that pigeons can become naturally infected with HPAI[2,3,4]. However, infections occur at a low frequency and based on the studies conducted, pigeons are not effective in transmitting the virus mechanically nor naturally[5].

The Commission's opinion that pigeons may become infected with HPAI and their limited effectiveness in transmitting the virus was forwarded to the Code Commission.

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2 Jia B, Shi J, Li Y, Shinya K, Muramoto Y, Zeng X, Tian G, Kawaoka Y, Chen H. (2008). Pathogenicity of Chinese H5N1 highly pathogenic avian influenza viruses in pigeons. Archives of Virology, 153, 1821-1826.

3 Jeong, S., Kwon, J.H., Lee, S.H., Kim, Y.J., Jeong, J.H., Park, J.E., Jheong, W.H., Lee, D.H., Song, C.S. (2021) Subclinical Infection and Transmission of Clade 2.3.4.4 H5N6 Highly Pathogenic Avian Influenza Virus in Mandarin Duck (*Aix galericulata*) and Domestic Pigeon (*Columbia livia domestica*). Viruses, 13(6), 1069.

4 Abolnik, C. (2020). Influenza A virus infection of pigeons. 1st World Congress of the IVPA.

5 Risk assessment on the likelihood of spread of H5N8 Highly Pathogenic Avian Influenza associated with racing pigeons, Department Of Environment, Food And Rural Affairs, Qualitative Risk Assessment, March 2017

#### 4.2.2. Chapter 10.5. Avian mycoplasmosis

The Commission noted a Member comment that Chapter 10.5. of the *Terrestrial Code* only addressed *M. gallisepticum* and not *M. synoviae*. While both pathogens were listed separately in Chapter 1.3. of the *Terrestrial Code* the corresponding *Terrestrial Manual* Chapter 3.3.5. 'Avian mycoplasmosis' addressed both pathogens. Consequently, the Code Commission agreed to clarify the way these pathogenic agents are described in the *Terrestrial Code* and requested the opinion of the Commission as to whether it would be scientifically justified to address the two pathogenic agents together in the same chapter of the *Terrestrial Code.*

The Commission noted that the Secretariat had also obtained the opinion of a subject-matter expert.

The Commission agreed with the expert's opinion to combine both pathogenic agents in one chapter of the *Terrestrial Code.* The risk management measures for both *M. synoviae* and *M. gallisepticum* would be sufficiently similar, and existing Chapter 10.5. of the *Terrestrial Code* may be expanded to include *M. synoviae*, to reduce duplication and build upon the recommendations already described for *M. gallisepticum.*

The Commission's opinion was forwarded to the Code Commission.

#### 4.2.3. Chapter 11.10. Infection with *Theileria annulata*, *T. orientalis* and *T. parva*

The Commission considered Member comments received on the listing of *T. orientalis* and the epidemiological role of African buffaloes at the time of the chapter adoption in May 2022.

On comments questioning the continued listing of *T. orientalis* (Ikeda and Chitose), the Scientific Commission requested the Secretariat to refer the concerns raised by the Member to experts for their opinion. The Commission will review the experts' opinion at its next meeting in September 2023.

Regarding the epidemiological role of African buffaloes (*Syncerus caffer*), the Commission noted that *T. parva* establishes a carrier state in both cattle and African buffaloes, involving the persistence of small numbers of parasites for many months following the acute phase of infection[6]. Although clinical disease is not observed in African buffaloes, the Commission noted that buffalo-cattle transmission of *T. parva* has been documented[7]. However, the Commission highlighted that there is no evidence of the role of African buffaloes in the epidemiology of *T. annulata* or *T. orientalis*.

The opinion of the Commission was forwarded to the Code Commission.

## 5. *Ad hoc* and Working Groups

### 5.1. Meeting reports for endorsement

#### 5.1.1. *Ad hoc* Group on biosecurity

In September 2022, the Commission provided input on the need, objectives and scope for a proposed new *Terrestrial Code* chapter on biosecurity. At this meeting, the Commission was updated on the progress of the *ad hoc* Group on biosecurity for terrestrial animals which met in December 2022.

The Commission commended the work of the Group and agreed that the proposed chapter structure was a good basis for starting to develop the chapter. The Commission provided comments related to proposed revisions to the glossary definitions of 'biosecurity' and 'biosecurity plan' in the

[6] Morrison, W.I., Hemmink, J.D., Toye, P.G. (2020). Theileria parva: a parasite of African buffalo, which has adapted to infect and undergo transmission in cattle. International Journal for Parasitology, Volume 50, Issue 5, May 2020, Pages 403-412

[7] Maboko, B.B., Sibeko-Matjila, K.P., Pierneef, R., Chan, W.Y., Josemans, A., marumo, R.D., Mbizeni, S., Latif, A.A., Mans, B.J. (2021) South African Buffalo-Derived *Theileria parva* is distinct from other buffalo and cattle-derived *T.parva.* Frontiers in Genetics; Volume 12, Pages 1-12

*Terrestrial Code* and the proposed new definition of a new term 'swill'. Additional comments were also provided related to the chapter structure for the Group's consideration.

The Commission noted the next planned meeting of the Group and agreed to provide ongoing feedback during the development of the chapter.

### 5.1.2. *Ad hoc* Group on the evaluation of peste des petits ruminants status of Members: 19–21 October 2022

The Commission reviewed the report of the *ad hoc* Group and considered its recommendations on two applications from Members for the recognition of their PPR-free status and one application for the endorsement of an official PPR control programme. The Commission concluded that these applications did not meet the requirements of the *Terrestrial Code*. The dossiers were referred to the applicant Members along with the rationale for the Commission's position and suggestions on actions to be taken to comply with the requirements of the *Terrestrial Code*.

The endorsed report of the *ad hoc* Group is available on the WOAH website.

### 5.1.3. *Ad hoc* Group on the evaluation of foot and mouth disease status of Members: 2- 4, 7 and 9 November 2022

The Commission reviewed and endorsed the report of the *ad hoc* Group on the evaluation of applications from Members for the recognition of their FMD-free status and the endorsement of official control programmes.

- *Evaluation of an application from a Member for the recognition of an FMD-free status where vaccination is practised*

  The Commission agreed with the conclusion of the *ad hoc* Group and recommended that the Assembly recognise the Republic of Korea as free from FMD where vaccination is practised.

- *Evaluation of an application from a Member for the recognition of an FMD-free zonal status where vaccination is not practised*

  The Commission agreed with the conclusion of the *ad hoc* Group and recommended that the Assembly recognise one zone of Bolivia as free from FMD where vaccination is not practised.

- *Evaluation of applications from Members for the recognition of an FMD-free zonal status where vaccination is practised*

  The Commission agreed with the conclusions of the *ad hoc* Group and recommended that the Assembly recognise one new zone of Colombia and one new zone of Russia as free from FMD where vaccination is practised. The Commission encouraged Members to take into consideration the recommendations of the *ad hoc* Group and to submit documented evidence on the actions taken in the annual reconfirmation.

- *Evaluation of applications for recovery of FMD-free status with change of vaccination status*

  The Commission discussed applications from a Member and could not conclude solely based on the information provided in the dossiers. Therefore, the Commission recommended to the Director General to mandate a mission to the country, before making a final decision, to verify compliance with the provisions of the *Terrestrial Code*. The final decision of the Commission on the recovery of the FMD-free status would be made after the mission and proposed for official recognition at the forthcoming General Session.

  The endorsed report of the *ad hoc* Group is available on the WOAH website.

### 5.1.4. *Ad hoc* Group on the evaluation of official control programmes for dog-mediated rabies: 8-9 November 2022

The Commission reviewed the report of the *ad hoc* Group on the evaluation of an application from one Member for the endorsement of its official control programme for dog-mediated rabies.

Upon review of the *ad hoc* Group report, the Commission requested further improvements particularly in the work plan to reflect information provided in the core dossier prior to making a final recommendation on the endorsement.

Upon the assessment of the additional information, the Commission agreed with the conclusions of the *ad hoc* Group and recommended that the Assembly endorsed the official control programme for dog-mediated rabies of Zambia. The Commission encouraged Zambia to take into consideration the recommendations of the *ad hoc* Group and to submit documented evidence of their implementation in the annual reconfirmation.

The endorsed report of the *ad hoc* Group is available on the WOAH website.

#### 5.1.5. *Ad hoc* Group on the evaluation of contagious bovine pleuropneumonia status of Members: 16 November 2022

The Commission reviewed and endorsed the report of the *ad hoc* Group on the evaluation of the application from one Member for the recognition of its CBPP status.

The Commission agreed with the conclusions of the *ad hoc* Group and recommended that the Assembly recognise Colombia as having a CBPP-free status. The Commission encouraged Colombia to take into consideration the recommendations of the *ad hoc* Group and to submit documented evidence of their implementation in the annual reconfirmation.

The endorsed report of the *ad hoc* Group is available on the WOAH website.

#### 5.1.6. *Ad hoc* Group on the evaluation of classical swine fever status of Members: 7-8 and 15 December 2022

The Commission reviewed and endorsed the report of the *ad hoc* Group on the evaluation of the applications from two Members for the recognition of their CSF-free status.

The Commission agreed with the final conclusions of the *ad hoc* Group on the two applications that they did not meet the requirements of the *Terrestrial Code*. The dossiers were referred to the respective applicant Members along with the rationale for the Commission's position. Suggestions on actions to be taken to comply with the requirements of the *Terrestrial Code* were provided.

The endorsed report of the *ad hoc* Group is available on the WOAH website.

#### 5.1.7. *Ad hoc* Group on the review of BSE surveillance guidelines: 25 October 2022

The Commission reviewed and endorsed the guidelines for targeted BSE surveillance prepared by WOAH and peer-reviewed by the *ad hoc* Group after minor editorial changes had been taken into account. In response to Members' requests to access the guidelines as soon as possible, the Commission agreed to annex it to this report. The Commission recommended WOAH to improve the readability and display of the guidelines further before publishing them on the WOAH website after the potential adoption of the revised BSE standards at the General Session in May 2023.

The endorsed report of the *ad hoc* Group is available on the WOAH website and guidelines are attached as Annex 3.

### 5.2. Meeting reports for information

#### 5.2.1. Working Group on Wildlife

Due to time constraints, the Commission was unable to discuss the report of the Working Group on Wildlife. Nonetheless, the Commission acknowledged the report of the Working Group on

Wildlife and agreed to look into the recommendations on the definition of ‘emerging disease’ in further detail at its next meeting.

#### 5.2.2. *Ad hoc* Group on PVS Evaluation with African swine fever specific content methodology

The Commission was informed that the WOAH had convened an *ad hoc* Group in September 2022 to develop a specific content methodology under the PVS Pathway (Performance of Veterinary Services) for African swine fever (ASF), following the examples for PPR and rabies.

The Group had identified relevant critical competencies from the 7th edition of the PVS tool that should be evaluated during ASF-specific content missions, and developed a set of guiding principles and annex to guide these evaluations. The proposed methodology will be piloted in selected WOAH Members that have expressed interest in undertaking ASF-specific content missions, before being officially launched.

### 5.3. Planned *ad hoc* Groups and confirmation of proposed agendas

- *Ad hoc* Group on biosecurity: 2–4 May 2023
- Working Group on Wildlife: 20–23 June 2023
- Working Group on Antimicrobial Resistance: 28–30 March 2023
- *Ad hoc* Group on surra and dourine: July 2023 (to be confirmed)
- *Ad hoc* Group on the evaluation of AHS status: 26–28 September 2023 (to be confirmed)
- *Ad hoc* Group on the evaluation of BSE risk status: 3–5 October 2023 (to be confirmed)
- *Ad hoc* Group on the evaluation of the endorsement of dog-mediated rabies control programmes: 3–5 October 2023 (to be confirmed)
- *Ad hoc* Group on the evaluation of PPR status: 17–19 October 2023 (to be confirmed)
- *Ad hoc* Group on the evaluation of FMD status: 23–26 October 2023 (to be confirmed)
- *Ad hoc* Group on the evaluation of CSF status: 7–9 November 2023 (to be confirmed
- *Ad hoc* Group on the evaluation of CBPP status: 5–7 December 2023 (to be confirmed)

#### 5.3.1. Equine encephalitidis

In September 2022, in coordination with the Code Commission, the Scientific Commission had agreed with the Secretariat proposal to review WOAH *Terrestrial Code* Chapters 8.10. Japanese encephalitis, 12.4. Equine encephalitis (Eastern and Western), 12.11. Venezuelan equine encephalomyelitis to update their content and structure.

At this meeting, the Secretariat proposed a plan to approach the work, including to first undertake, in consultation with subject matter experts a scientific assessment of the susceptible animals, their epidemiological role and their relevance for surveillance and disease prevention and control, and assessing these diseases against the listing criteria (Chapter 1.2.). The Commission supported the Secretariat proposal and suggested experts who could participate in the work. The recommendations of the experts will be presented to the Commission at its September 2023 meeting.

#### 5.3.2. Surra and dourine

The Commission was informed of the plan to re-convene the *ad hoc* Group to continue the work on updating current *Terrestrial Code* Chapter 12.3. ‘Dourine’ and to recommend amendments to the draft chapter on surra to address technical concerns. The Commission reviewed and endorsed the Terms of Reference of this *ad hoc* Group and noted that the report of the *ad hoc* Group and the two draft chapters will be forwarded to the Commission for its revision and endorsement at its September 2023 meeting.

## 6. Official Animal Health Status

### 6.1. Annual reconfirmations for maintenance of status

#### 6.1.1. Comprehensive review of annual reconfirmations for pre-selected status and all WOAH-endorsed official control programmes

The Commission comprehensively reviewed the annual reconfirmations of the Members that were preselected at its last meeting in September 2022. A summary of the Commission's discussions and recommendations on this matter can be found in Annex 4.

The Commission reemphasised the importance of timely submission (by the end of November of each year) of the annual reconfirmations for maintenance of Members' official status and endorsement of official control programmes. The Commission reiterated that absence of submission or finalisation of the annual reconfirmation by the end of January of the following year can lead to the suspension of the official status or to the withdrawal of the endorsement of an official control programme.

The Commission appreciated the revised format piloted by the Status Department for the screening of the annual reconfirmations selected for comprehensive review by the Commission, as an effort to address the large volume of those annual reconfirmations. The Commission highlighted that this streamlined approach allowed the timely and efficient assessment of the annual reconfirmations without compromising the quality of discussions and evaluation. The Commission recommended that this new working methodology be maintained for its future meetings.

#### 6.1.2. Report of the annual reconfirmation assessments by the Status Department

The Commission reviewed and endorsed the report prepared by the Status Department on the remaining annual reconfirmations (those that were not selected for comprehensive review). The Commission also reviewed the annual reconfirmations for which the Status Department required the Commission's scientific advice.

The Commission concluded that the annual reconfirmations were compliant with the relevant requirements of the relevant chapter of the *Terrestrial Code* for the maintenance of the officially recognised status and made recommendations to some Members regarding their annual reconfirmations for maintenance of official disease status.

The report of all annual reconfirmations, including those comprehensively reviewed by the Commission and those reviewed by the Status Department and reported to the Commission, is attached as Annex 4.

### 6.2. Specific update on official animal health status

#### 6.2.1. Update on situation of countries/zones with suspended or reinstated animal health status

The Commission was informed of applications submitted by certain Members for the recovery of their animal health status and for the establishment of a containment zone for FMD. In accordance with the Standard Operating Procedures, the Commission decided to undertake the evaluation of the aforementioned dossiers by electronic correspondence amongst its members.

### 6.3. State of play and prioritisation of expert mission to Members requested by the Commission

#### 6.3.1. State of play and prioritisation

The Commission reviewed and prioritised the missions for the maintenance of animal health status and the endorsement of official control programmes to be undertaken, considering the priority issues identified by the Commission when reviewing the annual reconfirmations submitted in

November 2022. The prioritised list of missions will be confirmed following consultation with the Director General of WOAH.

## 6.4. Standards and procedures related to official status recognition

### 6.4.1. Issues raised during the assessment of Members' applications and annual reconfirmations for official animal health status

#### 6.4.1.1. Specificity of serological tests and absence of false positives

The Commission discussed an issue raised in the meeting report of the ad hoc Group on the evaluation of FMD status and endorsement of official control programmes of Members with regard to the surveillance results in Members' dossiers that did not agree with the stated specificity of the assays used. This was raised as a consistent problem whereby Members were not presenting any positive results after testing several thousand animals. The Commission agreed with the FMD ad hoc Group's opinion that even with a testing protocol with high specificity (e.g., 99%), a proportion of false positive results falling within an acceptable range would be expected. The Commission was informed by the Status Department that this issue had also been raised in the past by other ad hoc Groups on the evaluation of animal health status of Members.

The Commission agreed with the recommendation of the FMD *ad hoc* Group that Members applying for the official recognition of an animal health status or for the endorsement of their official control programmes should clearly present in their dossiers their testing protocols and provide validation data to support the claims for the sensitivity and specificity of the assays used for all serological testing. Furthermore, the Commission recommended WOAH to include reference to the submission of such documented evidence by Members in the "Guidance document on presentations of applied survey design and results for applicant Members for official recognition of FMD free status" which had been developed by the FMD *ad hoc* Group at its October 2018 meeting. The Commission further recommended that WOAH adapt this guidance document to all diseases for which WOAH grants an official animal health status or endorses official control programmes and publish these documents on the WOAH website as guidance for applicant Members.

#### 6.4.1.2. Expected prevalence and level of confidence for serological surveillance to demonstrate freedom

The Commission was informed that during the October 2022 meeting of the *ad hoc* Group on the evaluation of PPR status and endorsement of official PPR control programmes of Members, there was a discussion about the adequate level of serosurveillance to demonstrate freedom from disease. The *ad hoc* Group agreed that the design prevalence of the surveillance implemented by a country where the disease is claimed to be absent should be able to ensure that PPR would not go undetected should it be circulating at a 1%-2% level of infection. Nevertheless, it was noted that the joint FAO/WOAH Global Strategy for the Control and Eradication of PPR (PPR GCES) recommends that to prove absence of disease, the following minimum infection levels would be expected in a susceptible population: *5% of epi units will have at least one positive animal and 30% of animals within each epi unit will be infected with PPRV*.

The Commission agreed with the opinion of the *ad hoc* Group that the testing guidelines in the PPR GCES were far too lax, and recommended that WOAH in partnership with FAO revise the parameters mentioned in the PPR GCES to ensure that the recommended surveillance design would be capable of early detection of PPR incursion in a country where the disease has never been reported.

#### 6.4.1.3. Non-compliance of Members having an official animal health status by WOAH with provisions of the *Terrestrial Code* for imports of commodities from countries not officially recognised as free by WOAH

At its February 2022 meeting, the Commission discussed the issue of certain Members with an official animal health status (mainly for PPR and CSF and in some cases for AHS, CBPP and FMD) importing commodities from countries not officially recognised as free by WOAH for the respective disease without fully complying with the relevant provisions of the *Terrestrial Code* for importation from infected countries or zones. In response to the Commission's request, the PPR *ad hoc* Group discussed the possibility of having recommendations for importation of domestic small ruminants destined for slaughter from countries or zones infected with PPR virus at its October 2022 meeting.

The Commission discussed a proposed draft article from the PPR *ad hoc* Group. The Commission noted that scientific evidence suggests that suids are an unexpected possible source for PPR virus infection and, therefore, domestic pigs and wild boar should be considered as possible PPR virus reservoir hosts[8]. Considering that implementation of the draft article could result in potential imports of infected animals in a free country and based on the fact that PPR virus could survive in meat, as noted by the *ad hoc* Group, the Commission did not agree with the proposed draft article and requested that the role of meat in the transmission of PPR virus be further clarified.

The Commission reiterated its recommendation from its February 2022 meeting that all Members having an official animal health status should comply with the relevant requirements of the *Terrestrial Code* for importation from countries or zones with undetermined animal health status and requested WOAH to continue exploring ways to support Members in this regard.

#### 6.4.2. Procedure for recovery or risk assessment in case of recurrence of rinderpest

The Commission was informed that the questionnaires, for recovery of rinderpest-free status (for infected countries) and for the risk assessment (for all other countries), to be submitted to WOAH by countries in the event of re-emergence of rinderpest are available on the WOAH website.

## 7. Global control and eradication strategies

At this meeting, the Commission received updates on the global strategic plan for rabies. It noted that the updates on the other global strategies on ASF, FMD and PPR will be provided at its next meeting in September 2023.

[8] Schulz C., Fast C., Schlottau K., Hoffmann B., Beer M. (2018). Neglected hosts of small ruminant morbillivirus. Emerging Infectious Diseases, Vol. 24, No. 12

### 7.1. Rabies. Global Strategic Plan to End Human Deaths from Dog-Mediated Rabies. Zero by 30.

The Commission was informed that the United Against Rabies Forum now encompasses more than 55 institutions, with more than 90 individuals contributing to specific activities that align with the objectives of 'Zero by 30: the Global Strategic Plan to end human deaths from dog-mediated rabies by 2030 (Zero by 30).

During 2022, the United Against Rabies Forum website was launched, providing a central platform for stakeholders to access rabies tools and resources. The network is improving dissemination and communication of their outputs – a virtual webinar 'Tackling Rabies and Dog Population Management: the Role of Local Authorities' took place in October 2022, and quarterly webinars are planned during 2023 to better connect the Forum with stakeholders. Quarterly newsletters will also be disseminated, with the first newsletter being circulated to more than 1700 stakeholders in November 2022, highlighting key outputs and resources.

Key achievements of the network to date include the development of a national strategic plan template (available in English and French), a document providing guidance and definitions on the minimum data elements required for effective surveillance, an evaluation process for tools with a repository that guides stakeholders in selecting the most suitable tool for their needs and several case studies highlighting the catalytic role that partners can play in rabies elimination, with the aim of inspiring other stakeholders to contribute and invest in rabies control.

An in-person United Against Rabies meeting took place at WOAH headquarters, 14-16 December 2022, bringing together the United Against Rabies Steering Group and leads of each specific Working Group activity. This meeting focused on identifying challenges and blocking points for the network, identifying ways in which to overcome these, and proposing a revision to the governance, mode of operation, and priority areas of the Forum for 2023. A meeting report outlining the activities of 2022 and proposed workplan of the Forum for 2023 will be published on the United Against Rabies Forum website in 2023.

## 8. WOAH Collaborating Centres

### 8.1. Application for approval as WOAH Collaborating Centre for the Economics of Animal Health

The Commission was asked for its view on an application received for a WOAH Collaborating Centre on Economics of Animal Health (Americas region). The Commission noted the quality of the proposal and its pertinence, noting that a similar Collaborating Centre has been approved for the Europe region. The opinion of the Commission was forwarded to the Biological Standards Commission.

## 9. Liaison with other Commissions and Departments

### 9.1. Terrestrial Animal Health Standards Commission (Code Commission)

The Bureaus (i.e. the President and two Vice-Presidents) of the Code Commission and the Scientific Commission held a meeting chaired by Dr Montserrat Arroyo. The purpose of the meeting was to provide an occasion where the two Bureaus could be informed about the planning and coordination of relevant topics of common interest and, where necessary, prioritise them and agree on the process to manage these topics.

The Bureaus discussed on the following Terrestrial Code chapters to be proposed for adoption in May 2023:

- Chapter 8.8. Infection with foot and mouth disease virus (see Item 4.1.1.);
- Chapter 8.14. Infection with rabies virus (see Item 4.1.2.);
- Chapter 11.4. Bovine spongiform encephalopathy and Chapter 1.8. BSE questionnaire (see Item 4.1.3.).

The Bureaus also discussed proposed amendments to the *Guidance for the application of criteria for listing terrestrial animal diseases* to improve experts' interpretation of the listing criteria, the next tranche of work for listing assessment (see Item 5.3.1.) and the status of the work to develop case definitions for terrestrial animal listed diseases to support notification (see Item 11.2.).

The Bureaus also discussed plans for the following works which require the Commissions' coordination:

- New chapter on biosecurity (Chapter 4.X.) (see item 5.1.1 of this report)
- Revision of chapters on equine encephalitis (Chapters 8.10., 12.4. and 12.11.)
- Revision of chapter on dourine (Chapter 12.3.) and new chapter on Surra (Chapter 8.Z.)
- New chapter on Crimean Congo haemorrhagic fever (Chapter X.X.)

### 9.2. Biological Standards Commission

The Commission and the Biological Standards Commission both have responsibilities in the ongoing work on development of case definitions, and in the assessment of pathogenic agents against the criteria for listing in Chapter 1.2. of the *Terrestrial Code*. At this meeting, the Commission considered the Biological Standards Commission's opinion on two proposed case definitions (see Items 10.2.2.1. and 10.2.2.2.).

## 10. Conferences, workshops, meetings, missions

None at this meeting.

## 11. Disease control: specific issues

### 11.1. Evaluation of pathogenic agent against listing criteria of *Terrestrial Code* Chapter 1.2.

At this meeting, the Commission discussed the listing of *Theileria orientalis* (see Item 4.2.3.). The Commission also noted the proposal to prioritise the work on the assessment of the equine encephalitis against the criteria of Chapter 1.2. 'Criteria for the inclusion of diseases, infections and infestations in the OIE list' of the *Terrestrial Code* (see Item 5.3.1.).

### 11.2. Development of case definitions

#### 11.2.1. Case definition process and progress update

The Commission received an update on the status of case definitions under development and reviewed two case definitions (Crimean-Congo haemorrhagic fever and Nipah virus encephalitis). The Commission noted the efforts made to incorporate feedback received in the development of new case definitions and the usefulness of the joint review of case definitions with the Biological

#### 11.2.2. Case definitions

##### 11.2.2.1. Nipah virus encephalitis

The Commission was informed of a potential conflict concerning the susceptible animal species in the case definition that was proposed for Nipah virus encephalitis, with Chapter 3.1.15. of the *Terrestrial Manual* that was adopted in May 2022. In the case definition that had been proposed by the expert group, it was recommended that Nipah virus encephalitis be defined as infection of horses, pigs, dogs, and cats with Nipah virus. However, recently adopted Chapter 3.1.15. of the *Terrestrial Manual indicated* that companion animals (i.e. dog and cats) do not seem to play a role in the epidemiology of the disease.

The Commission was briefed that the Biological Standards Commission will propose an amendment to Chapter 3.1.15. to clarify the uncertainty with regards to the significance of dogs and cats in the epidemiology of the infection. Correspondingly, the Commission

amended the draft case definition to delete dogs and cats and limit the scope of susceptible animal species to pigs and horses. Given the potential conflict between the animal hosts described in the case definition with the categorisation of Nipah virus encephalitis in Chapter 1.3. of the Terrestrial Code (i.e. an infection of swine and not of multiple species), the case definition will not be uploaded onto the WOAH website for the time being, until consistency with Chapter 1.3. is ensured.

The opinion of the Commission was forwarded to the Code Commission.

#### 11.2.2.2. Crimean Congo haemorrhagic fever

The Commission reviewed the draft case definition for infection with Crimean-Congo haemorrhagic fever virus (CCHFV) prepared by the expert group, noting the updates proposed by the lead expert in light of the revisions to the draft *Terrestrial Manual* on CCHFV. The Commission proposed amendments to the draft case definition and requested the Secretariat to seek additional clarification from the experts particularly to ensure consistency with the information provided in Table 1 of the draft *Terrestrial Manual* Chapter 3.1.5. The Commission will examine the case definition at its next meeting in September 2023.

## 12. For Commission information

### 12.1. Updates on standing items

#### 12.1.1. OFFLU

The Commission was briefed on OFFLU's (Joint WOAH-FAO Network of Expertise on Animal Influenza) activities. During the reporting period, the avian influenza epidemic continued with high numbers of detections reported globally in poultry and non-poultry including wild birds mainly in the Regions of Europe and Americas. The disease also spread to several new countries in Central and South America. In response to these outbreaks, OFFLU network experts participated in teleconferences to share epidemiological and molecular data on currently circulating viruses and released situation updates and statements needed to inform surveillance and control policies.

For the September 2022 WHO vaccine composition meeting, data for 588 HPAI H5, 60 LPAI H7 and 89 H9 avian influenza genetic sequences were contributed by animal health laboratories in countries representing Africa, the Americas, Asia, Europe and Oceania. Additionally, data for 345 swine H1 sequences from 18 different clades and 116 swine H3 sequences from eight different clades were analysed and submitted. Antigenic characterisations were undertaken by OFFLU contributing laboratories and subsequently there were updates to the WHO recommendations for the development of new candidate vaccine viruses for pandemic preparedness purposes.

OFFLU embarked on a project called avian influenza matching (AIM) for characterisation of circulating avian influenza viruses in different regions to support poultry vaccination. This information will facilitate selection of appropriate vaccines for poultry and updating of poultry vaccine antigens in places where vaccines are being used.

#### 12.1.2. STAR-IDAZ International Research Consortium

The Commission was informed on the creation of a new secretariat (SIRCAH2) supporting the STAR-IDAZ International Research Consortium (IRC) for Animal Health. SIRCAH2, funded by the Horizon Europe 2022 programme until April 2026, started its activities in October 2022. A launch event was held on the 28 November 2023 in London during the international research week, reinforcing links with other research networks.

WOAH continues to stay actively involved in the STAR-IDAZ IRC as a member of the Executive Committee and co-hosting SIRCAH2, providing support to the network and its different working groups. In addition, WOAH will lead the work package dedicated to advocacy and international engagement aimed to increase Members involvement in the STAR-IDAZ IRC. Any research

funders or programme owners wishing to join or receive more information on the network can contact Dr Valeria Mariano (v.mariano@woah.org).

The STAR-IDAZ Regional Networks (for Africa & the Middle East, the Americas, Asia & Australasia, and Europe) facilitate regional cooperation and coordination among more than 50 countries around the globe, by identifying common research priorities in the Regions, opportunities for sharing resources including access to samples, specialised facilities, expertise, and international or regional funding opportunities.

Currently the Executive Committee reached 30 Members from 20 countries. The IRC Executive Committee met on 20 September 2022 to update members on the status of the Network. The last Scientific Committee meeting took place on 6 February 2023 to discuss the activities of the Working Groups (WGs) on the current priorities. The Commission was briefed on the recent and forthcoming activities of the WGs active in identifying research needs and delivering research roadmaps on Alternative to Antibiotics (ATA), mycoplasmas including CBPP, coronaviruses, influenza, one health, bovine tuberculosis (bTB), diagnostic, vector transmission and control.

### 12.1.3. WOAH research coordination activities

The Commission was updated on the activities of the WOAH research coordination group (ResCoG). The aim of the ResCoG is to exchange information and enhance coordination of related research activities among WOAH Departments, Regions and Subregions by sharing available information, collecting and disseminating WOAH regulatory research needs for improving standard settings and global strategies.

The ResCoG met the 17 November 2022. The showcase session of the meeting was dedicated to AMR research activities and on the shared database of publication with WOAH affiliation. A final round table discussion focussed on updates from WOAH related research activities of different Departments and Regions (STAR-IDAZ IRC, EBO-SURSY, WAHIS data integration project, ongoing research activities from the Subregional Representation for South East Asia, research needs and publications from the Regional Representation for Europe).

Information from a desk study, scanning for research needs from the last 5 years of reports (2018-2022) from *ad hoc* Groups (n=84) and Aquatic Animal Health Standards Commission (n=7), were presented and discussed. As results, 181 research needs were collected, sixty-one research needs were directly related to the standard setting process, 169 related to disease control strategies and 12 related to animal welfare. Relevance for the international standards (Codes and Manual chapters) was identified for 54 and 129 research needs respectively. Results have been organised in tables by categories: epidemiology and surveillance, diagnostics, therapeutics, vaccines, and animal welfare, for both aquatic and terrestrial animals. This information will be soon integrated with the research needs collected from the annual reports of Reference Laboratories and Collaborating Centres.

### 12.1.4. Global Burden of Animal Diseases programme (GBADS) and the WOAH Collaborating Centre for the Economics of Animal Health

The Commission was updated on the progress of the Global Burden of Animal Diseases programme (GBADs). The objective of GBADs is to systematically assess the economic burden of animal diseases including net loss of production, expenditure, and trade impacts to improve investment decisions in the livestock and aquatic sectors as a result of the incorporation of standardised economic analysis and publication of data, analysis, and reports.

Activities since September 2022 include developing, refining and testing GBADs methodologies and informatics, deriving burden estimates for Ethiopia and implementing the first national stakeholder workshop in the country. A case study has started in Indonesia and a case study is in the pipeline for Senegal. At a global level, a case study has started to analyse on-farm livestock investments using dairy as an example.

The GBADs programme has supported the submission of an application for a Collaborating Centre on the economics of animal health in the Americas (see Item 8.1.) and is in discussion to support

the establishment of such centres in Africa and Asia and the Pacific regions. There is currently a Collaborating Centre on the Economics of Animal Health for Europe.

An *ad hoc* Group on the Economics of Animal Health to support the creation of WOAH guidelines on the economics of animal health will be launched in 2024. A SCAD member will be invited to participate as observer.

#### 12.1.5. WOAH Observatory

The Commission was updated on the activities of the WOAH Observatory, which is aimed at monitoring the implementation of WOAH Standards by Members. The recently published first Annual Report of the Observatory was presented and the Commission offered positive feedback on the work conducted and the interest of also having three different formats adapted to each type of audience: a comprehensive report, 12 executive summaries and 12 interactive dashboards. In addition, the Commission was invited to advise the Observatory on the development of its first thematic study on zoning and possibly compartmentalisation.

### 12.2. WOAH Terrestrial Standards Coordination

The Commission was informed of a new mechanism established within the WOAH Secretariat, and chaired by the Deputy Director General, International Standards and Science (DDG ISS), aimed at achieving more efficient and integrated management of the process of developing new or revised standards for terrestrial animals. The mechanism involves integrating the planning of activities of WOAH teams providing technical support, coordination, and input to WOAH standard-setting work, as well as coordinating the work plans of the Specialist Commissions involved in the development of WOAH standards for terrestrial animals. The Commission was informed that this mechanism was supported by a process agreed upon by the Commissions' Presidents on the steps and specific Commissions intervention and interaction in standard setting.

The Commission commended the initiative and noted that this mechanism would support the different Commissions involved in standard-setting in defining their priorities and work planning, as well as to ensure that work programmes are well coordinated. The Commission supported the idea of developing an overarching view for the ongoing and planned standard-setting work and requested that the plan be shared periodically with the Commission. It was also noted that the mechanism does not preclude the Commissions adding emerging items needs and priorities to their work programme.

## 13. Programme and priorities

### 13.1. Update and prioritisation of the work programme

The Commission updated its work programme, identified the priorities, and scheduled the dates for the various *ad hoc* Group meetings, which will be accessible to Members through the WOAH website.

The updated work programme is attached as Annex 5.

## 14. Date of the next meeting

The next meeting of the Commission is scheduled to take place between 11 and 15 September 2023.

## 15. Meeting Review

A meeting review was conducted in accordance with the Commission Performance Management Framework.

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…/Annexes

## Annex 1. Adopted Agenda

### MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES

**Paris, 13 to 17 February 2023**

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**1. Welcome**

**2. Meeting with the Director General**

**3. Adoption of the agenda**

**4. Terrestrial Animal Health Code**

4.1. Member comments received for Commission consideration

4.1.1. Chapter 8.8. Infection with foot and mouth disease virus

4.1.2. Chapter 8.14. Infection with rabies virus

4.1.3. Chapter 11.4. Bovine spongiform encephalopathy and Chapter 1.8. BSE questionnaire

4.2. Other considerations

4.2.1. Chapter 10.4. Infection with high pathogenicity avian influenza viruses

4.2.2. Chapter 10.5. Avian mycoplasmosis

4.2.3. Chapter 11.10. Infection with Theileria annulata, T.orientalis and T.parva

**5. *Ad hoc* and Working Groups**

5.1. Meeting reports for endorsement

5.1.1. *Ad hoc* Group on biosecurity

5.1.2. *Ad hoc* Group on the evaluation of peste des petits ruminants status of Members: 19–21 October 2022

5.1.3. *Ad hoc* Group on the evaluation of foot and mouth disease status of Members: 2-4, 7 and 9 November 2022

5.1.4. *Ad hoc* Group on the evaluation of official control programmes for dog-mediated rabies: 8-9 November 2022

5.1.5. *Ad hoc* Group on the evaluation of contagious bovine pleuropneumonia status of Members: 16 November 2022

5.1.6. *Ad hoc* Group on the evaluation of classical swine fever status of Members: 7-8 and 15 December 2022

5.1.7. *Ad hoc* Group on the review of BSE surveillance guidelines: 25 October 2022

5.2. Meeting reports for information

5.2.1. Working Group on Wildlife

5.2.2. *Ad hoc* Group on PVS Evaluation with African swine fever specific content methodology

5.3. Planned *ad hoc* Groups and confirmation of proposed agendas

5.3.1. Equine encephalitidis

5.3.2. Surra and dourine

**6. Official animal health status**

6.1. Annual reconfirmations for maintenance of status

6.1.1. Comprehensive review of annual reconfirmations for pre-selected status and all WOAH-endorsed official control programmes

6.1.2. Report of the annual reconfirmation assessments by the Status Department

6.2. Specific update on official animal health status

6.2.1. Update on situation of countries/zones with suspended or reinstated animal health status

6.3. State of play and prioritisation of expert mission to Members requested by the Commission

6.3.1. State of play and prioritisation

6.4. Standards and procedures related to official status recognition

6.4.1. Issues raised during the assessment of Members' applications and annual reconfirmations for official animal health status

6.4.2. Procedure for recovery or risk assessment in case of recurrence of rinderpest

**7. Global control and eradication strategies**

7.1. Rabies. Global Strategic Plan to End Human Deaths from Dog-Mediated Rabies. Zero by 30.

**8. WOAH Collaborating Centres**

8.1. Application for approval as WOAH Collaborating Centre for the Economics of Animal Health

**9. Liaison with other Commissions and Departments**

9.1. Terrestrial Animal Health Standards Commission (Code Commission)

9.2. Biological Standards Commission

**10. Conferences, workshops, meetings, missions**

**11. Disease control: specific issues**

11.1. Evaluation of pathogenic agent against listing criteria of *Terrestrial Code* Chapter 1.2.

11.2. Development of case definitions

11.2.1. Case definition process and progress update

11.2.2. Case definitions

**12. For Commission information**

12.1. Updates on standing items

12.1.1. OFFLU

12.1.2. STAR-IDAZ International Research Consortium

12.1.3. WOAH research coordination activities

12.1.4. Global Burden of Animal Diseases programme (GBADS) and the WOAH Collaborating Centre for the Economics of Animal Health

12.1.5. WOAH Observatory

12.2. WOAH Terrestrial Standards Coordination

**13. Programme and priorities**

13.1. Update and prioritisation of the work programme

**14. Date of the next meeting**

**15. Meeting Review**

**Annex 2. List of Participants**

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 13 to 17 February 2023**

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**MEMBERS OF THE COMMISSION**

**Dr Cristóbal Zepeda**
(President)
Regional Manager for Latin America and the Caribbean
USDA-APHIS International Services
UNITED STATES OF AMERICA

**Dr Trevor Drew**
(Vice-President)
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**WOAH HEADQUARTERS**

**Dr Gregorio Torres**
Head
Science Department

**Dr Charmaine Chng**
Deputy Head
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**Dr Monal Daptardar**
Scientific Coordinator
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**Dr Min Kyung Park**
Head
Status Department

**Dr Roberta Morales**
Scientific Coordinator
Science Department

**Dr Manoel Augusto Tamassia**
Deputy Head
Status Department

**Dr Anna-Maria Baka**
Chargée de mission
Status Department

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## Annex 3. Guidelines for Targeted BSE Surveillance

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 13 to 17 February 2023**

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### 1. Introduction

These guidelines aim to support WOAH Members in the implementation of a bovine spongiform encephalopathy (BSE) surveillance system by providing an overview of the clinical signs of BSE and the criteria for targeted BSE surveillance, as well as an overview of the components of a credible BSE surveillance system. These guidelines complement the information in Chapters 1.8 and 11.4 of the *Terrestrial Animal Health Code* (*Terrestrial Code*) and Chapter 3.4.5 of the *Manual of Diagnostics and Vaccines for Terrestrial Animals* (*Terrestrial Manual*); therefore, it is highly recommended that the reader consults the above-mentioned WOAH standards when using these guidelines.

Supplementary information on BSE including links and references to additional reading material, examples of clinical examination forms and disorders pertinent to the differential diagnosis of BSE are provided in Appendices.

### 2. An overview of the clinical signs associated with BSE (11.4.18. Point 1)

BSE is a fatal neurodegenerative disease in adult bovines, with a variable incubation period (2 to more than 10 years). The majority of the cases developing clinical signs 5-7 years after exposure to the agent. It is refractory to treatment, with death occurring weeks or months after the clinical signs appear. Breed or sex are not predisposing risk factors associated with infection or presence of the disease. As a neurodegenerative disease, BSE causes progressive neurological signs, which for simplification can be grouped into changes in:

- mental status, behaviour and activity: placid animals become aggressive, increasing fear, changing behaviour at milking or when entering the milking parlour, becoming more aggressive or nervous than before towards bovines or humans.
- sensation: over-reactivity to stimuli (touch, light, sound)
- posture and movement: low head, wide-based posture and incoordination, walking or running into objects or walls with eyes appearing normal, walking aimlessly around in circles or drifting to one side when walking.

Additionally, non-specific signs may also be reported in clinical cases such as loss of body condition and weight, decrease in milk yield and a low heart rate despite excitable behaviour.

The three most typical signs of BSE are apprehension, hyperaesthesia or ataxia (Wilesmith and others 1992):

- Apprehension: the animal appears very alert, follows every movement, startles frequently without obvious stimulus, flinches repeatedly on sudden movements, runs away when approached, tries to escape when cornered.

- Hyperaesthesia: hyperaesthesia can include over-reactivity to a range of external stimuli, but it is the repeatability or the progressive nature of over-reactivity that is characteristic of BSE and distinguishes it from over-reactivity that may be within the range of normal bovine behaviour, such as touching of the head or neck, which is often not even tolerated by a “normal” animal.

    - *Hypersensitivity to touch: forceful kicking when hind limbs are touched, exaggerated response to head touch/ haltering, exaggerated response when approached from front or when head is touched.*

    - *Hypersensitivity to sound: startle/ flinch to sudden unexpected environmental noise, startle/ flinch on at least one or repeated auditory stimuli.*

- Ataxia: uncoordinated movement of limbs, swaying hind quarters, losing balance on hind quarters, high stepping (hypermetric) hind limbs or fore limbs, stiff movements of hind limbs.

After the discovery of atypical BSE (both H and L types), there have been reports describing specific clinical signs associated with Classical versus Atypical BSE. Notwithstanding these reports, it is not possible to discriminate clinically between the three types of BSE. Appendix 1 cites a number of references describing clinical cases of classical and atypical BSE without trying to clinically distinguish between the types.

**Clinical diagnosis**

Since there are no pathognomonic signs to reliably diagnose BSE clinically a uniform case definition does not exist. Thus, the assessment of clinical signs can be very subjective.

A characteristic sign of BSE is a “startle response” to stimuli that would be perceived as normal by most healthy animals (e.g., a puddle on the floor, noise by workmen), which is why tests of over-reactivity have been used to aid in the clinical diagnosis:

- bang test: hitting a metal object with a hammer or hand-clap to elicit a startle response;
- broom or flexible stick test: touching the hind limbs with an object to elicit kicking;
- flash test: exposing the animal to sudden light to elicit startle;
- clipboard test: waving a clipboard or a hand towards the animal to elicit a startle response or even panic.

Clinical suspect bovines that respond repeatedly to these external stimuli and respond to additional tests of over-reactivity are more likely to have BSE.

Bovines progressing to end-stage of the disease will develop severe incoordination, particularly in the hind quarters, leading eventually to paresis, abnormal rising behaviour, considerable difficulty getting up and inability to get up (downer cows). They may be unable to place their limbs correctly and may lie with one or both legs stretched out backwards. Eventually the animal will become lethargic and will die.

Appendix 1 includes references and links to reading material and visual tools on clinical protocols, clinical signs of BSE, and differential diagnosis.

**Differential diagnosis**

Many neurological diseases in bovines can have a similar clinical presentation as BSE (Saegerman and others 2003) which makes clinical history and response to treatment important for disease differentiation. Histopathological studies on suspect cases of BSE have shown that the most common diseases on a differential list with BSE were inflammatory diseases (encephalitis, meningitis, myelitis and combinations of these, e.g. listeriosis, malignant catarrhal fever), metabolic diseases (cerebro-cortical necrosis/thiamine deficiency, hypomagnesaemia), degenerative diseases/anomalies (progressive ataxia of Charolais breed, cerebellar atrophy, myelopathy), neoplastic diseases and idiopathic diseases (idiopathic brainstem neuronal chromatolysis, idiopathic cerebral oedema) (Agerholm and others 2002; Bozzetta and others 2003; Heim and others 1997; Jeffrey 1992; McGill and Wells 1993; Miyashita and others 2004; Saegerman and others 2004).

For example, the most frequently identified neurological inflammatory disease is listeriosis. BSE does not cause obvious cranial nerve disorders so the presence of signs of facial paralysis (droopy ears, inability to blink, asymmetric face), which is often observed in cases of listeriosis, is unlikely to be associated with BSE. However, such cases most likely do not at first present with facial paralysis. Based on discriminatory analysis to distinguish BSE from other neurological diseases listeriosis was characterised by a shorter clinical duration, its predominant occurrence in winter and spring, and a higher frequency of the signs ‘nervousness of entrances’, ‘head rubbing’, ‘blindness’, ‘circling’ and ‘falling’ (Wells and others 1995). A decision tree model for clinically suspected BSE cases in Belgium showed that signs particularly associated with listeriosis were abnormal head carriage, circling and head pressing or rubbing, whereas those associated with meningoencephalitis were recumbency and blindness (Saegerman and others 2004).

Many cases of BSE (sometimes over 50% in the studies), however, did not present with any significant histopathological lesions in the brain and the cause for the neurological signs could not be identified. Live animal submissions have shown that there may be conditions in bovines producing behavioural or sensory changes that may be confused with BSE, even if the origin is not in the central nervous system (Johnson and others 2008), and in some cases there may not be any macroscopic or neuropathological changes or biochemical abnormalities present in serum from these animals to come to an alternative diagnosis. Misdiagnosis is more likely if clinicians are not familiar with the disease, which is why proof of progression, tests of over-reactivity and presence of neurological signs (ataxia) are important to identify animals that show signs of the clinical spectrum of BSE. A detailed neurological assessment was considered to be sufficient to exclude BSE in 96 bovines with neurological signs although diseases of metabolic or toxic origin (hypocalcaemia, nervous ketosis, hepatic encephalopathy, cerebro-cortical necrosis, botulism, septicaemia) were more diagnostically challenging (Schenk and others 2008).

A range of neurological diseases that may be considered in the differential diagnosis of BSE are shown in Appendix 4. This is not a comprehensive list that covers all diseases in every country.

## 3. Targeting animals for BSE surveillance (11.4.18. Point 2)

The objective of BSE surveillance is to detect the disease in the bovine population. Article 11.4.8 of the *Terrestrial Code* identifies those animals that should be reported and followed up with appropriate laboratory testing in accordance with the *Terrestrial Manual* to accurately confirm or rule out the presence of BSE. They are classified into four distinctive groups:

a. Bovines displaying progressive clinical signs suggestive of BSE.
b. Bovines showing behavioural or neurological signs at ante-mortem inspection at slaughterhouses/abattoirs.
c. Bovines presented as downers (non-ambulatory) with an appropriate supporting clinical history (i.e., the presentation cannot be attributed to other common causes of recumbency)
d. Bovines found dead (fallen stock) with an appropriate supporting clinical history (i.e., the presentation cannot be attributed to other common causes of death).

These groups correspond to cattle that lie on the continuum of the disease spectrum from the clinical point of view, and have a higher probability of having BSE, if the disease was present in the country, compared to the general cattle population.

### 3.1 Bovines displaying progressive clinical signs suggestive of BSE

Bovines displaying progressive clinical signs suggestive of BSE are those animals displaying progressive behavioural or neurological signs suggestive of BSE that are refractory to treatment. As part of the procedures and protocols in place covering all points in the livestock production chain (Article 1.8.6.4), an official veterinarian requires a detailed anamnesis to confirm that the bovine fits the criteria to be targeted for BSE surveillance, for example: “an adult animal, the only one affected in the herd with a change in behaviour or temperament, sensation and/or posture/locomotion”.

A working knowledge of “normal” bovine behaviour is required to know the range of normal behaviour in early stages where clear neurological abnormalities (e.g., incoordination) may not yet be manifest. If unsure and the welfare of the animal is not compromised (it is not recumbent or in obvious distress) it may be advisable to re-schedule another visit after 1-2 weeks to assess whether signs have progressed. This also enables the veterinarian to assess any effect of treatment or wait for blood test results to rule out other diseases if appropriate. It is important to note that BSE may be accompanied by other diseases (e.g., listeriosis and BSE or ketosis and BSE) although this is rare. The lack of response to treatment of any suspected disease and further disease progression may be indicative of BSE. The clinical signs should be documented, particularly if a re-visit is scheduled, using either a detailed clinical examination form (see Appendix 2 for an example) or a simple questionnaire with tick boxes for signs associated with BSE or conditions with similar signs, which is easier to analyse, to compare the frequency of signs with other conditions that may be confused with BSE (see Appendix 3 for an example).

Eventually the official veterinarian may decide to submit the animal for testing. Secondary criteria for targeting for BSE surveillance could be applied at this point. For example, “an adult animal, the only one affected in the herd with a change in behaviour or temperament/sensation and/or posture/locomotion and/or generalised non-specific signs sustained over several weeks that is refractory to treatment and to which other common causes of behavioural or neurological signs could not be associated”. A minimum set of clinical signs should be present before the animal can be declared as displaying clinical signs suggestive of BSE.

### 3.2 Bovines showing behavioural or neurological signs at ante-mortem inspection at slaughterhouses/abattoirs

These are bovines that did not pass the ante-mortem inspection at abattoirs and show behavioural and/or neurological signs suspicious of BSE. Clinical examination of bovines at abattoirs is usually limited to a short visual inspection because space and time constraints may not allow for a detailed examination without interfering with the routine slaughtering process. In addition, nothing is known about any clinical history of the inspected animals. Pre-screening bovines presented for slaughter by assessing certain behaviour and the response to tactile, acoustic, and visual stimuli was not considered to be specific enough to be useful (Nowotni and others 2004). As mentioned above, the definition of clinical signs is imperative before they are used as clinical markers so that not too many bovines are erroneously identified as BSE suspects (a poor specificity means that a large number of bovines which do not have BSE are suspected of having the disease).

Observations to assess the health status of bovines generally include assessment of the general body condition of the animal, locomotory changes, cleanliness of the animal and evident signs of injury or inflammation suggestive of a systemic disease. Not all abnormalities will lead to the suspicion of a neurological disease, let alone BSE. The Swiss guidance on carrying out an ante-mortem inspection of slaughter animals advises to check for certain BSE-associated signs in bovines over 30 months of age, which did not pass the initial inspection (Bundesamt für Veterinärwesen 2017):

- Unsteady, wobbly gait, buckling, unexplained fall,
- Fear of doorways, thresholds, grooves and other obstacles on the floor
- Over-reactivity to noise, sudden light or touch, particularly of head and neck
- Unusually nervous, aggressive or jumpy, with tendency to kick
- Nose wrinkling, teeth grinding

The marked display of one of the signs in each category or signs in more than one category is highly suspicious of BSE.

### 3.3 Bovine animals presented as downers (non-ambulatory)

Clinical examination of these bovines is limited because animals present in recumbency, which does not allow for assessment of gait or testing of over-reactivity by touching the hind legs. At this stage, bovines may also be less over-reactive to touch. An appropriate supporting clinical history (previous gait abnormalities, sensory or behavioural changes, which cannot be attributed to other common causes of behavioural or neurological signs) is necessary. It may be available if the downer is reported in the farm but may not be immediately available if the animal presents at an abattoir, during transport or at cattle market. In more extensive production systems, if an appropriate supporting clinical history is not available, the surveillance system should be more inclusive when deciding whether to test.

**BSE does not cause any physical changes but increasing difficulty getting up may lead to swollen joints or lesions on the legs** (van Wuijckhuise and others 2001)**.** It should be noted that the clinical history may be unreliable, particularly if there is uncertainty about the definition of signs. For example, leg weakness may also be described as lameness.

If bovines are recumbent and treatment based on previous laboratory tests (e.g. treatment with calcium for suspected cases of milk fever) or treatment for other suspected diseases or common causes of recumbency was unsuccessful and did not result in any improvement, BSE should be considered particularly if the adult animal presents with abnormal limb position (one or both hind limbs are stretched backward), is over-reactive (3 consecutive startle responses to either hand approach/ clipboard test, flash test or hand clap) (Konold and others 2006).

### 3.4 Bovines found dead (fallen stock) with an appropriate supporting clinical history

Fallen stock includes **any animal that has died of natural causes or of disease on farm** or during transport or at a slaughterhouse/abattoir, **or that has been killed on farm for reasons other than for human consumption. As the animal cannot be examined alive, historical animal and clinical data from the farmer and veterinarian (if seen prior to death) is useful to decide whether this animal would qualify as a BSE surveillance candidate.** An appropriate supporting clinical history (previous gait abnormalities, sensory or behavioural changes, which cannot be attributed to other common causes of behavioural or neurological signs) is necessary before deciding **to test.**

## 4. Components of a credible BSE surveillance system (11.4.18. Point 3)

A robust BSE surveillance programme must ensure that all the different steps, from the identification and follow up of targeting bovines that lie on the continuum of the disease spectrum until the results of the test done on targeted samples of such animal/bodies have been produced and reported, can be implemented at any point in space and time. Figure 1 gives a basic overview of the flow of the components of a credible surveillance system to detect BSE cases.

According to point 3 of Article 11.4.18, a credible surveillance system for BSE should be supported by: ongoing awareness and training programmes, a reporting system based on the notification of the disease, appropriate laboratory testing and robust documented protocols and procedures.

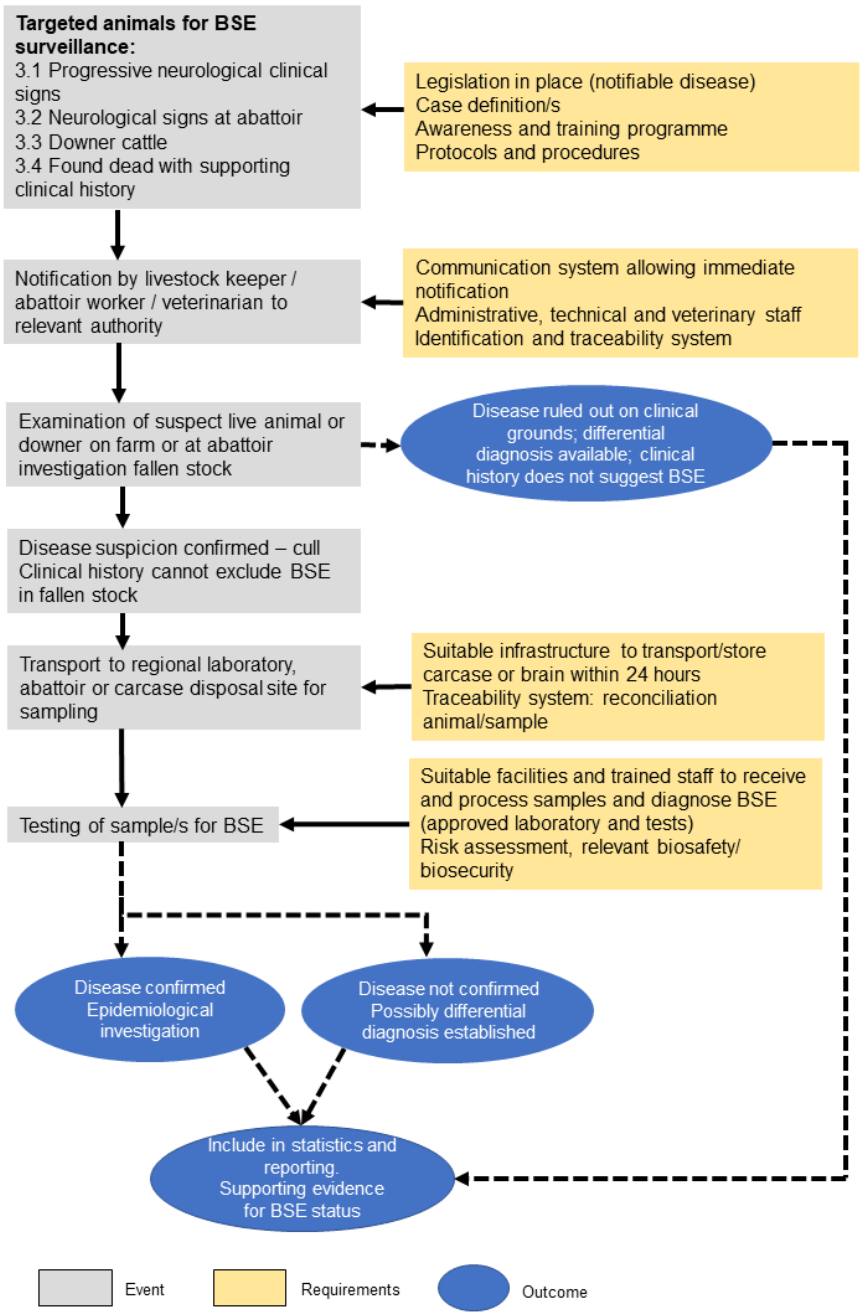


Figure 1. Overview of the flow of the components of a credible surveillance system to detect BSE cases.

### 4.1 Ongoing awareness and training programmes (11.4.18.3a and 1.8.6.1)

The decline of BSE cases world-wide has undoubtedly led to a considerable reduction in reporting of clinical suspects, even in countries where the number of BSE cases was initially relatively high (e.g., Great Britain, Switzerland). This emphasises the importance of having a continuous training program in place to maintain awareness for this notifiable disease. Information about BSE is readily available on the internet but requires an adequate internet connection, which may not be available for everyone. Alternative methods are magazines or newsletters sent to the relevant people to feature articles about BSE and agricultural or veterinary shows or gatherings where this topic could be presented. Veterinary and agricultural students should be made aware of BSE as part of their college or university education and this should continue as part of continuous professional development (CPD) once they have graduated.

Surveillance relying on the reporting of disease suspicion requires a good training program to ensure all stakeholders involved in the rearing and production of livestock, including, bovine breeders, owners and keepers, veterinarians, hauliers and slaughterhouse workers are aware of the clinical signs of BSE and well as the statutory reporting requirements.

A particular role is played by the veterinarian as contact person for the farmer when an animal is ill or during routine farm inspections. The official veterinarian has to make the decision on whether to submit an animal for BSE testing, either on farm by the field veterinarian or the veterinary inspector at the slaughterhouse whose ante mortem inspection is imperative to decide whether an animal is healthy and fit for human consumption.

Since the suspect diagnosis is based on clinical signs and animal and clinical history, a good knowledge of the disease is imperative for the veterinarians making the decision on the presented animals. That will ensure the system is sensitive to detect potential BSE cases (i.e., most of the BSE cases are submitted for testing) and specific (i.e., most of the cases submitted for testing are actual positive, so that slaughter and costs for compensation are correctly allocated).

Continuous professional development (CPD) is often a mandatory requirement for veterinarians. Awareness may be facilitated by offering free lectures or webinars on BSE and referring to these in newsletters or other forms of communication to the veterinary community. Strategic collaboration with the Veterinary Statutory Bodies is also desirable. Websites of national surveillance centres or laboratories are usually an ideal platform to display information about BSE and actions for livestock owners when BSE is suspected.

### 4.2 Notification of the disease (11.4.18.3b and 1.8.6.1)

According to the provisions of Chapter 11.4 and 1.8 BSE must be a notifiable disease, recognised as such in the national legislation, supported by measures including incentives, compensation or penalties.

Surveillance where only bovines reported with signs of disease are tested is prone to underreporting because of the social stigma attached to having a confirmed case, loss of source of livelihood and fear of the consequences of confirmation of a case, even if familiar with the clinical presentation.

Some factors that may improve reporting of BSE cases are: financial compensation in case the animals is culled and tested and not declared for human consumption, routine veterinary visits (higher probability that cases are discussed and observed by a veterinarian), good relationship between farmer and veterinarian, the consequences after disease confirmation (movement and trade restrictions) trust in the competent authority, education and knowledge (see section 4.1), identification and training on epidemiological sensors/detectors (Gates and others 2021; Gilbert and others 2014; Palmer and others 2009; Truchet and others 2017).

### 4.3 Laboratory testing (11.4.18.3c and 1.8.6.1)

BSE surveillance generally requires a good infrastructure to sample brains before severe autolysis sets in, including adequate facilities to store samples temporarily at low temperatures, to distribute samples and process and test them within a short turn-around time. This may not be possible for every country depending on farming style, climate and resources, so that surveillance may concentrate more on bovines where adequate facilities exist that handle larger numbers, such as slaughterhouses, abattoirs or carcase disposal sites. Proximity to a laboratory and availability of reliable courier or transport services will also influence surveillance.

### 4.4 Protocols and procedures (11.4.18.3d and 1.8.6.1)

A credible surveillance system for BSE must have robust and documented procedures and protocols for the identification and reporting of potential candidate animals targeted for BSE surveillance, for the determination of animals to be subjected to laboratory testing, for the collection and submission of samples for laboratory testing, and for the follow-up epidemiological investigations for BSE positive findings.

The system in place should be able to confirm the identity of the animal/s selected for surveillance and ensure traceability through the entire process.

#### 4.4.1 The identification and reporting of potential candidate animals targeted for BSE surveillance

At the planning stages, a credible surveillance system will have to be tailor-made for each country based in multiple factors, including, climate and geography, bovine population and distribution, husbandry systems, legal framework, veterinary manpower, infrastructures and resources, cooperation between the different stakeholders, among others.

A country may consider setting some indicators to aid in the designing and planning the surveillance. In the absence of any assigned quota on the number of bovines that should be tested in each of four target, these indicators can be used to set targets for the surveillance in each of the four target groups. These indicators could be reviewed annually and used as to evaluate the performance of the surveillance.

Table 2. Example of indicators for planning and evaluation of BSE surveillance.

| Risk group | Example of reference indicators |
|---|---|
| **Bovines displaying progressive clinical signs suggestive of BSE** | • List of diseases or conditions causing neurological signs in adult bovines that are present in the country<br>• Expected prevalence of these diseases (if data available)<br>• Percentage of notifications of bovines with neurological signs compatible with BSE in recent years<br>• Number of adult bovines notified as BSE suspects |
| **Bovines showing behavioural or neurological signs at ante-mortem inspection at slaughterhouses/abattoirs** | • Most frequent causes of rejection at *ante-mortem* inspection in abattoirs/slaughterhouses<br>• Percentage of adult bovines that did not pass the *ante-mortem* inspection at abattoir/slaughterhouses |
| **Bovines presented as downers (non-ambulatory)** | • List of diseases or conditions causing recumbency in adult bovines (over 4 years old) in the country<br>• Percentage of adult downer bovines found on farm relative to the adult bovine stock (over 4 years old) (if available, including suspect diagnosis) |
| **Bovines found dead (fallen stock) with an appropriate supporting clinical history** | • Percentage of adult bovines found dead in the field/ on farm relative to adult bovine population<br>• Percentage of adult bovines found dead in transport relative to transported adult bovine population.<br>• Percentage of adult animals found dead at animal markets/ abattoirs relative to the adult bovine population present at animal markets/ abattoirs |

Once an animal has been reported as a possible suspect case, a protocol should be in place to investigate and record it. Appendix 2 provides an example of a clinical examination form for this stage on a live animal of group 3.1. Similar templates could be developed for the other three groups.

#### 4.4.2 The determination of animals to be subjected to laboratory testing

Appendix 3 provides an example of a questionnaire used for the clinical presentation of reported BSE cases.

#### 4.4.3 The collection and submission of samples for laboratory testing

Brain samples are required for a diagnosis of BSE. This is ideally achieved through the foramen magnum when the head is separated from the neck using scissors, forceps and a spoon-like instrument because it does not require opening the skull (see Chapter 3.4.5 of the WOAH Terrestrial Manual). The target area is the obex in the brainstem, which needs to be considered when a live animal is euthanised by shooting so as to avoid too much trauma to the brain.

#### 4.4.4 The follow-up epidemiological investigations for BSE positive findings

In case of a classical BSE case, the epidemiological investigation should be completed as soon as possible to identify the source and take precautions to prevent the occurrence of further cases and any risk to human health, e.g., by removing bovines born around the same time (cohort) as the confirmed BSE case, which have been potentially exposed to the same food source, as well as offspring from the BSE case.

It is assumed that the food-borne route is the most likely source of the Classical BSE cases. Determining the origin of a BSE outbreak is the ideal objective of the epidemiologic investigation of BSE cases, but also complicated due to the long incubation period because ingestion of contaminated feed typically occurs at a young age and many years will have passed until the animal develops clinical BSE.

If a case of BSE is identified, an epidemiological investigation should aim to clarify if any identified source of infection has been controlled and if the risk of BSE agents being recycled within the bovine population has continued to be negligible. The investigation is also advisable for cases of atypical BSE.

Following the detection of a case of BSE in Ireland in 2015, a questionnaire was developed to aid field-based data collection (O'Connor and others 2018). An epidemiological questionnaire should cover the following points:

- Animal details (tag or other identification, age, sex, breed, home-bred or purchased)
- Date and location of visit
- Herd details (dairy, suckler, mixed etc.)
- Herd size
- Practising veterinarian responsible for the farm
- Age structure of herd
- Date of clinical onset, stage of lactation and/ or use for embryo transfer, use for semen collection in case of bulls
- Dam/sire of the case; details of offspring and the fate of offspring
- Details of the nutritional management of the herd: supplementary feeds offered (including milk replacers), their source, dates of delivery, whether or not rations were mixed on farm, details of drinking water supply
- Feed storage and cleaning of feed storage areas
- Surgical procedures and veterinary treatments carried out on the animal
- Previous cases (contact with previous cases or any organic material from previous cases)
- Other species kept on farm and duration; contact of case with other species; exposure of case to feed from other species
- Waste management (manure, abattoir waste, placenta etc.)
- Carcase disposal on farm
- Presence of other diseases, particularly prion diseases, on the farm (e.g. scrapie or chronic wasting disease).

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…/Appendices

**Bovine spongiform encephalopathy: the disease**

Bovine spongiform encephalopathy (BSE), commonly referred to as “mad cow disease”, is a progressive and fatal transmissible spongiform encephalopathy affecting bovine animals (*Bos taurus* and *Bos indicus*) caused by the misfolding and subsequent accumulation of the pathogenic misfolded isoform ($PrP^{Sc}$) of the prion protein in the brain. BSE is a rare disease affecting single animals in a herd. It is extremely rare to find two cases in a herd with disease at the same time and when this did occur it was in countries where the incidence of BSE was relatively high.

The misfolded, disease-associated prion proteins produced by this disease are resistant to enzymatic digestion by proteinases, resulting in their lethal capabilities. However, this resistant characteristic also makes them useful disease markers in diagnostic tests, such as Western immunoblot or immunohistochemistry. This has resulted in the discovery of different BSE types: classical and atypical BSE. Classical BSE is known to be zoonotic and the cause of variant Creutzfeldt-Jakob Disease in humans (Bruce and others 1997). Although atypical BSE isolates have been shown to be transmissible to transgenic mice carrying the human prion protein gene (Marín-Moreno and others 2020). At the time of writing atypical BSE has not been directly associated with any human prion disease.

Classical BSE is linked to feeding bovines meat and bone meal (usually in concentrate rations) contaminated with the BSE agent. It has not been conclusively determined if the BSE agent was always present in cattle populations (similar to scrapie in sheep and goats) and conditions favouring recycling of the agent allowed infection to spread, leading to its emergence as a ‘new’ disease in Great Britain in 1985. The occurrence of further classical BSE cases in many countries has been prevented by prohibiting the inclusion of processed animal protein in ruminant feed and subsequently in livestock feed. The ban of processed animal protein in ruminant feed also prevents recycling of an atypical BSE agent in feedstuffs.

Atypical BSE is detected most frequently in bovines over 8 years of age although younger cases have been reported [e.g. 5 years in Spain in 2019 (European Food Safety Authority 2020)]. Based on experimental studies, disease progression is generally slow, ranging from weeks to months, and determining disease onset depends on the level of observation, which is higher in dairy cows that are milked daily. An animal may also present with an apparent sudden onset of disease (e.g. unable to get up) even though its behaviour or temperament may have changed weeks or months ago.

Atypical BSE is not believed to be food-borne and is detected in older bovines at a frequency of about 1 in 1,000,000 tested cattle, like the sporadic form of TSE in humans, which occurs spontaneously (Tranulis and others 2011). However, it has been shown experimentally that the atypical BSE agent can cause disease in bovines when given in a high dose by the oral route (Okada and others 2017). There are two types of atypical BSE, distinguishable by the migration pattern of digested disease-associated prion protein in a Western immunoblot. H-type atypical BSE (Biacabe and others 2004) has a bottom prion protein band that is higher compared with the equivalent band for classical BSE. L-type atypical BSE (Casalone and others 2004) has a bottom prion band that is lower compared with the equivalent band for classical BSE (see Fig. 1).

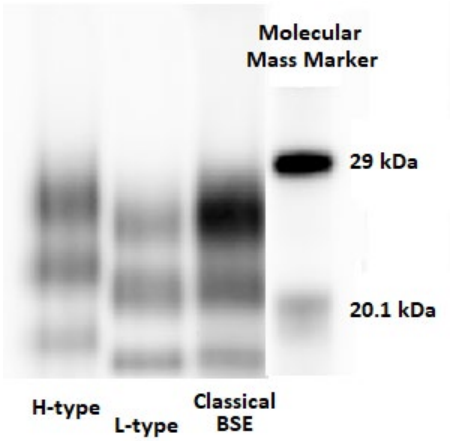


**Figure 1. Western immunoblot on brain samples from classical and atypical BSE cases.** Antibody Sha31; the bottom protein band is higher in H-type BSE compared to classical BSE, whereas it is lower in L-type BSE.

Unlike other infectious diseases the confirmatory diagnosis of BSE is currently only possible after the death of an animal (*post mortem*) because affected bovines do not develop an immune response to the prion protein that can be used for diagnostic purposes in live animals. In addition to this, the disease-associated prion protein is not present in accessible tissues or fluids in significant amounts to be detectable by *ante mortem* diagnostic tests. Suspicion of disease is therefore based on clinical presentation. However, pathognomonic signs to reliably diagnose BSE clinically do not exist. There are some helpful clinical markers however that help to form a suspected diagnosis of BSE, which will be described below.

**Supplementary material**

Clinical protocols

- BRAUN, U., KIHM, U., PUSTERLA, N. & SCHÖNMANN, M. (1997) Klinischer Untersuchungsgang bei Verdacht auf bovine spongiforme Enzephalopathie (BSE) [Clinical examination upon suspicion of bovine spongiform encephalopathy (BSE)]. Schweizer Archiv für Tierheilkunde 139, 35-41
- WELLS, G. A. H. & HAWKINS, S. A. C. (2004) Animal models of transmissible spongiform encephalopathies: Experimental infection, observation and tissue collection. In Techniques in prion research. 1st edn. Eds S. LEHMANN, J. GRASSI. Basel, Birkhäuser Verlag. pp 37-71
- O'CONNOR, J. T., BYRNE, J. P., MORE, S. J., BLAKE, M., MCGRATH, G., TRATALOS, J. A., MCELROY, M. C., KIERNAN, P., CANTY, M. J., O'BRIEN-LYNCH, C. & GRIFFIN, J. M. (2018) Using an epidemiological framework and bovine spongiform encephalopathy investigation questionnaire to investigate suspect bovine spongiform encephalopathy cases: an example from a bovine spongiform encephalopathy case in Ireland in 2015. Veterinary Record 182, 168-168

The clinical signs of classical BSE have been described by various researchers:

- BRAUN, U. (2002) Klinische Symptome und Diagnose von BSE [Clinical signs and diagnosis of BSE]. Schweizer Archiv für Tierheilkunde 144, 645-652
- KONOLD, T., BONE, G., RYDER, S., HAWKINS, S. A. C., COURTIN, F. & BERTHELIN-BAKER, C. (2004) Clinical findings in 78 suspected cases of bovine spongiform encephalopathy in Great Britain. Veterinary Record 155, 659-666
- KONOLD, T. & VALLINO COSTASSA, E. (2018) Bovine spongiform encephalopathy. In Infectious Diseases of Livestock. Eds J. A. W. COETZER, G. R. THOMSON, N. J. MACLACHLAN, M. L. PENRITH. South Africa, Anipedia
- MCELROY, M. C. & WEAVERS, E. D. (2001) Clinical presentation of bovine spongiform encephalopathy in the Republic of Ireland. Veterinary Record 149, 747-748
- SCHICKER, E., BRAUN, U., HÖRNLIMANN, B. & KONOLD, T. (2006) Clinical findings in bovine spongiform encephalopathy. In Prions in humans and animals. Eds B. HÖRNLIMANN, D. RIESNER, H. KRETZSCHMAR. Berlin, de Gruyter. pp 389-397
- Freely available resources are also available online: TSEglobalNet - Training and reference material (vla.gov.uk), Classical BSE - YouTube

The clinical signs of Atypical BSE have been described by various researchers

- BALKEMA-BUSCHMANN, A., ZIEGLER, U., MCINTYRE, L., KELLER, M., HOFFMANN, C., ROGERS, R., HILLS, B. & GROSCHUP, M. H. (2011) Experimental challenge of cattle with German atypical bovine spongiform encephalopathy (BSE) isolates. Journal of Toxicology and Environmental Health - Part A 74, 103-109
- KONOLD, T., BONE, G. E., CLIFFORD, D., CHAPLIN, M. J., CAWTHRAW, S., STACK, M. J. & SIMMONS, M. M. (2012b) Experimental H-type and L-type bovine spongiform encephalopathy in cattle: observation of two clinical syndromes and diagnostic challenges. BMC Veterinary Research 8, 22
- LOMBARDI, G., CASALONE, C., D' ANGELO, A., GELMETTI, D., TORCOLI, G., BARBIERI, I., CORONA, C., FASOLI, E., FARINAZZO, A., FIORINI, M., GELATI, M., IULINI, B., TAGLIAVINI, F., FERRARI, S., CARAMELLI, M., MONACO, S., CAPUCCI, L. & ZANUSSO, G. (2008) Intraspecies transmission of BASE induces clinical dullness and amyotrophic changes. PLoS Pathogens 4, e1000075

Additional training material not already referred to in the text.

- Department of Agriculture, Food and the Marine, Republic of Ireland. Neurological signs of BSE. https://www.youtube.com/watch?v=8-BIh3ZcHFc
- APHA Weybridge, Great Britain. Clinical signs of bovine spongiform encephalopathy in cattle. https://vimeopro.com/aphalearning/clinical-signs-of-bovine-spongiform-encephalopathy-in-cattle
- Department of Farm Animals, University of Zurich. Clinical findings in bovine spongiform encephalopathy. https://www.youtube.com/watch?v=V09hriOtAn4
- Webinar Vet, Great Britain. Transmissible spongiform encephalopathies in cattle. Presentation by T Konold, APHA Weybridge. https://www.thewebinarvet.com/webinar/transmissible-spongiform-encephalopathies-in-cattle (requires registration, which is free)

Differential diagnosis:

- K Robinson, APHA. Neurological disease investigation in cattle. https://www.youtube.com/watch?v=XyOTEm5edhQ
- RB Kushwaha India. Rabies in cow. https://www.youtube.com/watch?v=Sl92jM59dyo
- Video resources from de Lahunta'sVeterinary Neuroanatomy and Clinical Neurology book, case studies. http://www.neurovideos.vet.cornell.edu/index.aspx

## Clinical examination forms with examples

**Animal No:** *110110 654321* **Farm:** **Owner:**
**Clinician:**
**Date:**

If normal: tick (✓) - if abnormal: circle (when listed) and describe in detail or place a "* "in the margin, detail on page 2 if insufficient space in box - if test not performed: cross out (´), and always indicate why if non-performance is due to the animal's reaction

**ANIMAL FREE**

| | | |
|---|---|---|
| **Posture** (head, neck, limbs, back) | *Low head on occasions* | |
| **Walking** (amount / willingness) | *Stop and go* | |
| **Turning** | ✓ | |
| **Running** (amount / willingness) | Trot: *None* | Gallop: *None* |
| **OVERALL GAIT**<br>**Stiff/Lame**<br>Neurological<br>**Other on gait** | (No) / Yes, describe:<br>~~No~~ / May be / Yes, describe:<br>(No) / Yes, describe: | |
| **Slipping / Falling** (describe if yes) | (No) / Yes_____ | (No) / Yes:_____ |
| **Obstacle** (device: _*drain cover*_) | *Hesitant to step over drain; sniffs a lot before crossing* | |

| | | | |
|---|---|---|---|
| **Acceptance of crush** (going in) | *Hesitant; needs to be pushed with force* | | |
| ***ANIMAL IN CRUSH*** (also 34.) | *Symmetry* | *Left* | *Right* |
| **Eye position** (strabismus?) | ✓ | | |
| **Eyelid position** (ptosis?) | ✓ | | |
| **Third eyelids** (position) | ✓ | | |
| **Nose** (sym. & movements to breath) | ✓ | | |
| **Menace response** | *Exaggerated (head toss)* | | |
| **Ears** (position and reaction to touch) | ✓ | | |
| **Blink** (lateral & medial canthus) | ✓ | | |
| **Nose** (reaction to touch) | ✓ | | |
| **Lips** (sym. / reaction to touch: *smile)* | ✓ | | |
| **Eye movements** | ✓ | | |
| **Sweat beads on muzzle** | ✓ | | |
| **Salivation** (✓, -, or --) | *Increased after head tests* | | |
| **Jaw position / Tongue tone** | ✓ / ✓ | | |
| ***HEAD RESTRAINED/ HALTER*** | ***Symmetry*** | ***Left*** | ***Right*** |
| **Optic nerve / fundus** | *Not examined (too bright)* | | |
| **Light reaction** (direct & consensual) | *Not examined (too bright)* | | |
| **Corneal reflex** | ✓ | | |
| **Cutaneous trunci & neck prick** | CT: ✓ | NP: *nervous (head toss), vocal* | |
| **Tail tone / anal tone** | ✓ / ✓ | | |

***OVERALL ASSESSMENT***

| | | |
|---|---|---|
| **Mental status** ✓(normal), dull, depressed, "hyper", etc. | *Hyper, seems very alert, constantly moving ears* | |
| **Behaviour & reactivity free** ✓(normal), excited, playful, fearful, nervous, friendly, boisterous, dangerous, "hyper", active, quiet etc. | *Nervous, startles frequently, e.g. when bird flew over, when sniffing crush* | |
| **Behaviour in crush** ✓(normal), quiet, restless, agitated, agitated 1st then settled down, never settled down, frantic, etc. | *Head toss when approached from front; generally restless* | |
| **Behaviour** /head restraint & head tests | HR *Nervous; head tossing* | HT *Nervous, head tossing* |
| **Clipboard test** | *Body flinch 5x* | |
| **Bang test / Hand Clap** | BT *No reaction* | HC *No reaction* |
| **Flash test** | *Not tested (too bright)* | |
| **Flexible stick test** | *Forceful kicking (only tried 2x)* | |
| **Tremors** | No / (Yes), describe: *Fine head tremor when undisturbed in crush* | |
| **Scratch test** | ✓ | |

Tests of over-reactivity; test several times to confirm repeatability. Abnormal reactions are repeated head or body flinches to auditory and visual stimuli and forceful kicking to touching of the legs. Waving a clipboard may lead to attacks so this should be done from a safe distance or from the outside of a pen.

**Animal No:** 110110 654321 **Date:** *01 Jul 2022*

**GENERAL EXAMINATION**

**Temperature:** *38.7°C* **Mucous membranes:** ✓

**Heart rate:** *56 bpm despite restlessness* **Lymph nodes:** ✓

**Ruminal Contractions:** ✓ **Body condition:** *Good (3)*

**Dehydrated?** ✓

**Additional/ extraneural findings:** *grazes on hind legs*

**Behaviour in pen prior to exam:** *very alert, following every move; separated from others as becoming aggressive towards other cows*

**Status:** ( ) BSE not suspected (✓) Maybe BSE ( ) BSE suspect

**TO DO:**

| ACTION | DATE COMPLETED | RESULT |
|---|---|---|
| Bloods taken: *EDTA, Serum* | *01 July 2022* | |
| Urine taken: | | |
| Skin scraping (location): | | |
| Video of (describe): | *01 July 2022* | *Behaviour in pen* |
| Still photograph of (describe): | | |
| Other : _____ | | *Reschedule visit in 14 days to check for clinical progression* |

**Example of questionnaire about the clinical presentation of reported suspect BSE cases**

***CURRENT OWNER ALL CASES***

This section records the clinical history on the farm where the suspect has been identified.

Clinical signs observed by VO.
(Please enter '**X**' in appropriate box(es) if observed. If only reported by farmer and not observed by VO, enter '**R**').

- Apprehension ☐
- Hypersensitivity: touch ☐
  sound ☐
- 'Maniacal' ☐
- Panic stricken ☐
- Temperament change ☐
- Abnormal head carriage ☐
- Ear twitching ☐
- Ear held at odd angles ☐
- Other ☐
- Abnormal behaviour ☐
- Head shyness ☐
- Licking of flank ☐
- Licking of nose ☐
- Kicking in parlour ☐
- Reluctance to go into parlour or through doorways ☐
- Head pressing ☐
- Head rubbing ☐
- Teeth grinding ☐

**Locomotor/Neurological signs:**

- Blindness ☐
- Circling ☐
- Hindleg ataxia ☐
- Falling ☐
- Paresis ☐
- Foreleg ataxia ☐
- Recumbency ☐
- Tremors ☐
- Knuckling of fetlock ☐

**General signs:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| • Weight: | Decrease | ☐ | No change | ☐ | Increase | ☐ | Not applicable ☐ |
| • Condition: | Decrease | ☐ | No change | ☐ | Increase | ☐ | Not applicable ☐ |
| • Milk yield: | Decrease | ☐ | No change | ☐ | Increase | ☐ | Not applicable ☐ |

**Initial signs:**

**Clinical progression:**

**Other comments:**

**Neurological disorders pertinent to the differential diagnosis of BSE**

Neurological disorders of bovines which need to be differentiated from BSE (classification by major clinical signs). Disorders with multiple signs may appear in several categories which are indicated by the numbers in brackets.

Table 1. Neurological disorders pertinent to the differential diagnosis of BSE

| | Disorder / Disease | Disorders of behaviour and personality | Seizures | Visual dysfunction | Cranial nerve disorders (including strabismus and dysphagia) | Head tilt, circling, nystagmus and other signs of vestibular abnormalities | Opisthotonos, tetany, tremor, muscle spasm | Coma and altered states of consciousness | Incoordination of the head and the limbs: cerebellar diseases | Tetraparesis, paraparesis and ataxia of the limbs, and episodic weakness | Itching, licking, self-mutilation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **BSE** | X | X | | | | X | X | X | X | X |
| Familial and Congenital | **Bovine ceroid lipofuscinosis** | X | X | X | | | | X | | X | |
| | **Generalised glycogenosis** | X | X | X | | | | X | | X | |
| | **Mannosidosis** | X | | | | | | | | | |
| | **Convergent strabismus** | | | | X | | | | | | |
| | **Exophthalmus** | | | | X | | | | | | |
| | **Spastic syndrome of adult bovines** | | | | | | X | | | | |
| | **Familial epilepsy** | | X | | | | | | | | |
| | **Cerebellar abiotrophy** | | | | | | | | X | | |
| | **Progressive ataxia of Charolais bovines** | | | | | | | | | X | |
| | **Bovine progressive degenerative myeloencephalopathy ("weaver")** | | | | | | | | | X | |
| | **Kyphosis of Jersey bovines** | | | | | | | | | X | |
| | **Multifocal symmetrical encephalopathy** | | | | | | | | | X | |
| Physical | **Head trauma** | X | X | X | X | X | X | X | X | | |
| | **Post-calving paralysis** | | | | | | | | | X | |
| | **Spinal cord and vertebral trauma** | | | | | | | | | X | |

| | Disorder / Disease | Disorders of behaviour and personality | Seizures | Visual dysfunction | Cranial nerve disorders (including strabismus and dysphagia) | Head tilt, circling, nystagmus and other signs of vestibular abnormalities | Opisthotonos, tetany, tremor, muscle spasm | Coma and altered states of consciousness | Incoordination of the head and the limbs: cerebellar diseases | Tetraparesis, paraparesis and ataxia of the limbs, and episodic weakness | Itching, licking, self-mutilation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Infectious | **Bacterial meningitis and meningoventriculitis** | X | X | X | X | | X | X | | | |
| | **Louping ill** | X | | | | | | X | X | X | |
| | **Thromboembolic meningoencephalitis (TEM)** | X | | X | X | | | X | | X | |
| | **Listeriosis** | X | | | X | X | | X | | | |
| | **Rabies** | X | X | | X | | | X | | | X |
| | **Pseudorabies** | X | X | X | | | | X | | | X |
| | **Verminous encephalitis** | X | | | X | X | | X | X | | |
| | **Myelitis** | X | | | | X | | X | X | X | |
| | **Sporadic bovine encephalomyelitis (Buss disease) and other inflammatory meningoencephalomyelitides** | X | X | | X | | | X | | X | |
| | **Encephalitis of viral bovine rhinotracheitis** | X | | X | X | | | X | | X | |
| | **Malignant catarrhal fever (MCF)** | X | X | X | | | | X | | | |
| | **Botulism** | X | | | X | | | X | | X | |
| | **Tetanus** | X | | | | | X | X | | X | |
| | **Mycotic encephalitis** | X | X | X | X | | | X | | X | |
| | **Babesia encephalitis** | X | | | | | | X | | X | |
| | **Otitis media-interna** | X | | | | X | | X | X | | |
| | **Sarcocystitis** | | | | | X | | | | X | |
| | **Clostridial polymyositis** | | | | | | | | | X | |
| | **Theileriosis** | | | | | X | | | | | |
| | **Bovine trypanosomiasis** | | | | | X | | | | | |
| | **Bovine parasitic otitis** | | | | | X | | | | | |
| | **Actinobacillosis, actinomycosis** | X | | | | | | X | | | |

| | Disorder / Disease | Disorders of behaviour and personality | Seizures | Visual dysfunction | Cranial nerve disorders (including strabismus and dysphagia) | Head tilt, circling, nystagmus and other signs of vestibular abnormalities | Opisthotonos, tetany, tremor, muscle spasm | Coma and altered states of consciousness | Incoordination of the head and the limbs: cerebellar diseases | Tetraparesis, paraparesis and ataxia of the limbs, and episodic weakness | Itching, licking, self-mutilation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Toxic | **Lead poisoning** | X | X | X | X | | X | X | | X | |
| | **Metaldehyde toxicity** | | X | | | | X | | | | |
| | **Cyanide poisoning** | X | X | | | | X | X | | | |
| | **Salt and water intoxication** | X | X | X | X | | X | X | | | |
| | **Organophosphates** | X | X | | X | | X | X | | X | |
| | **Ivermectin toxicosis** | | | | | | | | | X | |
| | **Methyl bromide intoxication** | | | | | | | | | X | |
| | **Ethylene glycol toxicosis** | | | | | | | | | X | |
| | **Chlorinated hydrocarbons** | X | X | | | | X | X | | | |
| | **Urea-ammonia** | X | X | X | | | | X | | | |
| | **Strabismus** | X | | | | | | X | | | |
| | **Thiamine responsive cerebrocortical necrosis** | X | X | X | X | | | X | | | |
| | **Organomercury toxicity** | X | | X | | | | X | X | X | |
| | **Polyether antibiotics: monesin and lasalocid intoxication** | | | | | | | | | X | |
| | ***Sorghum* toxicity** | | | | | | | | | X | |
| | **Plant associated tremor syndromes** | | X | | | X | X | | | | |
| | **Miscellaneous toxic plants (e.g. locoweed)** | X | X | X | | | | X | X | X | |
| | **Plants induced mannosidosis** | X | | | | | | X | | | |
| | **Nitrofurazone toxicosis** | | | | | | X | | | | |
| | **Tick paralysis** | | | | | | | | | X | |
| | ***Kochia scoparia* poisoning (Mexican fireweed)** | X | | X | | | | X | | | |

| | Disorder / Disease | Disorders of behaviour and personality | Seizures | Visual dysfunction | Cranial nerve disorders (including strabismus and dysphagia) | Head tilt, circling, nystagmus and other signs of vestibular abnormalities | Opisthotonos, tetany, tremor, muscle spasm | Coma and altered states of consciousness | Incoordination of the head and the limbs: cerebellar diseases | Tetraparesis, paraparesis and ataxia of the limbs, and episodic weakness | Itching, licking, self-mutilation |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nutritional | **Thiamine responsive cerebrocortical necrosis** | X | X | X | X | | X | X | | X | |
| | **Vitamin A deficiency** | | X | X | | | | | | | |
| | **Nutritional myodegeneration (white muscle disease)** | | | | | | | | | X | |
| | **Sodium deficiency** | X | X | X | | | | | | | X |
| Metabolic | **Hypomagnesemia** | X | X | | | | X | X | | X | |
| | **Ketosis** | X | | | | | | X | | | X |
| | **Hepatic encephalopathy** | X | X | | | | | X | | | |
| | **Hypocalcaemia** | X | X | | | | X | X | | X | |
| | **Metabolic encephalopathies** | | | X | | | | | | | |
| Idiopathic | **Nervous coccidiosis** | X | X | X | | | X | X | | | |
| | **Thoracolumbar spondylosis deformans and osteoarthrosis** | | | | | | | | | X | |
| Space occupying lesions | **Abscesses** | X | X | X | X | X | X | X | X | X | |
| | **Neoplasia** | X | X | X | X | X | X | X | X | X | |
| | **Granuloma** | X | X | X | X | X | X | X | X | X | |
| | **Cysts involving the central nervous system** | X | X | X | X | X | X | X | X | X | |

## Annex 4. Report of the annual reconfirmation assessments for maintenance of official animal health status and of the endorsement of official control programmes

### MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES

**Paris, 13 to 17 February 2023**

_____

During its February 2023 meeting, the Scientific Commission for Animal Diseases (the Commission) comprehensively reviewed all annual reconfirmations provided by Members having an endorsed official control programme on the progress made, as well as a selection (approximately 10%) of the annual reconfirmations for officially recognised status. The Commission pre-selected these annual reconfirmations at its September 2022 meeting based on the list of technical and administrative considerations according to the Standard Operating Procedures (SOP) on reconfirmations: Official Disease Status - WOAH - World Organisation for Animal Health.

A reminder letter was sent in October 2022 by the Director General of WOAH to the Delegates of Members having at least one officially recognised animal health status or an endorsed official control programme. The pre-selected Members were also informed of their official status being selected for a comprehensive review.

In accordance with the Standard Operating Procedures governing the official recognition of animal health status, all annual reconfirmations were screened by the Status Department. When necessary, additional information was requested in accordance with the relevant provisions of the *Terrestrial Animal Health Code (Terrestrial Code)*. The annual reconfirmations that had not been selected for this comprehensive review by the Commission were further assessed by the Status Department, and a report was prepared and provided for the Commission's consideration and endorsement, as presented below.

#### 1. Maintenance of the AHS-free status

##### 2.1. Annual reconfirmations comprehensively reviewed by the Commission:

The annual reconfirmations for AHS-free status of Bahrain, China (People's Rep. of), Kazakhstan, Oman, Peru, Philippines and Romania were selected for comprehensive review by the Commission. Specific comments made by the Commission were:

**Bahrain:** The Commission appreciated the supportive information provided by Bahrain in substantiating the reconfirmation of its AHS-free status and in addressing the recommendations made by the AHS *ad hoc* Group and the Commission when the application was evaluated. The Commission emphasised the compliance with the requirements of Chapter 12.1. for the importation of equids and related commodities, particularly those imported from countries with infected or undetermined AHS status. The Commission encouraged Bahrain to continue its efforts and make further progress on the recommendations for the successful maintenance of its AHS-free status.

**China (People's Rep. of)[1]:** The Commission commended China for the actions taken in response to the AHS outbreaks reported in the region. The Commission also appreciated the information provided, following the Commission's recommendations on imports of AHS susceptible animals from countries with an undetermined AHS status which were in line with Article 12.1.7. of the *Terrestrial Code*.

**Kazakhstan:** The Commission noted that the described import requirements for horses from countries with an undermined AHS status still did not include testing for AHS and isolation in vector-protected establishments (prior to shipment and during transport) as per Article 12.1.7. of the *Terrestrial Code*. The Commission reiterated its recommendation to Kazakhstan to revise the import requirements in order to achieve full compliance with Article 12.1.7. of the *Terrestrial Code*. The Commission requested Kazakhstan to provide updated evidence of revised import requirements when reconfirming in November 2023. Otherwise, Kazakhstan's AHS-free status will be at risk of suspension.

**Oman:** The Commission took note that awareness campaigns and workshops planned for 2023 aimed at enhancing the efficacy of the AHS early warning system and requested Oman to provide documented evidence of the activities conducted in 2023 when submitting the annual reconfirmation in November 2023.

The Commission further noted that the 28-day quarantine in vector-protected facilities and the appropriate timing of collection of the samples for AHS testing was lacking in the certificates used for importation from countries with

[1] Including Hong Kong and Macau.

undetermined AHS status to demonstrate full compliance with Article 12.1.7. of the *Terrestrial Code*. In this regard, the Commission requested Oman to provide an updated veterinary health certificate to WOAH showing full compliance with Article 12.1.7. of the *Terrestrial Code* when reconfirming in November 2023.Otherwise, Oman's AHS-free status will be at risk of suspension.

**Peru:** The Commission acknowledged that the requirements for the importation of horses from countries with undetermined AHS status are compliant with Article 12.1.7. of the *Terrestrial Code*. The Commission appreciated the detailed information provided on Peru's AHS surveillance strategy. The Commission encouraged Peru to carry out the AHS awareness raising activities in 2023 and requested an update on the activities conducted when reconfirming its AHS-free status in November 2023.

**Philippines**: The Commission appreciated the information provided by the Philippines on the activities implemented for the maintenance of its AHS-free status, which included targeted serological surveillance for AHS. The Commission acknowledged that the funding intended for the participation of the national laboratory in interlaboratory proficiency testing schemes for AHS organised by WOAH Reference Laboratories was allocated to improving laboratory diagnostic capacity for other priority diseases. The Commission appreciated that the Philippines was in the process of exploring alternative financial resources for this activity and requested an update in this regard when reconfirming in November 2023.

**Romania**: The Commission noted from Romania's annual reconfirmation that horses were imported from countries with an undetermined AHS status, and that the conditions applied to these were not fully aligned with Article 12.1.7 of the *Terrestrial Code*. The Commission noted that such non-compliances could lead to the suspension of the official status. In this regard, the Commission requested Romania to revise its requirements for the importation of horses from countries with infected or undetermined AHS status according to Article 12.1.7. and provide documentary evidence of compliance with this Article when submitting the annual reconfirmation in November 2023.

*Conclusion*: The Commission recommended the maintenance of the officially recognised AHS-free status of the above-listed Members.

### 2.2. Annual reconfirmations screened by the Status Department

The Status Department reviewed the rest of the annual reconfirmations for AHS-free status and reported the outcome of its analysis to the Commission as follows:

The annual reconfirmations for the following Members were reviewed:

| | | | |
|---|---|---|---|
| Algeria | Cyprus | Korea (Rep. of) | Portugal[2] |
| Andorra | Czech Rep. | Kuwait | Qatar |
| Argentina | Denmark | Latvia | Singapore |
| Australia | Ecuador | Liechtenstein | Slovakia |
| Austria* | Estonia | Lithuania | Slovenia |
| Azerbaijan | Finland[3] | Luxembourg | Spain[4] |
| Belgium | France[5] | Malta | Sweden |
| Bolivia | Germany | Mexico | Switzerland |
| Bosnia and Herzegovina | Greece | Morocco | The Netherlands |
| Brazil | Hungary | New Caledonia | Tunisia |
| Bulgaria | Iceland | New Zealand | Türkiye |
| Canada | India | North Macedonia (Rep. of) | United Arab Emirates |
| Chile | Ireland | Norway | United Kingdom[6] |
| Chinese Taipei | Italy | Paraguay | United States of America[7] |
| Colombia | Japan | Poland | Uruguay |
| Croatia | | | |

The Status Department raised the attention of the Commission to the Member marked with an asterisk (*). The corresponding annual reconfirmation was discussed during the Commission's meeting as follows:

**Austria**: The Commission noted from Austria's annual reconfirmation that horses were imported from countries with an undetermined AHS status, and that the conditions applied to these were not fully aligned with Article 12.1.7 of the

2 Including Azores and Madeira.
3 Including Åland Islands
4 Including Balearic Islands and Canary Islands.
5 Including French Guiana, Guadeloupe, Martinique, Mayotte, Réunion, Saint Barthélémy, Saint Martin, Saint Pierre and Miquelon.
6 Including Cayman Islands, Guernsey (incl. Alderney and Sark), Isle of Man, Jersey, Saint Helena and Falkland Islands (Malvinas). (A dispute exists between the Government of Argentina and the Government of the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas) (see resolution 2065 (XX) of the General Assembly of the United Nations).
7 Including American Samoa, Guam, Northern Mariana Islands, Puerto Rico and US Virgin Islands.

*Terrestrial Code*. The Commission noted that such non-compliances could lead to the suspension of the official status. In this regard, the Commission requested Austria to revise its requirements for the importation of horses from countries with infected or undetermined AHS status according to Article 12.1.7. and provide documentary evidence of compliance with this Article when submitting the annual reconfirmation in November 2023.

*Conclusion*: The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 12.1. of the *Terrestrial Code* for the maintenance of the officially recognised AHS-free status.

**2. Maintenance of BSE risk status**

Thirteen of the 62 annual reconfirmations have been identified by the Status Department as not fully compliant with Point 4 of Article 11.4.22. of the Terrestrial Code: Members should sample at least three of the four subpopulations (routine slaughter, fallen stock, casualty slaughter, and clinical suspects). Three annual reconfirmations did not reach the BSE surveillance target points. Considering that the WOAH standards on BSE are under revision, including the surveillance provisions applicable for maintenance of controlled and negligible BSE risk status, the Commission concluded to maintain the BSE risk status of these Members.

**2.3. Maintenance of the controlled BSE risk status**

**2.2.1. Annual reconfirmation comprehensively reviewed by the Commission:**

The annual reconfirmations of Ecuador, Russia and the United Kingdom were selected for comprehensive review by the Commission. Specific comments made by the Commission were as follows:

Ecuador: The Commission acknowledged the information provided by Ecuador with regard to the audits of rendering plants and testing for cross-contamination of ruminant feed in feed mills, which had been postponed due to the COVID situation. The Commission underlined the importance for continuing inspections of feed mills and rendering plants to prevent potential recycling of the BSE agent and entering into the feed chain. The Commission requested the results of the follow-up on the implementation of corrective measures of the feed mill with infraction be provided in next year's annual reconfirmation.

**Russia**: The Commission commended Russia for the activities implemented to address the recommendations of the BSE *ad hoc* Group with regard to its controlled BSE risk status, e.g. by developing a Standard Operating Procedure Assessment of establishments for compliance with regulations on control of BSE risk factors as well as a methodical guidance for BSE risk control, preventive measures and surveillance. The Commission requested Russia to provide documented evidence of participation in international inter-laboratory comparison tests for BSE when reconfirming in November 2023. The Commission encouraged Russia to continue its activities to ensure successful maintenance of its controlled BSE risk status.

**United Kingdom** (**one zone** consisting of England and Wales as designated by the Delegate of the United Kingdom in documents addressed to the Director General in September and October 2016 and in November 2021): The Commission commended the UK for progressing with the work on the assessment of the pre-1996 on farm feed receptacles (silos) through an online survey of cattle farmers and for the BSE awareness activities implemented. The Commission requested receiving an update when the UK reconfirms its controlled BSE risk status in November 2023.

*Conclusion*: The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 11.4. of the *Terrestrial Code* for the maintenance of the officially recognised BSE risk status.

**2.2.2. Annual reconfirmations screened by the Status Department**

The Status Department reviewed the rest of the annual reconfirmations for controlled BSE risk status and reported the outcome of its analysis to the Commission as follows:

The annual reconfirmations for the following Members were reviewed:

Chinese Taipei United Kingdom[8]
Greece

Conclusion: The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 11.4. of the Terrestrial Code for the maintenance of the officially recognised controlled BSE risk status.

**2.4. Maintenance of a negligible BSE risk status**

**2.2.3. Annual reconfirmations comprehensively reviewed by the Commission:**

The annual reconfirmations of **Austria**, **Israel** and **Japan** were comprehensively reviewed by the Commission. Specific comments made by the Commission were as follows:

**Austria**: The Commission noted the information provided by Austria in the annual reconfirmation. The Commission encouraged Austria to continue its activities regarding the maintenance of its negligible BSE risk status.

The Commission noted that constituents of animal origin had been detected in material exported from Austria as a supply for cattle feed production sites. The Commission requested to receive information on this event as well as on the corrective measures applied when Austria submits its annual reconfirmation in November 2023.

**Israel**: The Commission commended Israel for the transparency demonstrated in providing detailed information on the unregistered movements of the two cohort animals of the cow with the inconclusive BSE laboratory result detected last year and for conducting follow-up investigations on it. However, the Commission was concerned that these animals had been slaughtered without being tested as planned and that such serious non-compliance had occurred despite close attention from the veterinary authorities. The Commission noted that Israel was in the process of developing a procedure to ensure unreported movements of animals under movement restrictions will not occur in the future.

The Commission further noted that Israel took corrective actions to address shortcomings in sample processing (e.g., not enough tissue collected for further testing, delay in sending the sample to national and WOAH Reference Laboratory) by increasing the number of samples to be collected from clinical suspect cases and sending them to the laboratory on a monthly basis, as well as by conducting a refresher training of laboratory staff on sampling procedure for BSE according to WOAH standards.

The Commission requested Israel to provide an update on the development of the procedure for addressing unreported movements as well as documented evidence of the effectiveness of the corrective measures implemented for such non-compliances when reconfirming its BSE risk status in November 2023.

**Japan**: The Commission appreciated the information provided by Japan in the annual reconfirmation. The Commission noted the standards in place for the maintenance of its negligible risk status and encouraged Japan to continue its activities.

*Conclusion*: The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 11.4. of the *Terrestrial Code* for the maintenance of the officially recognised BSE risk status

**2.2.4. Annual reconfirmations screened by the Status Department**

The Status Department reviewed the rest of the annual reconfirmations for negligible BSE risk status and reported the outcome of its analysis to the Commission.

| | | |
|---|---|---|
| Argentina | Germany | Panama |
| Australia | Hungary | Paraguay |
| Belgium | Iceland | Peru |
| Bolivia | India | Poland |

[8] One zone consisting of Scotland as designated by the Delegate of the United Kingdom in documents addressed to the Director General in September and October 2016 and in December 2018.

| | | |
|---|---|---|
| Brazil | Ireland | Portugal[9] |
| Bulgaria | Italy | Romania |
| Canada | Korea (Rep. of) | Serbia[10] |
| Chile | Latvia | Singapore |
| China (People's Rep. of)[11] | Liechtenstein | Slovakia |
| Colombia | Lithuania | Slovenia |
| Costa Rica | Luxembourg | Spain[12] |
| Croatia | Malta | Sweden |
| Cyprus | Mexico | Switzerland |
| Czech Republic | Namibia | The Netherlands |
| Denmark | New Zealand | United Kingdom[13] |
| Estonia | Nicaragua | United States of America |
| Finland[14] | Norway | Uruguay |
| France | | |

*Conclusion:* The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 11.4. of the *Terrestrial Code* for the maintenance of the officially recognised negligible BSE risk status.

## 3. Maintenance of the CBPP-free status

### 3.1. Annual reconfirmations comprehensively reviewed by the Commission:

The annual reconfirmations for CBPP-free status of **Ecuador** and **Mongolia** were comprehensively reviewed by the Commission. Specific comments made by the Commission were as follows:

**Ecuador**: The Commission appreciated the information on the actions taken by Ecuador in addressing the recommendations made by the CBPP *ad hoc* Group and the Commission when the application was evaluated. The Commission encouraged Ecuador to continue its efforts to follow the recommendations and make progress on the activities to ensure successful maintenance of the official CBPP-free status. The Commission requested an update on the CBPP simulation exercise when reconfirming its CBPP-free status in November 2023.

**Mongolia**: The Commission appreciated the information provided by Mongolia on the pathological and serological surveillance conducted for CBPP and the ongoing work to address the recommendations of the CBPP *ad hoc* Group. In particular, the Commission noted that Mongolia was planning to contact WOAH Reference Laboratories in order to obtain positive reference material for confirmation and comparative analysis and to request the participation of its laboratories in proficiency tests for CBPP diagnosis.

The Commission further noted that Mongolia had initiated the development of guidelines for inspection and surveillance in slaughterhouses and encouraged Mongolia to include in this document guidelines for appropriate sample processing in order to reduce the number of samples that did not meet the laboratory analysis requirements due to haemolysis.

In addition, the Commission took note that one serum sample had tested positive for CBPP, and that confirmatory testing was ongoing. The Commission requested Mongolia to submit the final result as soon as it becomes available and recommended that Mongolia continue strengthening the laboratory capacity for CBPP diagnosis, especially with regard to the timely confirmation of seropositive results to ensure the early detection of the disease.

Finally, the Commission took note of the ongoing work on the legislation to formally prohibit both the use of vaccines and the importation of vaccinated animals. The Commission requested Mongolia to provide an update on the points above when reconfirming in November 2023.

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9 Including Azores and Madeira.
10 Excluding Kosovo administered by the United Nations.
11 A zone designated by the Delegate of China in a document addressed to the Director General in November 2013, consisting of the People's Republic of China with the exclusion of Hong Kong and Macau.
12 Including Balearic Islands and Canary Islands.
13 One zone consisting of Northern Ireland as designated by the Delegate of the United Kingdom in a document addressed to the Director General in September 2016 and one zone consisting of Jersey as designated by the Delegate of the United Kingdom in a document addressed to the Director General in August 2019.
14 Including Åland Islands.

*Conclusion:* The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 11.5. of the *Terrestrial Code* for the maintenance of the officially recognised CBPP-free status.

### 3.2. Annual reconfirmations screened by the Status Department

The Status Department reviewed the rest of the annual reconfirmations for CBPP-free status and reported the outcome of its analysis to the Commission as follows:

The annual reconfirmations for the following Members were reviewed:

| | | |
|---|---|---|
| Argentina | France[15] | Portugal[16] |
| Australia | India | Russia* |
| Bolivia | Italy | Singapore |
| Botswana | Mexico | South Africa |
| Brazil | Namibia[17] | Switzerland |
| Canada | New Caledonia | United States of America |
| China (People's Republic of) | Paraguay | Uruguay |
| Eswatini | Peru | |

The Status Department raised the attention of the Commission to the Member marked with an asterisk (*). The corresponding annual reconfirmation was discussed during the Commission's meeting as follows:

**Russia:** The Commission took note of the information provided by Russia on the sanitary requirements applied to imports of cattle from countries not officially recognised as CBPP-free by WOAH to achieve the same level of risk mitigation as the provisions of Chapter 11.5. and, in particular Article 11.5.8. of the *Terrestrial Code*. The Commission reminded Russia that according to Article 11.5.8. of the *Terrestrial Code*, importation of domestic bovids from countries not officially recognised as CBPP-free by WOAH are allowed only when directly transported to a slaughterhouse/abattoir in sealed vehicles and noted that non-compliance with this provision could lead to the suspension of the official status. In this regard, the Commission requested Russia to provide documented evidence of compliance with Article 11.5.8. when reconfirming in November 2023.

*Conclusion*: The Commission recommended the maintenance of the officially recognised CBPP-free status of the above-listed Members.

## 4. Maintenance of the endorsement of the official control programme for CBPP

The annual reconfirmations of Namibia and Zambia were comprehensively reviewed by the Commission. Specific comments made by the Commission were as follows:

**Namibia**: The Commission acknowledged the information provided by Namibia in support of the reconfirmation of its endorsed official control programme for CBPP. The Commission commended Namibia for improving the CBPP vaccination coverage in the CBPP protection zone, developing a new CBPP contingency plan and implementing alternative animal movement control measures in the absence of the veterinary cordon fence (VCF). In relation to the VCF, the Commission noted that the construction of a physical barrier will be based on the results of a feasibility study to be conducted in 2023 and requested an update on the progress made when reconfirming in November 2023. The Commission noted that Namibia will provide an updated work plan and timelines as well as Namibia's participation in inter-laboratory proficiency tests for which results were still pending, and invited to share them as soon as they become available. Finally, the Commission noted that an updated work plan, timeline and key performance indicators for the next five years would become available in the next months, and requested its submission when submitting its annual reconfirmation in November 2023.

**Zambia**: The Commission acknowledged the information provided by Zambia in support of the reconfirmation of its endorsed official control programme for CBPP. The Commission commended Zambia for the transparency, progress achieved to date, and for successfully controlling the CBPP outbreaks in the 'free zone'. The Commission recommended Zambia to continue the implementation of the individual animal identification system and present the level of progress when Zambia submits its annual reconfirmation in November 2023. In addition, the Commission encouraged Zambia to seek expert consultation to improve the contingency plan for CBPP considering the recommendations made by the ad hoc Group and Commission in February 2022. Finally, the Commission recommended Zambia to improve the vaccination coverage in the designated areas according to the strategy initially planned.

[15] Including French Guiana, Guadeloupe, Martinique, Mayotte and Réunion.
[16] Including Azores and Madeira.
[17] One zone located south of the Veterinary Cordon Fence, designated by the Delegate of Namibia in a document addressed to the Director General in October 2015.

*Conclusion*: The Commission considered that the annual reconfirmations of the above-listed Members were compliant with the relevant provisions of Chapter 11.5. of the *Terrestrial Code* for an endorsed official control programme for CBPP.

## 5. Maintenance of the CSF-free status

### 5.1. Annual reconfirmations comprehensively reviewed by the Commission:

The annual reconfirmations for CSF-free status of Brazil, Colombia, Latvia and the Netherlands were comprehensively reviewed by the Commission. Specific comments made by the Commission were as follows:

**Brazil** (one zone consisting of the State of Paraná as designated by the Delegate of Brazil in a document addressed to the Director General in October 2020): The Commission commended Brazil on the actions implemented to ensure successful maintenance of the CSF-free status of the State of Parana.

**Colombia** (the central-eastern zone as designated by the Delegate of Colombia in a document addressed to the Director General in October 2020): The Commission appreciated the comprehensive supportive information provided by Colombia in substantiating the reconfirmation of its CSF-free zonal status. The Commission commended Colombia on the actions implemented and progress made in their traceability system to ensure the successful maintenance of the CSF-free status of the central-eastern zone and requested an update to be provided when reconfirming in November 2023.

**Latvia**: The Commission noted from Latvia's annual reconfirmation that pigs were imported from countries with an undetermined CSF status, and that the conditions applied to these were not fully aligned with Article 15.2.10 of the Terrestrial Code. The Commission noted that such non-compliances could lead to the suspension of the official status. In this regard, the Commission requested Latvia to revise its requirements for the importation of pigs from countries with infected or undetermined CSF status according to Article 15.2.10. and provide documentary evidence of compliance with this Article when submitting the annual reconfirmation in November 2023.

**The Netherlands**: The Commission acknowledged the supportive information provided by The Netherlands. The Commission noted the efforts to maintain its CSF-free status, including the comprehensive surveillance system, and the strict and complete separation between commercial and hobby farms. The Commission commended The Netherlands for its compliance with the provisions of Chapter 15.2. of the Terrestrial Code. The Commission recommended that The Netherlands include mention of CSF as part of its ongoing campaigns in raising awareness of ASF. The Commission underlined the importance of timely submission of updated information and documented evidence linked to the reporting year, in substantiating the responses and statements made in the reconfirmation in accordance with Article 15.2.3. of the Terrestrial Code for maintenance of the official CSF-free status recognised by WOAH.

*Conclusion*: The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 15.2. of the Terrestrial Code for the maintenance of the officially recognised CSF-free status.

### 5.2. Annual reconfirmations screened by the Status Department

The Status Department reviewed the rest of the annual reconfirmations for CSF-free status and reported the outcome of its analysis to the Commission as follows:

The annual reconfirmations for the following Members were reviewed:

| | | | |
|---|---|---|---|
| Argentina | Croatia | Liechtenstein | Portugal[18] |
| Australia | Czech Republic | Luxembourg | Slovakia |
| Austria | Denmark | Malta | Slovenia |
| Belgium | Ecuador[19] | Mexico | Spain[20] |
| Brazil[21] | Finland[22] | New Caledonia | Sweden |

[18] Including Azores and Madeira.
[19] One zone consisting of the insular territory of the Galápagos, as designated by the Delegate of Ecuador in a document addressed to the Director General in October 2018.
[20] Including Balearic Islands and Canary Islands.
[21] One zone composed of the States of Rio Grande do Sul and Santa Catarina as designated by the Delegate of Brazil in a document addressed to the Director General in September 2014 and one zone covering the States of Acre, Bahia, Espírito Santo, Goias, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Rio de Janeiro, Rondônia, São Paulo, Sergipe and Tocantins, Distrito Federal, and the municipalities of Guajará, Boca do Acre, South of the municipality of Canutama and Southwest of the municipality of Lábrea in the State of Amazonas as designated by the Delegate of Brazil in a document addressed to the Director General in September 2015 and in October 2020.
[22] Including Åland Islands.

| | | | |
|---|---|---|---|
| Bulgaria | France[23] | New Zealand | Switzerland |
| Canada | Germany | Norway | United Kingdom[24] * |
| Chile | Hungary | Paraguay | United States of America[25] |
| Colombia[26] | Ireland | Poland* | Uruguay |
| Costa Rica | Italy | | |

The Status Department raised the attention of the Commission to the Members marked with an asterisk (*). The corresponding annual reconfirmations were discussed during the Commission's meeting as follows:

**Poland**: The Commission acknowledged the regulations regarding CSF implemented by Poland for imports of pig commodities from countries with undetermined CSF status. The Commission noted that Poland authorised the imports of pigs and bristles without fully complying with Articles 15.2.10 and 15.2.18 of the *Terrestrial Code*. The Commission noted that such non-compliances could lead to the suspension of the official status. The Commission requested Poland to fully comply with Articles 15.2.10 and 15.2.18 of the *Terrestrial Code* and provide documented evidence of compliance when reconfirming in November 2023.

**United Kingdom**: The Commission acknowledged the regulations regarding CSF implemented by the UK for imports of pig products from countries with undetermined CSF status. The Commission noted that the UK authorised the imports of pig casings that could have been treated using alternative procedures to the one stipulated in Article 15.2.24 of the *Terrestrial Code*. The Commission requested that UK provide scientific evidence that these procedures achieve an equivalent level of risk mitigation as the provision of Article 15.2.24 or to fully comply with the aforementioned Article and provide documented evidence of such compliance when reconfirming in November 2023.

*Conclusion*: The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 15.2. of the *Terrestrial Code* for the maintenance of the officially recognised CSF-free status.

### 6. Maintenance of the endorsement of the official control programme for dog-mediated rabies

The annual reconfirmations of **Namibia** and the **Philippines** were comprehensively reviewed by the Commission. Specific comments made by the Commission were as follows:

**Namibia:** The Commission acknowledged the information provided by Namibia in support of the reconfirmation of its endorsed official control programme for dog-mediated rabies. The Commission commended the progress made on stakeholder involvement and conduct of a knowledge, attitude and practice (KAP) study for dog population estimation, as well as understanding of the role of free roaming dogs in rabies transmission in Namibia and the associated innovative use of oral vaccines.

The Commission however reiterated that Namibia should utilise methods for population estimation and vaccination monitoring described in Articles 7.7.5. and 4.18.9. of the *Terrestrial Code* as planned and provide an update during the next annual reconfirmation. The Commission noted the additional actions planned to improve the vaccination coverage in the NCA and the results from the pilot on the use of oral baited vaccines were promising.

The Commission requested Namibia to provide a detail update and review of the objectives and indicators and the stage of completion in addition to:

i) an update of activities completed and joint investigations completed under Integrated Bite Case Management (IBCM),
ii) detailed information about the surveys to estimate the free-roaming dog population and understanding its role in rabies transmission, and
iii) progress on dog vaccination and post-vaccination monitoring including that of oral bait vaccines when reconfirming the endorsement of its official control programme in November 2023.

**Philippines:** The Commission appreciated the transparency demonstrated by the Philippines in acknowledging the constraints that preventing the country from meeting the targeted annual progress based on the performance indicators of the programme. The Commission took note that the Philippines was in the process of taking actions to address these issues, which included a comprehensive review of the programme and strategic planning in the first quarter of 2023 to discuss among others the characterisation of dog population, a meeting with the rabies coordinators from the national, regional and local government units to discuss updates on the programme per region and a meeting with the National

[23] Including French Guiana, Guadeloupe, Martinique, Mayotte and Réunion.
[24] Including Guernsey (incl. Alderney and Sark), Isle of Man and Jersey.
[25] Including Guam, Puerto Rico and US Virgin Islands.
[26] One zone designated by the Delegate of Colombia in a document addressed to the Director General in September 2015.

Rabies Programme and Control Committee (NRPCC) which includes the human health sector was scheduled for 9 February 2023 to discuss reporting system and collation of rabies data. The Commission requested the Philippines to provide an update on these activities as soon as they are implemented, and relevant data become available.

*Conclusion*: The Commission considered that the annual reconfirmations of the above-listed Members were compliant with the relevant provisions of Chapter 8.14. of the *Terrestrial Code* for an endorsed official control programme for dog-mediated rabies.

## 7. Maintenance of the FMD-free status

### 7.1. Annual reconfirmations comprehensively reviewed by the Commission

The annual reconfirmations for FMD-free status of **Albania**, **Guatemala**, **Guyana**, **five zones of Kazakhstan**, **Lesotho**, **one zone of Malaysia**, **the Philippines**, **three zones of Russia** and **one zone of Türkiye** were selected for comprehensive review by the Commission. Specific comments made by the Commission were as below:

**Albania**: The Commission acknowledged the supportive information provided by Albania regarding the measures in place for the maintenance of its FMD-free status. The Commission noted that the import requirements for commodities of FMD susceptible animals from countries not officially recognised free from FMD by WOAH did not precisely describe quarantine and testing for FMD as well as any procedure to ensure the destruction of FMDV in meat and meat products. In this regard, the Commission requested Albania to revise the import requirements according to the relevant provisions of Chapter 8.8. of the *Terrestrial Code*. The Commission requested Albania to provide documented evidence of full compliance with Articles 8.8.12. and 8.8.22. to 8.8.30. of the *Terrestrial Code* when reconfirming in November 2023. Otherwise, Albania's FMD-free status will be at risk of suspension.

**Guatemala**: The Commission acknowledged the information provided on passive surveillance activities for vesicular diseases including data on suspected cases. However, the Commission expressed serious concerns about the continued delays in shipping samples to the laboratory for diagnosis. In addition, the Commission made reference to its recommendation made after the assessment of Guatemala's 2020 and 2021 annual reconfirmations to revise the protocol for investigating suspected cases of vesicular diseases. The Commission emphasised again that Guatemala should not rely only on epidemiological investigations and clinical inspections to rule out FMD in clinical suspicions but should also implement a follow-up procedure involving virological and serological laboratory testing of suspicious cases and in-contact animals, in accordance with Articles 8.8.40. to 8.8.42. of the *Terrestrial Code*. Finally, the Commission expressed concerns about the delay in submitting the annual reconfirmation and providing the additional information to support an informed assessment by the Commission. The Commission highlighted that failure to provide evidence of compliance with the aforementioned recommendations when reconfirming in November 2023 will lead to suspension of Guatemala's FMD-free status.

**Guyana**: The Commission noted the information provided by Guyana on surveillance activities and awareness campaigns conducted in the reporting period, as well as on the measures to prevent the entry of FMDV into the country. Guyana also indicated that FMD surveys are planned for 2023. The Commission requested Guyana to provide the results of the surveys when submitting the 2023 annual reconfirmation for its FMD-free status. The Commission underlined the importance of the timely submission of updated information and documented evidence associated with the reporting year to substantiate the responses and statements made in the annual reconfirmation following Article 8.8.2. of the Terrestrial Code. In accordance with the Standard Operating Procedure on the reconfirmation of officially recognised animal health status, the Commission stressed that failure to submit the annual reconfirmation and supportive information in a timely manner in November 2023 can result in the suspension of an official status.

**Kazakhstan (five zones with vaccination)**[27]: The Commission acknowledged the supportive information provided by Kazakhstan. The Commission noted the actions taken by Kazakhstan to improve the timeliness of diagnosis and reporting to WOAH and encouraged Kazakhstan to continue providing information in the annual reconfirmations on the ongoing activities and measures taken in controlling and preventing FMD. The Commission highlighted the importance of implementing a clear and comprehensive procedure on systematic follow-up investigations on positive reactors to NSP tests in accordance with Article 8.8.42. point 1 of the *Terrestrial Code*, and studies on clustering as described in Article 1.4.3., point 1.e. of the *Terrestrial Code* and requested Kazakhstan to provide detailed information on the serological surveys conducted and results including the follow-up of NSP-positive animals to rule-out FMD when submitting the annual reconfirmation in November 2023. Considering the WOAH Expert mission to be deployed

[27] Five zones with vaccination as designated by the Delegate of Kazakhstan in documents addressed to the Director General in August 2016 as follows: one zone consisting of Almaty region; one zone consisting of East Kazakhstan region; one zone including part of Kyzylorda region, northern part of South Kazakhstan region, northern and central parts of Zhambyl region; one zone including southern part of Kyzylorda region and south-western part of South Kazakhstan region; one zone including south-eastern part of South Kazakhstan region and southern part of Zhambyl region.

in April 2023, the Commission also requested that information be submitted on the planned and ongoing activities of Kazakhstan in addressing the recommendations of the mission that would globally apply to FMD prevention and control in the entire country including these zones recognised FMD-free with vaccination.

**Lesotho:** The Commission acknowledged the information from Lesotho regarding the activities conducted on surveillance and laboratory testing. In particular, the Commission appreciated Lesotho's actions initiated in mapping the FMD high-risk areas for potential consideration of a revised surveillance strategy and sampling and noted that a detailed update would be provided during the next annual reconfirmation. The Commission took note of the planned participation in inter-laboratory proficiency testing to be completed early 2023 in collaboration with Botswana National Laboratory and that the outcomes would be submitted to WOAH as soon as they become available. The Commission reiterated its recommendations to ensure that samples from surveillance are tested in a timely manner. The Commission further noted that the conditions applied to imports of commodities from an FMD-infected country were not in accordance with the relevant provisions of Chapter 8.8. of the *Terrestrial Code*. The Commission noted that such non-compliance could lead to suspension of the official status. In this regard, the Commission requested Lesotho to provide documented evidence of full compliance with Articles 8.8.12. and 8.8.22. to 8.8.30. of the *Terrestrial Code* when reconfirming in November 2023.

**Malaysia (one zone without vaccination** consisting of the provinces of Sabah and Sarawak as designated by the Delegate of Malaysia in a document addressed to the Director General in December 2003): The Commission appreciated the information provided by Malaysia on the actions taken with regard to the Commission's recommendation to conduct a risk assessment to select the premises for serological surveillance based on risk rather than selecting them randomly. The Commission further commended Malaysia for the control measures and numerous activities implemented as a response to the FMD outbreaks reported recently in a neighbouring country. In line with the recommendations made after the assessment of Malaysia's 2020 and 2021 annual reconfirmations, the Commission recommended a WOAH expert mission to be deployed in 2023 to assess compliance with the relevant requirements of Chapter 8.8. of the *Terrestrial Code* for the maintenance of FMD-free status.

**Philippines:** The Commission appreciated the information submitted by the Philippines on passive and serological surveillance implemented countrywide. The Commission noted that, in the framework of the serological surveillance, three samples had doubtful results; however, upon investigation, animals were found to be already slaughtered. The Commission emphasised that the follow-up investigation should include also clinical inspection and testing of the in-contact animals.

The Commission took note of the animal movement restrictions imposed following the incursion of FMD in Indonesia. The Commission further noted that the FMD Emergency Preparedness Plan was currently being revised by the FMD task force and requested its submission as soon as it becomes available. Based on information consulted by the Philippines to the Commission in the past regarding the assessment to stop the nationwide semi-annual serological surveillance for the purpose of resource management, the Commission requested an update on the Philippines' decision.

**Russia (two zones with vaccination** - Zone South and Zone Sakhalin – as designated by the Delegate of Russia in documents addressed to the Director General in August 2020): The Commission acknowledged the detailed supportive information provided by Russia. The Commission noted that Russia had carried out investigations to identify and address the causes of the low immunity levels below 75% in concerned areas and that the FMD Vaccination Plan for 2022 was amended based on the findings of this investigation. The Commission expressed its concerns about the absence of any NSP-reactors in the serological survey. The Commission encouraged Russia to continue providing the results of the investigation with regard to low immunity level, below 75%, and corrective actions taken based on the results, as well as any further adjustments made on the design of the serological survey when reconfirming in November 2023.

**Russia (one zone with vaccination consisting of Eastern Siberia** consisting of two Subjects (Republic of Tuva and Republic of Buryatia) and one administrative Raion of the Republic of Altai (Kosh-Agachsky Raion) designated by the Delegate of Russia in a document addressed to the Director General in August 2021): The Commission acknowledged the detailed supportive information provided by Russia, and the actions initiated by Russia in addressing the recommendations made by the FMD *ad hoc* Group and the Commission when the application was first evaluated. Nevertheless, the Commission expressed its concerns about the absence of any NSP-reactors in the serological survey. The Commission encouraged Russia to continue its efforts to follow the recommendations to their full implementation. The Commission strongly recommended that small ruminants be systematically included in the serological surveys (SP and NSP) and that the results of these surveys, including the follow-up investigations to rule-out FMD, be clearly presented for each annual reconfirmation of FMD-free zones of Russia.

**Türkiye (one zone free with vaccination** designated by the Delegate of Türkiye in a document addressed to the Director General in November 2009): The Commission commended the progress made by Türkiye in addressing the recommendations of the Commission and the Mission. The Commission requested Türkiye to provide an update on the outcomes of the implementation of new control measures and surveillance activities for the 2023 annual reconfirmation campaign. It also strongly encouraged Türkiye to continue its efforts in progressing along the

Progressive Control Pathway for FMD (PCP-FMD) in the infected zone to reach Stage 3 of PCP and to potentially submit an application for WOAH endorsement of an official control programme in the future according to Article 8.8.39. of the *Terrestrial Code*.

*Conclusion:* The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 8.8. of the *Terrestrial Code* for the maintenance of the officially recognised FMD-free status.

### 7.2. Annual reconfirmations screened by the Status Department

The Status Department reviewed the rest of the annual reconfirmations for FMD-free status and reported the outcome of its analysis to the Commission as follows:

The annual reconfirmations for the following Members were reviewed:

| | | | |
|---|---|---|---|
| Australia | Dominican Republic | Lithuania | Romania |
| Austria | El Salvador | Luxembourg | San Marino |
| Belarus | Estonia | Madagascar | Serbia[28] |
| Belgium | Eswatini | Malta | Singapore |
| Belize | Finland[29] | Mexico | Slovakia |
| Bosnia and Herzegovina | France[30] | Montenegro | Slovenia |
| Brunei | Germany | New Caledonia | Spain[31] |
| Bulgaria | Greece | New Zealand | Suriname |
| Canada | Haiti | Nicaragua | Sweden |
| Chile | Honduras | North Macedonia (Rep. of) | Switzerland |
| Costa Rica | Hungary | Norway | The Netherlands |
| Croatia | Iceland | Panama | Ukraine |
| Cuba* | Ireland | Paraguay | United Kingdom[32] * |
| Cyprus | Italy | Peru | United States of America[33] |
| Czech Rep. | Japan | Poland* | Uruguay |
| Denmark[34] | Latvia | Portugal[35] | Vanuatu |

**Argentina**: **Three zones without vaccination**

- one zone designated by the Delegate of Argentina in a document addressed to the Director General in January 2007;
- the summer pasture zone in the Province of San Juan as designated by the Delegate of Argentina in a document addressed to the Director General in April 2011;
- Patagonia Norte A as designated by the Delegate of Argentina in a document addressed to the Director General in October 2013;

**Two zones with vaccination** designated by the Delegate of Argentina in documents addressed to the Director General in March 2007 and October 2013, and in August 2010 and February 2014;

**Bolivia**: **Two zones without vaccination** consisting of:

- one zone in the Macro-region of the Altiplano designated by the Delegate of Bolivia in documents addressed to the Director General in November 2011;
- one zone consisting of the Department of Pando as designated by the Delegate of Bolivia in a document addressed to the Director General in August 2018;

28 Excluding Kosovo administered by the United Nations
29 Including Åland Islands.
30 Including French Guiana, Guadeloupe, Martinique, Réunion, Saint Pierre and Miquelon.
31 Including Balearic Islands and Canary Islands.
32 Including Guernsey (incl. Alderney and Sark), Isle of Man, Jersey and Falkland Islands (Malvinas). (A dispute exists between the Government of Argentina and the Government of the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas) (see resolution 2065 (XX) of the General Assembly of the United Nations).
33 Including American Samoa, Guam, Northern Mariana Islands, Puerto Rico and US Virgin Islands.
34 Including Faroe Islands and Greenland.
35 Including Azores and Madeira.

**One zone with vaccination** covering the regions of Chaco, Valles and parts of Amazonas and Altiplano as designated by the Delegate of Bolivia in documents addressed to the Director General in October 2013, February 2014 and August 2018;

**Botswana**: **Three zones without vaccination** designated by the Delegate of Botswana in documents addressed to the Director General in August and November 2014 as follows:

- one zone consisting of Zones 3c (Dukwi), 4b, 5, 6a, 8, 9, 10, 11, 12 and 13;
- one zone consisting of Zone 3c (Maitengwe);
- one zone covering Zone 4a;

**One zone without vaccination** covering Zone 3b designated by the Delegate of Botswana in a document addressed to the Director General in August 2016;

**One zone without vaccination** covering Zone 7 designated by the Delegate of Botswana in a document addressed to the Director General in August 2018;

**Brazil**: **One zone without vaccination** – State of Santa Catarina designated by the Delegate of Brazil in a document addressed to the Director General in February 2007;

**Three zones without vaccination** as designated by the Delegate of Brazil in a document addressed to the Director General in August 2020 as follows:

- State of Paraná;
- State of Rio Grande do Sul;
- one zone (Block 1) including the States of Acre and Rondônia and 14 municipalities in the State of Amazonas and five municipalities in the State of Mato Grosso;

**One zone with vaccination** consisting of two merged zones designated by the Delegate of Brazil in documents addressed to the Director General in August 2010, September 2017 and September 2019, covering the States of Alagoas, Amapá, Amazonas, Bahia, Ceará, Espíritu Santo, Goiás, Mato Grosso, Mato Grosso do Sul, Maranhão, Minas Gerais, Pará, Paraíba, Pernambuco, Piauí, Rio de Janeiro, Rio Grande do Norte, Roraima, São Paulo, Sergipe, Tocantins and Distrito Federal, with the exclusion of the municipalities of the States of Amazonas and Mato Grosso that are part of the zone of Block 1 (free from FMD where vaccination is not practised) as addressed to the Director General in August 2020;

**Chinese Taipei**: **One zone without vaccination** covering Taiwan, Penghu and Matsu areas, as designated by the Delegate of Chinese Taipei in a document addressed to the Director General in August 2019;

**One zone with vaccination:** one zone consisting of Kinmen County as designated by the Delegate of Chinese Taipei in a document addressed to the Director General in September 2017;

**Colombia**: **Two zones without vaccination:**

- one zone designated by the Delegate of Colombia in documents addressed to the Director General in November 1995 and in April 1996 (Area I - Northwest region of Chocó Department);
- one zone designated by the Delegate of Colombia in documents addressed to the Director General in January 2008 (Archipelago de San Andrés and Providencia).

**Three zones with vaccination** designated by the Delegate of Colombia in documents addressed to the Director General in September 2019 as follows:

- Zone I (Northern border) consisting of Departments of La Guajira, Cesar and part of the Department of Norte de Santander;

- Zone III (Trade) consisting of the Departments of Atlántico, Córdoba, Magdalena, Sucre and part of Antioquia, Bolívar and Chocó Departments;

- Zone IV (Rest of the country), consisting of the Departments of Amazonas, Caldas, Caquetá, Cauca, Casanare, Cundinamarca, Guainía, Guaviare, Huila, Meta, Nariño, Quindío, Putumayo, Risaralda, Santander, Tolima, Valle del Cauca, Vaupés and part of Antioquia, Bolívar, Boyacá, and Chocó Departments.

**One zone with vaccination** consisting of two merged zones designated by the Delegate of Colombia in documents addressed to the Director General in September 2019 and in August 2020, which includes Zone II (Eastern border) and the former high surveillance zone covering the Departments of Arauca and Vichada and the municipality of Cubará of the Department of Boyacá;

**Ecuador**: **One zone without vaccination** consisting of the insular territory of the Galápagos, as designated by the Delegate of Ecuador in a document addressed to the Director General in August 2014;

**One zone with vaccination** consisting of the continental Ecuador, as designated by the Delegate of Ecuador in a document addressed to the Director General in August 2014;

**Moldova**: **One zone without vaccination** designated by the Delegate of Moldova in a document addressed to the Director General in July 2008;

**Namibia**: **One zone without vaccination** designated by the Delegate of Namibia in a document addressed to the Director General in February 1997;

**Russia**: **One zone without vaccination** designated by the Delegate of Russia in documents addressed to the Director General in August 2015 and March 2016;

The Status Department informed the Commission that the annual reconfirmations that were received and assessed were compliant with the relevant provisions of Chapter 8.8. of the *Terrestrial Code*. However, the Status Department raised the attention of the Commission to the Members marked with an asterisk (*). These annual reconfirmations were discussed during the Commission's meeting as follows:

**Cuba:** The Commission acknowledged the information provided by Cuba regarding the measures for FMD prevention and early detection and the plan to carry out NSP serological surveys in October 2023. The Commission further noted that bovine meat had been imported in 2022 from a country with undetermined FMD status and it was not processed to ensure the destruction of FMD virus in accordance with Articles 8.8.22., 8.8.23., or 8.8.31., and mentioned that such non-compliance could lead to suspension of the official status. In this regard, the Commission requested Cuba to provide documented evidence of full compliance with Articles 8.8.22., 8.8.23., and 8.8.31. when reconfirming in November 2023. The Commission also requested Cuba to provide the results of the NSP serological surveys for the next annual reconfirmation campaign.

**Poland:** The Commission acknowledged the regulations regarding FMD implemented by Poland for imports of products of FMD susceptible animals from countries with undetermined FMD status. The Commission noted that Poland authorised the import of bristles and hides that were treated using procedures other than the ones stipulated in Articles 8.8.33. and 8.8.34. of the *Terrestrial Code*. The Commission noted that such non-compliances could lead to the suspension of the official status. The Commission requested Poland to provide scientific evidence that these procedures achieve an equivalent level of risk mitigation as the provision of Articles 8.8.33 and 8.8.34 of *the Terrestrial Code* or fully comply with the aforementioned Articles and provide documented evidence of such compliance when reconfirming in November 2023.

**United Kingdom**: The Commission acknowledged the regulations regarding FMD implemented by the United Kingdom for imports of products of FMD susceptible animals from countries with undetermined FMD status. The Commission noted that the United Kingdom authorised the import of ruminant casings that could have been treated using alternative procedures to the one stipulated in Article 8.8.38. of the *Terrestrial Code*. The Commission requested the United Kingdom to provide scientific evidence that these procedures achieve an equivalent level of risk mitigation as the provision of Article 8.8.38. or to fully comply with Article 8.8.38. and provide documented evidence of such compliance when reconfirming in November 2023.

The Commission further noted that the United Kingdom had imported "untreated wool" which had not been processed in accordance with one of the procedures stipulated in Article 8.8.32. The Commission noted such non-compliance could lead to the suspension of the official status. The Commission requested the UK to revise the requirements for the importation of wool from FMD-infected countries according to Articles 8.8.27. and 8.8.32. of the *Terrestrial Code* and provide documented evidence of compliance when reconfirming in November 2023.

*Conclusion*: The Commission concluded that, in general, the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 8.8. of the *Terrestrial Code* for the maintenance of the officially recognised FMD-free status.

**8. Maintenance of the endorsement of the official control programme for FMD**

The annual reconfirmations of Botswana, China (People's Rep. of), India, Kyrgyzstan, Mongolia, Morocco, Namibia and Thailand were comprehensively reviewed by the Commission. Specific comments made by the Commission were as follows:

Botswana: The Commission acknowledged the information submitted by Botswana on progress made on FMD risk analysis and control activities in the northern part of the country. The Commission also noted the heightened surveillance activities, control measures and awareness-raising activities, as well as other actions taken in response to the FMD outbreak of serotype O related to vaccine composition and laboratory diagnosis. The Commission encouraged Botswana to continue its activities in progressing in controlling and eradicating FMD in the northern parts of the country, as well as to maintain its vigilance to all serotypes circulating in the region. The Commission will continue to monitor the progress of these activities in Botswana's annual reconfirmation in November 2023.

China (People's Rep. of): The Commission acknowledged the information submitted by China regarding its progress made in implementing its official FMD control programme. However, the Commission noted that the recommendations of the Commission from the past two years had not been addressed, and underlined the importance of fully implementing the recommendations made by the WOAH mission in July 2018 and endorsed by the Commission, before applying for official recognition of an FMD-free status by WOAH. The Commission noted that FMDV positive animals detected through pathogenic surveillance were still not classified as FMD cases or outbreaks. In line with the recommendations made after the assessment of China's 2020 and 2021 annual reconfirmations, the Commission reiterated the importance of aligning the FMD case definition with Article 8.8.1. point 3 of the Terrestrial Code. The Commission also reiterated the epidemiological importance of analysing PVM data stratified by age and its recommendation to China to investigate the vaccination status and the herd immunity level of the farms where clinically positive animals had been detected. The Commission took note that revision of the prevention and control targets and performance indicators of the FMD official control plan was still ongoing and requested its submission as soon as it becomes available. The Commission strongly urged China to implement the Commission's recommendations and provide a report on the progress made in their annual reconfirmation for 2023. The Commission stressed that failure to provide evidence of compliance with the recommendations to align the FMD case definition with Article 8.8.1. point 3 of the Terrestrial Code and to analyse PVM data stratified by age when reconfirming in November 2023 will result in the withdrawal of the endorsement of the FMD official control programme.

India: The Commission appreciated the detailed information submitted by India addressing the Commission's recommendations on India's 2021 reconfirmation. The Commission welcomed the corrective measures applied for improving the mechanism for vaccine quality assurance and monitoring of vaccines and vaccination which led to a significant increase in the population immunity levels. The Commission further noted that in two States, follow-up investigations on NSP-positive reactors included supplementary testing and clinical inspection of the seropositive animals and in-contact animals. The Commission encouraged India to implement appropriate follow-up investigations on NSP-positive reactors countrywide and provide an update in this regard when reconfirming in November 2023.

Kyrgyzstan: The Commission acknowledged the continuing efforts of Kyrgyzstan on serosurveillance and vaccination activities, as well as on the progress made on the traceability of animals and the control of movements of animals and animal products. The Commission reiterated the importance of carrying out further investigations regarding the NSP-reactors, including clinical inspection and supplementary testing of the seropositive cattle, but also serological testing of the in-contact animals, of cattle and other FMD susceptible species as per Article 8.8.42. point 1 of the Terrestrial Code. This is also important to understand the NSP-positive reactions in cattle. The Commission requested Kyrgyzstan to provide an update on the implemented activities and progress made against the work plan and performance indicators when submitting the annual reconfirmation in November 2023.

Mongolia: The Commission appreciated the information submitted by Mongolia on the actions taken with regard to the Commission's recommendation for reporting to WOAH all FMD cases detected in the regions intended to be proposed as free with and without vaccination. The Commission noted that a Mongolian saiga had tested positive for FMD by ELISA and PCR and encouraged Mongolia to also report this case to WOAH. The Commission commended Mongolia for the transparency in acknowledging, that following the FMD incursion last year in the areas intended to be proposed as free, the disease had spread across the country. The Commission further noted that the FMD control strategy was revised to reflect the current epidemiological changes in which annual FMD vaccination and an updated surveillance strategy were identified to address the spread of the disease. However, the Commission noted that the NSP-positive reactors were still not followed up properly despite its recommendation last year. The Commission reiterated the importance of following-up NSP-positive reactors by further investigations including clinical inspection, supplementary testing of animals found seropositive and the in-contact animals, and epidemiological investigation to better understand the source of NSP-positive antibodies in accordance with Article 8.8.42. point 1 of the Terrestrial Code, and by studies on clustering as described in Article 1.4.3., point 1.e. of the Terrestrial Code.

Following the increase in the incidence and distribution of FMD in Mongolia that cannot be addressed by the official control programme, the Commission concluded that Mongolia does not fulfil the requirements of the Terrestrial Code for a country having an endorsed official control programme for FMD and concluded to withdraw the endorsement in accordance with Articles 1.6.2. and 8.8.39. of the Terrestrial Code.

Morocco: The Commission acknowledged the information submitted by Morocco on the progress of FMD control activities. The Commission encouraged Morocco to continue the serological surveys for monitoring FMD virus transmission, maintain the vaccination strategy for cattle and small ruminants, as well as the vigilance to the existing and potential routes of FMD introduction. The Commission noted the routine participation in interlaboratory proficiency testing with WOAH Reference Laboratories and encouraged Morocco's laboratories continuous participation. The Commission will continue to monitor the progress of these activities when reconfirming in November 2023.

Namibia: The Commission acknowledged the information provided by Namibia in support of the reconfirmation of its endorsed official control programme for FMD.

The Commission commended Namibia for the advances made in FMD laboratory diagnostics, animal movement control along the border, and the investigations carried out in relation to the outbreak of SAT 2 in the infected zone. The Commission recommended Namibia to review and provide an updated FMD control strategy taking into consideration the recent epidemiological developments. The Commission encouraged Namibia to continue strengthening livestock movement control in the area and use FMD vaccines covering all circulating serotypes reported in Namibia. The Commission noted that the results of the longitudinal study were not yet available at the time of submitting the annual reconfirmation, as well as the revised work plan of the next years with regard to Namibia's FMD (and CBPP) official control programme. In this regard, the Commission requested this information when submitting its annual reconfirmation in November 2023.

Thailand: The Commission noted that Thailand had set the vaccination coverage target at 100% of FMD-susceptible animals and achieved this target. The Commission also took note the information provided on the investigation conducted for identifying the reasons for low herd immunity levels based on the results of the post-vaccination monitoring (PVM) and the corrective actions taken to address the issues identified, which included dissemination of guidelines on FMD vaccination to field officers and farmers and awareness-raising activities for relevant stakeholders on the importance of vaccination as a tool to prevent and control the spread of diseases.

Nevertheless, the Commission noted that the immunity levels remained low and recommended to Thailand to intensify the follow up actions implemented. The Commission further noted that Thailand was planning to conduct a study on vaccine stability in response to the Commission's recommendation for implementing quality controls of the vaccines not only after their production but also few months later to verify their stability. The Commission noted that Thailand had identified the design and methodology for this study which would be conducted in 2023.The Commission requested Thailand to provide in its annual reconfirmation of 2023 an update on the results of this investigation and the corrective actions taken to ensure an adequate level of vaccine efficacy and effectiveness, as well as on PVM results after the next vaccination campaign.

Conclusion: With the exception of Mongolia, the Commission considered that the annual reconfirmations of the above-listed Members were compliant with the relevant provisions of Chapter 8.8. of the Terrestrial Code for an endorsed official control programme for FMD.

## 9. Maintenance of the PPR-free status

### 9.1. Annual reconfirmations comprehensively reviewed by the Commission:

The annual reconfirmations for PPR-free status of, **Bosnia and Herzegovina**, **Germany**, **Greece**, **Madagascar**, **Mauritius**, and **Spain**[36] were comprehensively reviewed by the Commission. Specific comments made by the Commission were as follows:

**Bosnia and Herzegovina:** The Commission commended Bosnia and Herzegovina for the comprehensive information provided on the actions taken with regard to the Commission's recommendations for imports of small ruminants from PPR infected countries to fully comply with Article 14.7.10. of the *Terrestrial Code*. The Commission requested Bosnia and Herzegovina to continue providing information on importation of PPR susceptible animals and their products including documented evidence demonstrating compliance with Chapter 14.7. in future annual reconfirmations.

**Germany:** The Commission acknowledged the information provided by Germany in its annual reconfirmation and noted with concern that the requirements for imports of PPR susceptible animals from countries with undetermined PPR status had not been revised, as per the Commission's recommendation from the past year, to align with Article 14.7.10. of the *Terrestrial Code*. The Commission requested that Germany revise its requirements for the importation

[36] Including Balearic Islands and Canary Islands.

of small ruminants from PPR-infected countries according to Article 14.7.10 of the *Terrestrial Code* and provide documented evidence on this alignment and compliance with this Article when reconfirming in November 2023. Otherwise, Germany's PPR-free status will be at risk of suspension.

**Greece:** The Commission appreciated the comprehensive information on surveillance and awareness activities in place with regard to PPR as well as on imports of PPR susceptible animals provided by Greece. However, the Commission noted with concern that, similar to last year, PPR susceptible animals had been imported into Greece from a country with undetermined PPR status without having been subjected to quarantine and laboratory testing for PPRV prior to shipment and without being accompanied by an attestation that the animals had not been vaccinated against PPR, thus such imports still did not comply with the requirements of Article 14.7.10. of the *Terrestrial Code*. The Commission requested that Greece revise its requirements for the importation of small ruminants from PPR-infected countries according to Article 14.7.10. and provide documented evidence on this alignment and compliance with this Article when reconfirming in November 2023. Otherwise, Greece's PPR-free status will be at risk of suspension.

**Madagascar:** The Commission commended Madagascar on the efforts to implement its recommendations regarding the development of the legal framework on prohibition of PPR vaccination, and the steps taken towards identification of small ruminants, and the operationalisation of PPR molecular diagnostics. The Commission strongly encouraged Madagascar to continue its activities to ensure the effective implementation of the remaining recommendations for successful maintenance of the official PPR-free status. In addition, the Commission was concerned by the absence of positive reactors during the cross-sectional survey and of clinical suspects. In this regard, the Commission highlighted the importance of ensuring farmers and other key stakeholders were reached by awareness activities on PPR to strengthen the passive surveillance system. The Commission requested an update on the progress made when reconfirming in November 2023**.**

**Mauritius:** The Commission appreciated Mauritius' efforts to address the Commission's recommendations and took note that the Animal Health Bill, enforcing PPR notifiability and general PPR control measures had been submitted to the State Law Office for final approvement. The Commission also noted Mauritius' efforts to ensure prompt testing for PPR, by regularly purchasing PPR test kits using international funds and by initiating the establishment of a molecular unit for PPR diagnosis in the Animal Health Laboratory. The Commission requested Mauritius to provide an update the final approval of the Bill and the regulations that are planned to be drafted after the Bill's enactment as well as on the progress made with regard to building capacity for molecular diagnosis of PPR in the country when reconfirming its PPR status in November 2023.

**Spain:** The Commission commended Spain for the detailed information provided on regulatory authority, traceability, updated census, surveillance, importation of animals and products, outreach activities and disease information available to the public. The Commission noted that Spain authorised importation of hides and skins from a PPR-infected country that were not treated in full compliance with the Article 14.7.24. of the *Terrestrial Code*. The Commission noted that such non-compliances could lead to the suspension of the official status. The Commission requested Spain to fully comply with Article 14.7.24. and provide documented evidence of compliance when reconfirming in November 2023.

*Conclusion:* The Commission concluded that the annual reconfirmations of the above-listed Members were compliant with the relevant requirements of Chapter 14.7. of the *Terrestrial Code* for the maintenance of the officially recognised PPR-free status.

### 9.2. Annual reconfirmations screened by the Status Department

The Status Department reviewed the rest of the annual reconfirmations for PPR-free status and reported the outcome of its analysis to the Commission as follows:

The annual reconfirmations for the following Members were reviewed:

| | | | |
|---|---|---|---|
| Argentina | Denmark | Lithuania | Portugal[37] |
| Australia | Ecuador | Luxembourg | Romania |
| Austria | Estonia | Malta | Russia |
| Belgium | Eswatini | Mexico | Singapore |
| Bolivia | Finland[38] | Namibia[39] | Slovakia |
| Botswana | France[40] | New Caledonia | Slovenia |
| Brazil | Hungary | New Zealand | South Africa |
| Canada | Iceland | North Macedonia (Rep. of) | Sweden |
| Chile | Ireland | Norway | Switzerland |
| Chinese Taipei | Italy* | Paraguay | The Netherlands |
| Colombia | Korea (Rep. of) | Peru | United Kingdom[41] |
| Croatia | Latvia | Philippines | United States of America[42] |
| Cyprus | Lesotho | Poland | Uruguay |
| Czech Republic | Liechtenstein | | |

The Status Department raised the attention of the Commission to the Member marked with an asterisk (*). The corresponding annual reconfirmation was discussed during the Commission's meeting as follows:

**Italy**: The Commission acknowledged the information provided by Italy in this annual reconfirmation and noted with concern that the requirements for imports of sheep skins from countries with an undetermined PPR status had not been revised, as per the Commission's recommendation from the past year, to align with Article 14.7.24 of the *Terrestrial Code*. The Commission requested that Italy revise its requirements for importation of raw skin and hides in accordance with Article 14.7.24 of the *Terrestrial Code* and provide documented evidence on this alignment and compliance with this Article when reconfirming in November 2023. Otherwise, Italy's PPR-free status will be at risk of suspension.

*Conclusion*: The Commission recommended the maintenance of the officially recognised PPR-free status of the above-listed Members.

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37 Including Azores and Madeira.
38 Including Åland Islands.
39 One zone located south of the Veterinary Cordon Fence, designated by the Delegate of Namibia in a document addressed to the Director General in November 2014.
40 Including French Guiana, Guadeloupe, Martinique, Réunion, Saint Barthélémy, Saint Martin, Saint Pierre and Miquelon.
41 Including Cayman Islands, Guernsey (incl. Alderney and Sark), Isle of Man, Jersey, Saint Helena and Falkland Islands (Malvinas). (A dispute exists between the Government of Argentina and the Government of the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas) (see resolution 2065 (XX) of the General Assembly of the United Nations).
42 Including American Samoa, Guam, Northern Mariana Islands, Puerto Rico and US Virgin Islands.

**Annex 5. Work Programme (February 2023)**

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 13 to 17 February 2023**

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**Abbreviations**: BSC: Biological Standards Commission; SCAD: Scientific Commission for Animal Diseases; TAHSC: Terrestrial Animal Health Standards Commission (Code Commission).

| | | February 2023 | Next steps | Timeline |
|---|---|---|---|---|
| **Update of WOAH Standards** | | | | |
| | **Glossary** | **Not on agenda** | | |
| 1 | Ch. 1.2. 'Criteria for the inclusion of diseases, infections or infestations in the OIE list' | Proposed further revisions to the guidance document aimed at improving experts' interpretation of the listing criteria. Revisions were discussed at Bureaus meeting.<br><br>At this time, no specific revisions to Chapter 1.2. are recommended but SCAD welcomes opportunity to be involved in discussions when the chapter is opened for revision. | Update Guidance Document. | September/ October 2023. |
| 1 | Ch. 1.3. 'Diseases, infections and infestations listed by the OIE' | SCAD's recommendations on Chapter 1.3. were discussed by TAHSC at its February 2023 meeting.<br><br>Prioritisation of next tranche of diseases to be assessed was agreed at Bureaus meeting. | | |
| 1 | Ch 4.X. New chapter on biosecurity | Provided comments on chapter structure and glossary definitions for the *ad hoc* Group to consider at its next meeting. | Participate in AHG meeting | SCAD to consider relevant comments in September 2023. |
| 1 | Ch.8.8. Infection with foot and mouth disease virus | Considered selected comments forwarded by TAHSC with regard to the introduction of vaccinated animals from countries/zones free with vaccination, susceptible species to be considered | SCAD opinion forwarded to TAHSC and addressed at its February 2023 meeting. | |

| | | February 2023 | Next steps | Timeline |
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| | | for the purpose of the Code, provision on the establishment of a protection zone and containment zone among others. | | |
| 1 | Ch. 8.14. 'Infection with rabies virus' | Informed of disagreement of some Members on proposed reduction in the waiting period after detection of antibodies from 3 months to 30 days for the importation of vaccinated dogs from infected countries. SCAD reiterated explanation in its previous report of inappropriate parameter used, starting from time of exposure rather than time of antibody detection. Approach to chapter adoption was discussed at Bureaus meeting. | | |
| | Chapter 8.15. Infection with Rift Valley fever virus | Not on agenda | | |
| 1 | Chapter 8.X. Infection with *Trypansoma evansi* (surra) | Not on agenda | The draft chapter will be circulated by TAHSC after its February 2023 meeting. | SCAD to consider relevant comments in September 2023. |
| 1 | Ch. 11.4. Bovine spongiform encephalopathy | SCAD considered specific questions forwarded by TAHSC with regard to the consideration of atypical BSE, transition period after the adoption of the revised standards for the purpose of official status recognition and maintenance, BSE surveillance guidelines among others. | SCAD opinion forwarded to TAHSC and addressed at its February 2023 meeting. | |
| | Ch. 12.1. Infection with African horse<br><br>sickness virus | Not on agenda | | |
| | Ch. 12.2. Contagious equine metritis | Not on agenda | | |
| | Chapter 12.3. 'Dourine' | Endorsed ToR of *ad hoc* Group on surra and | Nominated representative to | AHG planned for July 2023, with presentation of their |

| | | February 2023 | Next steps | Timeline |
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| | | dourine to progress on the revision of Chapter 12.3. | participate in AHG meeting | report to SCAD in September 2023. |
| | Ch. 12.7. Equine piroplasmosis | Not on agenda | | |
| **Official animal health status recognition** | | | | |
| 1 | Evaluation of Member dossiers | SCAD considered five reports of ad hoc Groups on the evaluation of Members' status and endorsement of official control programmes (CBPP, CSF, FMD, dog-mediated rabies and PPR). No applications were received for AHS and BSE. Six applications were recommended for recognition of official status/endorsement and five applications were rejected. | Follow-up on recommendations made to the applicant Members with positive outcome during the next annual reconfirmation campaign. | |
| 2 | Expert missions to Members | SCAD prioritised two missions to be conducted before its September 2023 meeting: one mission related to recovery of official status and one mission to monitor continuous compliance with the Terrestrial Code requirements for maintenance of official status. | SCAD to consider the reports and recommendations of the missions after their completion. | |
| 2 | Follow up of Members with official animal health status or with suspended status | SCAD was informed of applications submitted for the recovery of their suspended status to be assessed by SCAD electronically following the fast-track procedure. | SCAD to finalise its assessment on the applications following the fast-track procedure is in the process of assessing the applications. | |
| 1 | Review of annual reconfirmations | SCAD comprehensively reviewed the annual reconfirmations preselected at its September 2022 meeting as well as additional annual reconfirmations brought to its attention by Status Dept. The new work strategy implemented was considered efficient. | The new work strategy for the assessment of the annual reconfirmations selected for comprehensive review to be maintained in the future February meetings. | |

| | | February 2023 | Next steps | Timeline |
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| 1 | Harmonisation of the requirements in the *Terrestrial Code* Chapters for recognition and maintenance of official animal health status | Not on agenda | Continue follow-up on the progress of the remaining chapters (AHS, CBPP and FMD) before proposed for adoption. | Check state of play in September 2023 meeting. |
| 1 | BSE surveillance guidelines | SCAD review and endorsed the Guidelines. | The Guidelines will be annexed to SCAD's February 2023 report. | |
| **Disease control issues** | | | | |
| 2 | Advise on global strategies and initiatives (FMD, PPR, rabies, ASF) | Updates were provided on the global strategies/initiatives for rabies. | | |
| 1 | Consider non-disease-Status and non-standard-setting *ad hoc* Groups reports falling into the SCAD remit | Updated on work of the *ad hoc* Group on PVS Evaluation with African swine fever specific content methodology. | | |
| 2 | Assess recent developments in control and eradication of infectious diseases | None at this meeting. | | |
| 1 | Evaluation of emerging diseases | None at this meeting. Update of Sep 2022 discussion presented at Bureaus meeting. | | |
| 1 | Evaluation of pathogenic agents against the listing criteria of Chapter 1.2. | See discussion above regarding consideration of the listing criteria of Chapter 1.2, and of the categorisation used in Chapter 1.3 (and Volume II) of the *Terrestrial Code*.<br><br>***Theileria orientalis***: SCAD informed of Member comment on listing of *T.orientalis* Ikeda and Chitose and requested Secretariat to seek clarification from experts. | Secretariat to check with experts | SCAD to consider expert opinion in September 2023. |
| 1 | Development of case definitions | SCAD commended the work on the internal processes for case definition development and noted progress made. | Forward revised case definition to TAHSC | |

| | | February 2023 | Next steps | Timeline |
|---|---|---|---|---|
| | | **Nipah virus encephalitis:** conflict with *Terrestrial Manual* chapter in terms of susceptible animal species discussed with the BSC. BSC will propose amendments to *Manual* chapter. Case definition will be forwarded to TAHSC and will not be published on the WOAH website in the interim<br><br>**Infection with Crimean-Congo haemorrhagic fever**: case definition discussed with BSC and revised with expert. SCAD requested to seek further clarification from experts. | Secretariat to clarify with expert on case definition | SCAD to consider revised case definition at its September 2023 meeting. |
| 3 | Insects | Not at this meeting. | | |
| **Liaison with other Specialist Commissions** | | | | |
| 1 | Terrestrial Animal Health Commission | **Requested revision of Terrestrial Code Chapters 8.10, 12.4, 12.11:** SCAD noted plans to assess these diseases (JEE, WEE, EEE, VEE) against listing criteria to confirm they should be retained on the list before beginning work to revise these chapters. SCAD proposed additional experts who could conduct this work. | Secretariat to engage experts to conduct listing assessment and prepare next steps with regard to convening AHG. | SCAD to consider findings from listing assessment and draft ToR of AHG in September 2023. |
| 1 | Biological Standards Commission | No liaison meeting, but through coordination by Secretariat, discussed case definition for Nipah virus encephalitis and application for WOAH Collaborating Centre for animal health economics for the Americas region. | | |

| | | February 2023 | Next steps | Timeline |
|---|---|---|---|---|
| **Working Groups** | | | | |
| 2 | Antimicrobial Resistance Working Group | Not on agenda. | | |
| 2 | Wildlife Working Group | Noted recommendations of the Working Group on emerging diseases and will discuss in further detail at next meeting. | | SCAD to consider recommendations of WGW in September 2023. |
| **Other activities that could impact SCAD work programme** | | | | |
| 1 | Evaluation of applications for WOAH<br><br>Collaborating Centre status | Provided opinion on application for WOAH Collaborating Centre for animal health economics for the Americas region | Forwarded opinion to the BSC. | |
| 3 | Update on the main conclusion/ recommendations of meetings relevant for the work of the Commission | None at this meeting | | |
| 3 | Updates provided for SCAD information | SCAD was updated on: OFFLU; STAR-IDAZ International Research Consortium; Global Burden of Animal Diseases (GBAD) programme and the WOAH Collaborating Centre for the Economics of Animal Health; WOAH Observatory; and WOAH research coordination activities. | | |
| | Any other business | None at this meeting | | |

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**September 2022 Meeting**

A meeting of the WOAH Scientific Commission for Animal Diseases (the Commission) was held from 19 to 23 September 2022 in Paris.

## 1. Welcome

Dr Montserrat Arroyo, Deputy Director General (International Standards and Science, DDG ISS) welcomed members of the Commission to this third meeting of its three-year term.

Dr Arroyo updated the Commission on rebranding activities for the Standards resulting from the May 2022 change in the World Organisation for Animal Health's acronym from 'OIE' to 'WOAH'. An explanatory note was included in the forewords of the 2022 editions of the *Terrestrial* and *Aquatic Animal Health Codes*. Reference to 'WOAH' instead of 'OIE' will be applied on a chapter-by-chapter basis as these are updated. Dr Arroyo also provided an update on WOAH digitisation strategies and noted the Commission's efficient use of the new tools provided during the last two meetings. She also described the development of a navigation tool for online Standards for more efficient searches, which will be piloted in early 2023.

Dr Arroyo updated the Commission on the plans for the 90th WOAH General Session (May 2023) which is currently planned as an in-person meeting with fewer attendees than was the case prior to the COVID-19 pandemic. WOAH plans to continue the pre-General Session webinars.

Dr Arroyo noted the importance of having Members submit details of their experts to WOAH for potential participation in *ad hoc* Groups to expand WOAH's network and achieve broader representation. It has been a challenge to have global representatives in *ad hoc* Groups, and Members may have experts who are not currently in WOAH's network. She encouraged the Commission members to engage with the Regional Representatives to increase their understanding of the Commission's activities.

The members of the Commission thanked Dr Arroyo for the excellent support provided by the Secretariat. They highlighted the continued improvement in the quality of the working documents provided, especially the background information and specific questions posed for Commission attention. They appreciated the ongoing efforts made to manage their workload, but noted that prioritisation alone does not solve the problem when the quantity of 'must do' items continues to increase.

## 2. Meeting with the Director General

Dr Monique Eloit (WOAH Director General) met with the Commission on 20 September 2022 and thanked the members for their continued support and commitment to achieving WOAH objectives. She thanked the members for their continued commitment, acknowledging their heavy workload and expressed her hope that the return to the in-person meeting format would facilitate the Commission's deliberations. Dr Eloit extended thanks to the members' employing institutions and national governments.

Dr Eloit commended the members for their work in ensuring that WOAH standards are based on the best available science, and emphasised the importance of continuing to provide a clear rationale and supporting justification for recommendations made.

The Commission thanked Dr Eloit for making time to meet with members and again expressed the Commission's appreciation of the work of the Secretariat in preparing for and supporting the meeting.

## 3. Adoption of the agenda

The draft agenda was adopted by the Commission. Facilitation of the meeting was shared between the Commission's Bureau (Drs Zepeda, de Clercq, and Drew) and the WOAH Secretariat acted as rapporteur. The agenda and list of participants are attached as Annexes 1 and 2, respectively.

## 4. Feedback from the 89th General Session

The Commission was updated on the key outcomes from the 89th General Session held May 2022.

## 5. Terrestrial Animal Health Code

### 5.1. Member comments received for Commission consideration

#### 5.1.1. Chapter 8.14 – Infection with rabies virus

In response to circulation of the revised WOAH Terrestrial Code Chapter 8.14. by the Terrestrial Animal Health Standard Commission (Code Commission) after their February 2022 meeting, Member comments were received regarding the proposed reduction in the waiting period after detection of antibodies from 3 months to 30 days for the importation of vaccinated dogs from infected countries or zones. It was noted that the waiting period had been assessed by the European Food Safety Authority (EFSA); based on this assessment[1], it was recommended that the current waiting period of a minimum of 3 months be maintained.

The Commission reviewed the Member comments on this issue, the EFSA assessment, and the response to these provided by WOAH Rabies Reference Laboratory Network (RABLAB). The Commission noted that the EFSA assessment parameterised their model with the incubation period and thus considered a waiting period from time of exposure rather than from time of antibody detection as required by the provision of the Terrestrial Code. This could explain why the model's risk estimation is not in line with either empirical observations, or other peer-reviewed publications.

The Commission emphasised the experimental data that demonstrates that rabid dogs that develop antibodies die on average 7 days after antibody detection (range, 0 to 13 days) [1,2]. Therefore, a waiting period after detection of antibodies of at least 30 days will eliminate any residual risks of legally importing rabid dogs that are incubating the disease.

Finally, the Commission noted that a Member can require a waiting period of more than 30 days if supported by a risk assessment.

The opinion of the Commission together with the RABLAB rationale were forwarded to the Code Commission for consideration.

References

1. Crozet G., Rivière J., Rapenne E., Cliquet F., Robardet E. & Dufour B. – Quantitative risk assessment of rabies being introduced into mainland France through worldwide noncommercial dog and cat movements. Risk Analysis, n/a (n/a). doi:10.1111/risa.13976.

2. Smith T.G., Fooks A.R., Moore S.M., Freuling C.M., Müller T., Torres G. & Wallace R.M. (2021). – Negligible risk of rabies importation in dogs thirty days after demonstration of adequate serum antibody titer. Vaccine, 39 (18), 2496–2499.

#### 5.1.2. Chapter 11.4. Bovine spongiform encephalopathy

The Commission considered specific questions received from Members, and forwarded by the Code Commission in relation to the official recognition and maintenance of BSE risk:

Listing of atypical BSE

Based on current knowledge of atypical BSE, accumulated over several years, the Commission was of the opinion that this agent does not meet the listing criteria of Article 1.2.2. of the *Terrestrial Code*. Indeed, the experimental transmission of atypical BSE has been demonstrated in a single animal, in a single study (see the *ad hoc* Group meeting report of March 2019), and despite the

[1] European Food Safety Authority (EFSA), Alvarez J., Nielsen S.S., Robardet E., Stegeman A., Van Gucht S., Vuta V., Antoniou S., Aznar I., Papanikolaou A. & Roberts H.C. (2022). – Risks related to a possible reduction of the waiting period for dogs after rabies antibody titration to 30 days compared with 90 days of the current EU legislative regime. *EFS2*, **20** (6). doi:10.2903/j.efsa.2022.7350.

ongoing consultation on this issue, there is no further evidence of experimental transmission and still no field evidence of transmission of atypical BSE. Following the established SOP the evaluation against the listing criteria was conducted during the meeting (see Item 12.2.3.2 of this report).

The Commission emphasised that whilst to date there is no evidence that atypical BSE is transmissible under natural conditions, the potential for recycling of the atypical BSE agent cannot be ruled out and should be avoided. Therefore, the Commission recommended that countries having an official BSE risk status by WOAH should continue reporting cases of atypical BSE as part of their annual reconfirmation, as a means of monitoring the occurrence of atypical BSE.

The inclusion of atypical BSE in the exposure assessment of the revised Chapter 11.4 of the *Terrestrial Code*

The Commission considered that there is still no evidence that atypical BSE is an indicator of a BSE agent being recycled in a cattle population. This is further reinforced by the impact assessment of negligible risk Members/zones.

The Commission noted that the likelihood of recycling and amplification of the BSE agent (either classical or atypical) if it were present in the cattle population could be considered negligible, on the basis of the livestock industry practices and/or the risk mitigation measures in place, for all Members or zones currently having a BSE risk status. The Commission was of the opinion that the control measures in place for mitigating the risk of classical BSE would also likely be relevant to prevent recycling and amplification of atypical BSE in a cattle population. This was further confirmed by the comprehensive description of livestock industry practices, including slaughtering, rendering and feed mill practices, provided by Members whose BSE risk status was assessed by the *ad hoc* Group on the impact of that revision of BSE standards on the official BSE risk status and the maintenance of official BSE risk status of Members.

Thus, the Commission concluded that atypical BSE should not be considered as part of the exposure assessment in Article 11.4.2 of the revised BSE Chapter 11.4 of the *Terrestrial Code*.

Considering the aforementioned points particularly related to transmission of atypical BSE in a single animal in a single experimental study and lack of evidence of field transmission, the Commission proposed that the references to atypical BSE in the draft Chapter 11.4. should be revised.

Guidelines on BSE surveillance

The Commission was informed that the BSE surveillance guidelines are currently being developed and will be peer-reviewed by an *ad hoc* Group before the end of 2022. The Commission took note that the BSE surveillance guidelines will be presented to the Commission for review and endorsement at its February 2023 meeting.

Further details can be found in the Code Commission's September 2022 meeting report.

## 5.2. Other considerations

### 5.2.1. Chapter 4.7.7. Containment zone

With reference to proposed text shared by the Code Commission after its September 2021 meeting, the Commission had agreed at its last February 2022 meeting regarding the time limit of 24 months for a containment zone. The Commission noted that, regarding diseases for which WOAH grants an official animal health status, within this time period, a Member should either apply for the recovery of free status of the containment zone or for the official recognition of free status of the zone outside the containment zone, if the conditions for the recovery of free status of the containment zone will not be met. In the latter case, the process for official recognition by WOAH should be followed in accordance with Chapter 1.6. and the relevant disease-specific chapters. The

Commission clarified that, should the recovery of the free status of the containment zone or the recognition of free status of the zone outside the containment zone not be achieved within this time limit, the officially recognised status of the country or zone would be suspended. The Commission stressed that a Member having a containment zone approved by WOAH should consider the most appropriate approach to follow as early as possible to ensure the timely implementation of the necessary activities and to avoid suspension of its status. The opinion of the Commission was forwarded to the Code Commission.

#### 5.2.2. Mycobacterium tuberculosis complex

In February 2021, the Commission confirmed its previous decision not to delist *M. tuberculosis* based on the rationale provided by the experts that it meets the listing criteria described in the *WOAH Terrestrial Code* Chapter 1.2. The Commission also considered the proposal by experts to revise the case definition for infection with *Mycobacterium tuberculosis* complex (MTBC) in the *WOAH Terrestrial Code* Chapter 8.11., recommending that the notification not be restricted to *M. bovis*, *M. caprae*, and *M. tuberculosis sensu stricto*, but be expanded to include notification of infection by any member of the MTBC (except vaccine strains) as described in the *WOAH Terrestrial Manual* .

At its February 2022 meeting, the Code Commission agreed to retain *M. tuberculosis* in Chapter 8.11. as part of the *M. tuberculosis* complex. However, the Code Commission disagreed with the proposal to expand the scope of Chapter 8.11. to include any mammalian tuberculosis agents, explaining that the case definition in a disease-specific chapter should refer only to listed pathogenic agents, based on fulfilment of all the criteria in Chapter 1.2.

The Commission noted Code Commission's decision to not expand the scope of Chapter 8.11., and concluded that the *Standard Operating Procedure for Listing Decisions for Pathogenic Agents of Terrestrial Animals*[2] provides the appropriate mechanism for future adjustment of the definition of MTBC to include agents of mammalian tuberculosis in addition to *M. bovis*, *M. caprae*, and *M. tuberculosis (sensu stricto).*

## 6. *Ad hoc* and Working Groups

### 6.1. Meeting reports for endorsement

#### 6.1.1. *Ad hoc* Group on the revision of BSE standards and the maintenance of official BSE risk status: 22-24 June 2022

The Commission reviewed the report of the ad hoc Group on the revision of BSE standards and the maintenance of official BSE risk status, which was a continuation of the work of the ad hoc Group on the revision of BSE standards and the impact of this revision on the official status recognition in June/July 2021, followed up by the assessment of annual reconfirmations by the Commission in its February 2022 meeting (see Items 4.1.3. of the September 2021 and 6.4.2. of the February 2022 meeting report of the Commission).

The Commission agreed with the conclusion of the ad hoc Group that the exposure risk (i.e., likelihood of recycling and amplification of BSE agent, if it were present in the cattle population) of one Member having a negligible BSE risk status could be considered negligible. The Commission noted that for the other two Members having a negligible BSE risk status, the ad hoc Group could not reach a conclusion at its meeting and further information was requested and submitted by these Members after the meeting. The follow-up assessment by the ad hoc Group was reviewed by the Commission (see Item 7.4.2 of this report).

The endorsed report of the ad hoc Group is available on the WOAH website here.

[2] https://www.woah.org/en/document/sop_fordelisting_pathogens_for_terrestrial_animals_oct2020/ ; accessed 24 September 2022.

### 6.2. Planned *ad hoc* Groups and confirmation of proposed agendas

With regard to the ad hoc Groups on the evaluation of animal health status and official control programmes for WOAH endorsement, the Commission was briefed on the proposed agendas including information on the applications submitted to the WOAH so far. These ad hoc Group meetings are planned to take place virtually this year.

#### 6.2.1. *Ad hoc* Group on the evaluation of AHS status: 28–30 September 2022 (cancelled)

#### 6.2.2. *Ad hoc* Group on the evaluation of BSE risk status: 4–6 October 2022 (cancelled)

#### 6.2.3. *Ad hoc* Group on the evaluation of PPR status: 19–21 October 2022

#### 6.2.4. *Ad hoc* Group on the evaluation of FMD status: 2–4, 7 and 9 November 2022

#### 6.2.5. *Ad hoc* Group on the evaluation of the endorsement of dog-mediated rabies control programmes: 8–10 November 2022

#### 6.2.6. *Ad hoc* Group on the evaluation of CBPP status: 16 November 2022

#### 6.2.7. *Ad hoc* Group on the evaluation of CSF status: 5–7 December 2022 (to be confirmed)

#### 6.2.8. *Ad hoc* Group on the review of BSE surveillance guidelines: 25 October 2022

The Commission was informed of an *ad hoc* Group that would be convened to peer-review the draft BSE surveillance guidelines to support WOAH Members in the revision of their surveillance programmes in accordance with the revised BSE standards. The Commission reviewed and endorsed the Terms of Reference of this upcoming *ad hoc* Group meeting and noted that the draft guidelines would be forwarded to the Commission for its revision and endorsement at the February 2023 meeting.

### 6.3. Meeting reports for information

None at this meeting.

## 7. Official animal health status

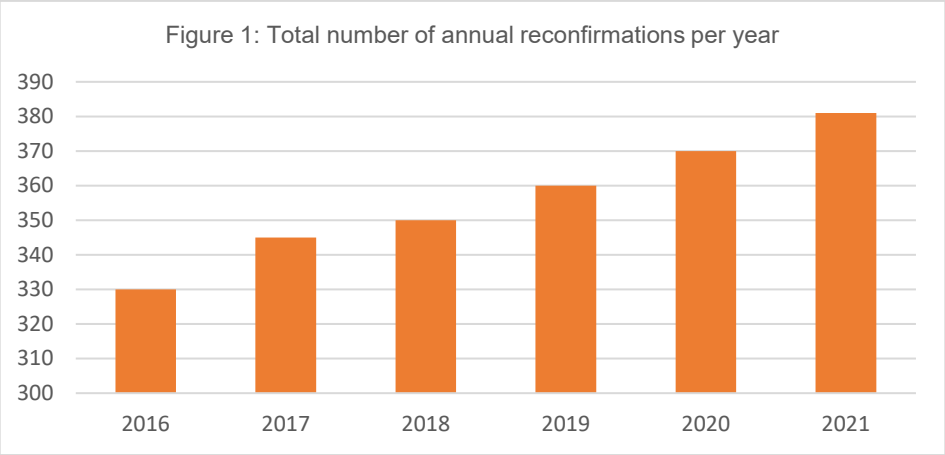
### 7.1. Annual reconfirmations for maintenance of status

#### 7.1.1. Selection of status for comprehensive review of 2022 annual reconfirmations

The Commission selected the list of Members' 2022 annual reconfirmations for comprehensive review during its forthcoming meeting in February 2023. The selection was based on a set of criteria described in the SOPs. The Commission will comprehensively review a total of 48 annual reconfirmations during its February 2023 meeting. The Members selected for comprehensive review of their annual reconfirmations will be notified officially by letter from WOAH in October 2022.

#### 7.1.2. Strategy for the assessment of increasing annual reconfirmations

Since the annual reconfirmation campaign of 2016, the Commission has been comprehensively reviewing a selection (approximately 10%) of annual reconfirmations for officially recognised status following the criteria established in Annex 2 of the Standard Operating Procedure on the reconfirmation (Reconfirmation_SOP), and all annual reconfirmations of Members having an endorsed control programme. Based on a constant annual increase (annual rate of 5%) in the number of Members and zones with an officially recognised status and Members having an endorsed control programme (see Figure 1) the number of annual reconfirmations comprehensively reviewed by SCAD has also increased over the past years.




The Commission underlined the importance and effectiveness of this procedure and agreed with the temporary working strategy proposed by the Secretariat for revising the annual reconfirmation dossiers during the months prior to the February meeting. Nonetheless, the Commission strongly encouraged the revision of the format of the annual reconfirmations reducing the amount of information submitted and time spent on screening them. This should be in line with the timeline and progress of the harmonisation of the *WOAH Terrestrial Code* provisions for recognition and maintenance of official status (so far, CSF and PPR completed, ongoing for AHS, CBPP, FMD and BSE), as well as the planned development of an online platform for official animal health status management.

## 7.2. Specific update on official animal health status

### 7.2.1. Update on situation of countries/zone with suspended or reinstated disease status

The Commission noted the following suspension of official status since its last February 2022 meeting.

- Indonesia (FMD)

Following the notification of an outbreak of FMD in Mojokerto, Sidoarjo, Gresik, and Lamongan districts in the province of Jawa Timur, the “FMD free country where vaccination is not practised” status of Indonesia was suspended with effect from 12 April 2022.

- Kazakhstan (FMD)

Following information received from Kazakhstan regarding the start of vaccination against FMD, the “FMD free zone where vaccination is not practised” status of Zone 1 (consisting of West Kazakhstan, Atyrau, Mangystau and south-western part of Aktobe region), Zone 2 (including north-eastern part of Aktobe region, southern part of Kostanay region and western part of Karaganda region), Zone 3 (including northern and central parts of Kostanay region, western parts of North Kazakhstan and Akmola regions) and Zone 4 (including central and eastern parts of North Kazakhstan region and northern parts of Akmola and Pavlodar regions) was suspended with effect from 9 June 2022.

- Kazakhstan (CSF)

Following the assessment by the Commission of the information provided by Kazakhstan regarding the importation of vaccinated pigs in the country, the “CSF free status” of Kazakhstan was suspended with effect from 14 June 2022.

- Botswana (FMD)

  Following the notification of an outbreak of FMD in Butale crush, Masungu, the “FMD free zone where vaccination is not practised” status of Zone 6b of Botswana, consisting of part of Francistown was suspended with effect from 18 August 2022.

## 7.3. State of play and prioritisation of expert mission to Members requested by the Commission

### 7.3.1. Follow-up of past missions/virtual interviews

The Commission considered the detailed report of the FMD mission conducted in June 2022 to assess compliance by Türkiye with the relevant provisions of the *WOAH Terrestrial Code* for the maintenance of its ‘FMD free zone where vaccination is practised’ status. The Commission commended the mission team for the thorough assessment undertaken in the limited time of the mission. The Commission also commended Türkiye for their continuous collaboration in explaining how the measures in place could achieve the same level of risk mitigation as required in Chapter 8.8. in relation to the movements of ruminants from the FMD-infected zone (Anatolia) into the free zone (Turkish Thrace) for the specific event of the Kurban festival. The Commission welcomed the fact that Türkiye had already started implementing the recommendations of the mission team. The Commission agreed that the ‘FMD free zone where vaccination is practised’ status of Türkiye should be maintained provided that Türkiye submits an action plan describing the activities conducted to ensure the implementation of the recommendations of the mission in preparation of the next Kurban festival of 2023, when reconfirming its status in November 2022. The Commission stressed that, as an additional guarantee, Türkiye should display in this plan its commitment to progress along the Progressive Control Pathway for FMD (PCP-FMD) in the infected zone to reach Stage 3 of PCP, and strongly encouraged the submission of its official control programme for endorsement by WOAH.

### 7.3.2. State of play and prioritisation

The Commission reviewed and prioritised the missions for the maintenance of disease status and the endorsement of official control programmes to be undertaken, considering the priority issues identified by the Commission when reviewing the annual reconfirmations submitted in November 2021 as well as recent changes in the epidemiological situation in certain regions. The prioritised list of missions will be confirmed following consultation with the Director General of the WOAH.

## 7.4. Standards and procedures related to official status recognition

### 7.4.1. Questionnaire and procedure for recovery of free status, or risk assessment, in case of recurrence of rinderpest

The Commission reviewed the questionnaire template for recovery of rinderpest-free status as well as the risk assessment questionnaire, to be submitted to WOAH by countries in the event of re-emergence of rinderpest, developed by WOAH in collaboration with a consultant. The Commission endorsed the two documents with some proposed modifications. The Commission was of the opinion that, should a rinderpest outbreak reoccur, Members without a case should provide their risk assessment to WOAH as soon as possible and within two months at the latest, considering the urgent need to identify countries at a heightened risk in such case.

The relevant questionnaires are available on the WOAH website here.

### 7.4.2. Follow-up on the impact assessment related to the revised BSE standards and list of countries already having an official risk status by WOAH

Following the revision of the report of the *ad hoc* Group on the revision of BSE standards and the maintenance of official BSE risk status (see Item 6.1.1 of this report), the Commission discussed electronically the final assessment of the *ad hoc* Group and concurred with its conclusion that the exposure risk for these two Members could be considered negligible, mainly due to their livestock

industry practices. The Commission agreed to forward the recommendations of the *ad hoc* Group to the three Members concerned.

The Commission commended the work conducted by the members of the *ad hoc* Groups since June 2021 and appreciated the efforts made by the three Members in providing the information requested in a timely manner and acknowledging the purpose of the work.

### 7.4.3. Development of the Official Status Management Platform

The Commission received an update on the development of an online platform dedicated to official status management that is aimed to serve as a secure centralised system to archive, track, search, and submit all relevant dossiers related to the official recognition and maintenance of animal health status, and self-declarations of disease freedom. The Status Department explained that the objective of this platform is to facilitate the exchange between WOAH and Members as well as to provide easy but secure access to their respective documents and reports in relation to the procedures of official recognition and maintenance of animal health status, and self-declarations of disease freedom, and also to allow sharing of all relevant guidance related to these procedures. The Commission welcomed this development which is at the initial stage of selecting a tender.

## 8. Global control and eradication strategies

### 8.1. Peste des Petits Ruminants. Global Control and Eradication Strategy

The Commission was informed on the recent activities of the PPR Global Control and Eradication Strategy (GCES).

The Commission was updated on the progress of the review and formulation of the second phase of the PPR Global Eradication Programme (GEP II) undertaken by the joint WOAH/FAO PPR Core Expert Team (PPR CET) based on feedback received from all regions globally during respective consultation meetings. In parallel, monitoring and evaluation experts from WOAH and FAO supported the development of the draft programme theory of change and logical framework. The finalised draft now known as “Blueprint towards Peste des Petits Ruminants Global Eradication by 2030 (PPR GEP II & III)” has been submitted to the management of WOAH and FAO for validation. As a next step, if the document is validated, it will be shared with small ruminants’ stakeholders during the stakeholder virtual meeting to be held from 11 to 13 October 2022. If validated, the formal launch of the document is expected on 4 November 2022.

The revised PPR Monitoring, and Assessment tool (PMAT) has been undergoing the final validation by the management of WOAH and FAO and is envisaged to be published by the end of 2022. To support the efficient use of the PMAT document, an online tutorial has been proposed for development.

The Commission was also informed that three PPR roadmap coordination meetings were held in 2022. The “PPR Control and Eradication Strategy follow up meeting for the Gulf Cooperation Council (GCC) States and Yemen” was held virtually from 1 to 3 March 2022 and the 3rd PPR Regional Roadmap meeting for the SADC Region was held in Gaborone, Botswana from 12 to 14 September 2022. While both meetings undertook to take stock of the progress countries in these regions have achieved towards PPR eradication, among the meeting objectives was also to raise awareness of the WOAH procedure for official recognition of PPR free status among countries that have never reported PPR. The third meeting, a “Consultative Seminar on Progress Made in the FMD and PPR Regional Roadmap for East Mediterranean Countries” was organised for Middle East countries (Lebanon, Egypt, Sudan, Jordan, Iraq and Syria) in Beirut, Lebanon from 11 to 13 September 2022.

Finally, the Commission noted that, under the WOAH Action plan in support of PPR GEP, a virtual regional training workshop was conducted on the WOAH procedures for the endorsement of official control programmes with regard to PPR and dog-mediated rabies from 4 to 6 2022, as both these diseases are considered of interest for the WOAH Members of the Africa region.

The Commission acknowledged the significance of the activities towards PPR eradication considering the impact of the disease on pastoral and rural communities which rely on small ruminants for their livelihoods and in particular on women and youths who are often in charge of keeping small ruminants. Nevertheless, the Commission noted that most of the PPR endemic countries have not achieved much progress along the PPR strategy stepwise approach in the recent years and emphasised the need for Members to demonstrate their commitment in this regard.

### 8.2. African swine fever. Global control initiative

The Commission was updated on the activities conducted under the Global Initiative[3] (GI) for the Control of African swine fever (ASF), noting that the GI is managed by the FAO and WOAH under the GF-TADs. The responsibility for chairing the GF-TADs ASF Working Group alternates annually between FAO and WOAH, with WOAH holding this position for the current year (July 2022 to June 2023).

The Commission was informed that a key activity in the upcoming period is the development of guidelines for the manufacturing and development of safe and effective ASF vaccines, which is being led by a consultant engaged under a Cooperative Agreement between the United States Department of Agriculture Research Service (USDA-ARS) and WOAH. The guidelines will be presented to the Biological Standards Commission to support the development of standards in the ASF chapter of the *WOAH Terrestrial Manual* . The Commission was also informed of the work under the same Cooperative Agreement to establish a genomic platform for the exchange of information on circulating strains of ASFV, and other activities being undertaken at the global level, such as the development of a methodology for PVS Evaluation with ASF-specific content missions being led by WOAH, and the provision of guidelines on controlling ASF in endemic settings, which is being led by FAO.

At the regional level, the Commission noted that regional Standing Groups of Experts (SGE) continue to be organised in Europe, the Americas and the Africa region, and a regional expert meeting on ASF in Asia and the Pacific was organised by WOAH in March 2022. The Commission was also informed that the WOAH Regional Representation for the Americas continues to support the organisation of capacity-building activities for the region, and recently facilitated joint interlaboratory comparisons for ASF and CSF between national laboratories and the WOAH CSF Reference Laboratories and ASF European Union Reference Laboratory.

## 9. WOAH Collaborating Centres

None at this meeting.

## 10. Liaison with Other Commissions and Departments

### 10.1. Terrestrial Animal Health Standards Commission (Code Commission)

The Commission was updated on relevant ongoing activities of the Code Commission.

#### 10.1.1. Framework for *WOAH Terrestrial Code* standards: disease-specific chapter

Code Commission requested the Commission's opinion on the disease-specific *WOAH Terrestrial Code* chapter template that was prepared by Code Commission Secretariat after Code Commission's February 2021 meeting. The objective of the template is to serve as a reference for those revising or developing a new chapter.

The Commission commended the template, and provided comments to the Code Commission on the proposed sections for 'General Provisions' and 'Recommendations on surveillance'.

[3] http://www.gf-tads.org/asf/asf/en/; accessed 24 September 2022

### 10.1.2. Proposal for new Biosecurity Chapter

Following the adoption of the new *Aquatic Code* Chapter 4.1. – Biosecurity for aquaculture establishments in May 2021, the Commission was asked (in conjunction with Code Commission) to consider the need, objective(s) and scope for a proposed new *WOAH Terrestrial Code* chapter on biosecurity (please refer to the February 2022 Code Commission report). The Commission agreed with the need for a chapter, and acknowledged the challenge of defining its scope. The Commission noted that several areas of the *WOAH Terrestrial Code* currently address biosecurity, and that this should be taken into consideration during the development of the chapter.

The Commission considered that the chapter should describe the overarching principles of biosecurity with an objective to support veterinary authorities in enforcement of regulations, and recommended that this be in the context of zoning and compartmentalisation. The Commission considered that the target audience for the chapter should mostly be the Veterinary Authority, and that the chapter should accommodate their needs for developing, verifying, enforcing and/or certifying their own national biosecurity programs and assessing performance as appropriate to their situation. In addition, the chapter should clearly outline the role of the Veterinary Authority in enforcing biosecurity. The Commission further agreed that it would be important for the Glossary definition of 'biosecurity' to be assessed to ensure it is defined consistently in the context of the *Terrestrial Code*. Any disease specific biosecurity requirement should be included in the relevant chapters.

The Commission noted that many guidance documents for biosecurity are available, particularly for specific diseases or production sectors, and cautioned against providing recommendations for implementing biosecurity at the farm level, as what is applicable in one country might not be relevant in another.

### 10.1.3. Revisions of *WOAH Terrestrial Code* Chapters 8.10, 12.4 and 12.11

The Commission reviewed and discussed a paper prepared by the Secretariat presenting the different elements supporting these requests, such as the impact on trade for the movement of horses from infected countries, the discrepancies observed between the chapters of the *WOAH Terrestrial Code* and *WOAH Terrestrial Manual* , as well as the opinion of the International Horse Sports Confederation (IHSC) and previous discussions of the September 2015 meeting of the Commission.

The Commission acknowledged that Chapter 8.10. 'Japanese encephalitis' was first adopted in 1992, and the most recent update was adopted in 2000, but the corresponding *WOAH Terrestrial Manual* Chapter 3.1.10. was updated in 2021. The Commission agreed that the current Chapter 8.10. was obsolete and, considering the latest evolution of the *WOAH Terrestrial Manual* Chapter, the current content was no longer relevant.

The Commission also noted that the need for revisions of Chapter 12.4. 'Equine encephalitis (Eastern and Western)' (no update since its first adoption in 1968), and Chapter 12.11. 'Venezuelan equine encephalomyelitis' (most recent update adopted in 1998). Considering the epidemiological similarities across these diseases, the Commission agreed to approach these diseases together, to ensure a consistent logic was applied across them.

While acknowledging that a full revision of these chapters will be needed to update their content and structure, the Commission requested the Secretariat to first undertake, in consultation with subject-matter experts, a thorough scientific assessment of the different susceptible animals, their epidemiological role, and their relevance for surveillance and disease prevention and control purposes, in order to further discuss the approach for the different chapters and, based on that, agree on the next steps and priorities. In this regard, the Commission suggested assessing these encephalitides against the criteria of Chapter 1.2. 'Criteria for the inclusion of diseases, infections and infestations in the OIE list' of the *Terrestrial Code*, prior to the starting the full revision of these chapters.

### 10.2. Biological Standards Commission

The Commission and the Biological Standards Commission both have responsibilities in the ongoing work on development of case definitions, and in the assessment of pathogenic agents against the criteria for listing in Chapter 1.2. of the *Terrestrial Code*. At this meeting, the Commission considered two proposed case definitions and Biological Standards Commission's opinion on these (see Items 12.3.2.1 and 12.3.2.2), and one listing assessment with Biological Standard Commission's opinion on whether criterion 3 had been met (see item 12.2.4.1). A joint meeting of this Commission and the Biological Standards Commission was held by videoconference to discuss the case definition items.

## 11. Conferences, workshops, meetings, missions

None at this meeting.

## 12. Disease control: specific issues

### 12.1. Emerging diseases

#### 12.1.1. Emerging diseases Standard Operating Procedure update

The Commission was advised that, based on feedback received at the February 2022 Specialist Commission meetings (including the meeting of the bureaus of this Commission and Code Commission), the *Standard Operating Procedure For Determining Whether A Disease Should Be Considered As Emerging* (ED SOP) was amended[4] to ensure that it provides better guidance on the process for notification, and clarifies the involvement of Delegates in the process. Further clarification on the actions to continue monitoring of the existing ED towards listing assessment were included.

The Commission commended the work done on this important document that is intended to guide internal WOAH processes, and suggested inclusion of a flowchart diagram to aid understanding of the steps involved.

#### 12.1.2. Consideration of stable events that previously were submitted to WAHIS as emerging disease events

The Commission was advised of events for three diseases (infection with *Ehrlichia canis*, pigeon rotavirus, infection with porcine epidemic diarrhoea virus) reported as emerging to WOAH prior to initial implementation of the ED-SOP in March 2021. The Commission was requested to consider the information provided for these 'legacy' disease events and confirm that it is appropriate for these stable disease events to be marked as 'closed' in WAHIS, or to advise of any requirement to assess any of the diseases against the WOAH definition of emerging disease.

For both infection with *Ehrlichia canis* and pigeon rotavirus, the Commission agreed that these stable disease events should be marked as closed, and that (based on the available epidemiological information), there is no indication to conduct an assessment against the WOAH definition of emerging disease. The same agreement was reached for infection with porcine epidemic diarrhoea virus as assessed by the Commission against the listing criteria of Chapter 1.2. in February 2019 and considered not to meet the criteria (so was not added to the list). In consequence, the Commission agreed that the associated stable disease events should be marked as closed.

[4] https://www.woah.org/en/document/woah-standard-operating-procedure-for-determining-if-a-disease-should-be-considered-as-an-emerging-disease/; accessed 24 September 2022

### 12.1.3. Annual reassessment of emerging diseases (SOP 5.1)

#### 12.1.3.1. Infection with SARS-CoV-2

The Commission noted that, in February 2022, the assessment of infection with SARS-CoV-2 against the listing criteria of Chapter 1.2. of the WOAH Terrestrial Code was requested. The WOAH Director General responded that the request would be taken into consideration following the established procedures. Consequently, in accordance with item 5.1 of the ED SOP, the Commission was asked to decide if, based on new evidence, the disease should be assessed against the list criteria of WOAH Terrestrial Code Chapter 1.2., or (if not) confirm that the disease should be maintained as emerging for the purpose of notification to WOAH.

The Commission acknowledged the importance of monitoring infection with SARS-CoV-2 in animals as the situation is still evolving. The Commission is of the opinion that the current knowledge, including the role of susceptible animals in the epidemiology of the disease, is insufficient to support conducting a listing assessment at this time, and noted that assessment against criterion 2 ('At least one country has demonstrated freedom or impending freedom from the disease, infection or infestation in populations of susceptible animals, based on the provisions of Chapter 1.4.') would pose a particular challenge. Therefore, the Commission advised that it should remain an emerging disease of animals, and will be reassessed according to Item 5.1 of the ED SOP in September 2023.

## 12.2. Evaluation of pathogenic agent against listing criteria of *WOAH Terrestrial Code* Chapter 1.2.

### 12.2.1. Consideration of the listing criteria in Chapter 1.2.

At its February 2022 meeting, the Commission expressed the need to prioritise revision of *WOAH Terrestrial Code* Chapter 1.2. (Criteria for the inclusion of diseases, infections and infestations in the OIE list) due to multiple difficulties in interpreting and applying the criteria experienced by those conducting the assessments (the Commission, *ad hoc* Groups, and subject-matter experts). Noting that at the 89th General Session of the World Assembly of Delegates (May 2022), some Members raised concerns that revising the criteria in Chapter 1.2., could affected the status of all listed diseases, the Commission discussed the criteria and the problems identified, to determine whether these could be addressed in the short term by means other than amending Chapter 1.2.

Criterion 1 ('international spread of the pathogenic agent (via live animals or their products, vectors, or fomites) has been proven'): the Commission considered that it would be difficult to identify pathogenic agents that would not have the potential to meet this criterion. However, they observed that it could be challenging to prove that this criterion has been met for non-listed pathogenic agents that are rarely typed to the level required for notification to WOAH, as this detailed information may not be available. Further, they noted that all pathogenic agents assessed since 2017 as not having met the criteria for listing had been assessed as [YES] for this criterion, making questionable its utility for distinguishing between those agents that do, and those that do not, meet the criteria for listing.

Consequently, the Commission recommended that the *Standing Operating Procedure for Listing Decisions for Pathogenic Agents of Terrestrial Animals*[5] (Listing SOP) be adjusted to require that a preliminary assessment of this criterion is conducted internally by the Secretariat prior to presenting a request for listing to the Deputy Director General (currently, Listing SOP Item 2-1), to improve the overall efficiency of the process.

**Criterion 2 ('at least one country has demonstrated freedom or impending freedom from the disease'):** the Commission considered that it will almost always be possible to find a single country for which this criterion could be met, such as countries outside the vector range of a vector-borne

[5] https://www.woah.org/en/document/sop_fordelisting_pathogens_for_terrestrial_animals_oct2020/; accessed 25 September 2022

disease. On the other hand, it also noted that it could be difficult to provide evidence of freedom for pathogenic agents if they were not included in a country's national control programme, and that surveillance methods using techniques other than targeted structured surveillance to demonstrate freedom may not be well accepted by Members.

Noting that the objective of the chapter as stated in Article 1.2.1. is to support Members by providing information needed to take appropriate action to prevent the transboundary spread of important animal diseases, the Commission considered it would be relevant to know whether Members regard the pathogenic agent as important, as demonstrated by actions managed or supervised by the Veterinary Authority to prevent either the entry or transboundary spread of the disease. The Commission proposed that the *Guidance for the application of criteria for listing terrestrial animal diseases*[6] (Guidance Document) be amended to include for this criterion consideration of whether there are countries that have implemented an official control programme for disease control, or prevent its transboundary spread.

Criterion 3 ('reliable means of detection and diagnosis exist, a precise case definition is available to clearly identify cases and allow them to be distinguished from other diseases, infections or infestations'): the Commission acknowledged that having a reliable means of detection and diagnosis does not necessarily imply that the test would be practical for the purposes of international trade or to support official control programmes, and gave the example of tests for the isolation of agents where results could take weeks. The Commission considered that in addition to being reliable, the means of detection and diagnosis ought to be accurate, cost-effective, and appropriate to the needs of disease control and safe trade. They noted that the Guidance Document currently indicates that (amongst other things) experts should consider suitability for different purposes, but that the examples provided for suitability were limited ('healthy versus clinically affected'). Referring again to the objective of the chapter provided in Article 1.2.1, the Commission proposed that the Guidance Document be amended to indicate that a test needs to be suitable for the purpose of preventing transboundary spread of the animal disease (noting that this would include by international trade of animals or animal products).

**Criterion 4a ('Natural transmission to humans has been proven, and human infection is associated with severe consequences'):** the Commission noted that the interpretation of the term 'severe' was inconsistent between experts. Nevertheless, the Commission considered the Guidance Document appropriately directs the experts to assess the public health impact at the population, not only individual, level. To assist experts' understanding, that Commission proposed that the Guidance Document for this criterion be amended to add reference to World Health Organisation definitions for Risk Groups 3 and 4 in addition to the existing reference to WHO-DALYs.

Criterion 4b ('the disease has been shown to have a significant impact on the health of domestic animals at the level of a country or a zone taking into account the occurrence and severity of the clinical signs, including direct production losses and mortality'): the Commission noted that expert assessments did not always consider the impact of the disease at the level of the country or zone, and proposed that this be mentioned in the guidance.

Criterion 4c ('the disease has been shown to, or scientific evidence indicates that it would, have a significant impact on the health of wildlife taking into account the occurrence and severity of the clinical signs, including direct economic losses and mortality, and any threat to the viability of a wildlife population'): while the Commission acknowledged the importance of criterion 4c, it requested the Secretariat to consult with the Wildlife Working Group to determine if there are listed diseases, infections or infestations that satisfy only the third component (c) of criterion 4 and not 4(a) and 4(b). If so, a future revision of Chapter 1.2. could consider grouping together the second and third elements of criterion 4.

[6] https://www.woah.org/en/document/guidance-for-the-application-of-criteria-for-listing-terrestrial-animal-diseases/; accessed 25 September 2022

**Overall comments**: the Commission recommended that experts be reminded to study and refer to the Guidance Document during their assessments. They proposed additional changes to the guidance document, including clarifying that the references provided by experts to substantiate their opinions should be up to date. Further, in cases where an expert finds it difficult to conclusively answer either [YES] or [NO] to a criterion, the Commission recommended that experts be requested to describe the problem, noting whether it resulted from insufficient information regarding the pathogen or the disease, or from difficulty in interpreting or applying the criterion. The Commission recommended inclusion of a flowchart in the Listing SOP to improve understanding of the process.

The Commission considered that the proposed amendments to the Listing SOP and the Guidance Document would result in more efficient use of resources, and improve experts' interpretation of the listing criteria. In consequence, no specific revisions to Chapter 1.2. are recommended at this time. Nevertheless, the Commission would welcome the opportunity to be involved in the discussion when Chapter 1.2. is next opened for revision.

The Commission's opinion was forwarded to Code Commission for their consideration.

### 12.2.2. Consideration of the categorisation used in *WOAH Terrestrial Code* Chapter 1.3

In its work in reviewing and endorsing case definitions developed by subject-matter experts for diseases for which a case definition does not yet exist in the *Terrestrial Code*, the Commission noted the opinion of Code Commission that a conflict with WOAH standards occurs when the animal host/s proposed for the case definition do not match the category under which the disease (or infection or infestation) is listed in Chapter 1.3. The Commission was advised that, because of these concerns, the endorsed case definition for Nipah virus encephalitis which included a broader range of species than swine was removed from the WOAH website and is thus not available to assist Members in meeting their notification obligations for this disease.

The Commission queried the utility of the existing species categorisation in Chapter 1.3., and understood that this categorisation might have been introduced as an administrative convenience, further noting that these categories do not completely align with the names used for the sections in Volume II of the *Terrestrial Code*. Taking the example of bovine viral diarrhoea, the revised animal hosts defined as cattle and water buffaloes would be consistent with '*bovidae'* (Section 11) in Volume II of the *Terrestrial Code*, but inconsistent with a strict interpretation of 'cattle' as used in Article 1.3.2. Within separate disease-specific chapters, the Commission also noted that the notification obligations may cover species extending beyond the single primary species category under which the disease is listed under in Chapter 1.3. Examples from section 11 'Bovidae' include infection with *Mycoplasma mycoides* subsp. *mycoides* SC (contagious bovine pleuropneumonia) (Chapter 11.5.), haemorrhagic septicaemia (Chapter 11.7.), infection with lumpy skin disease virus (Chapter 11.9.), and the current version of Chapter 11.10. (Infection with *Theileria annulata*, *T. orientalis* and *T. parva*) adopted in May 2022.

While the Commission acknowledged that the existing species categorisation in Chapter 1.3. could provide useful guidance regarding primary species of concern for diseases (or infections or infestations) without case definitions, it did not consider the existing categorisation to be science based. Accordingly, the Commission considered that the existing species categorisation within Chapter 1.3. should not constrain the scope of animal hosts in case definitions that have been developed based on scientific evidence. Given the importance of providing clear case definitions to assist Members in the timely and consistent notification of disease events, the Commission invited the Code Commission to consider their opinion that the species categorisation of Chapter 1.3. should not constrain the scope of animal hosts in science-based case definitions. Further, the Commission recommended that the consistency between the species categories in Chapter 1.3. and the section names in Volume II be improved.

The Commission's opinion was forwarded to Code Commission for their consideration.

### 12.2.3. Consideration of requests and determination of way forward (SOP 3.1-2)

#### 12.2.3.1. Theileria mutans

The revised disease-specific Chapter 11.10. 'Infection with *Theileria annulata*, *T. orientalis* and *T. parva*' was adopted in May 2022. In response to a Member comment requesting that *T. mutans* be included in the scope of the revised chapter, Code Commission noted in their September 2021 report that this species could not be added until it has been assessed against the listing criteria of *WOAH Terrestrial Code* Chapter 1.2. As the Deputy Director General agreed that the assessment of this pathogenic agent against the listing criteria should proceed, the Commission considered the request and conducted the assessment.

The Commission concluded that *T. mutans* did not meet the criteria of Chapter 1.2., and recommended against adding infection with *T. mutans* to the list of notifiable diseases. Their assessment was forwarded to Code Commission, and annexed as Annex 3.

#### 12.1.3.1. Atypical bovine spongiform encephalopathy

In September 2022, the Code Commission requested that atypical bovine spongiform encephalopathy (aBSE) be evaluated against the listing criteria of Chapter 1.2. of the *Terrestrial Code*. As the Deputy Director General agreed during the meeting that the assessment should proceed, the Commission considered the request and conducted the assessment concluding that aBSE did not meet the criteria of Chapter 1.2.

The opinion of the Commission and their assessment was forwarded to Code Commission; the assessment is annexed as Annex 4.

### 12.2.4. Consideration of expert consultation report and BSC opinion (SOP 3.2-8)

#### 12.1.3.2. Strangles (infection with *Streptococcus equi* subsp. *equi*)

The Commission reviewed the assessments by subject-matter experts of strangles (infection with *Streptococcus equi* subsp. *equi*) and the consideration by Biological Standards Commission made at their February 2022 meeting that this pathogenic agent meets criterion 3 of Chapter 1.2. of the *Terrestrial Code*.

The Commission agrees with the experts that international spread of the pathogenic agent has been proven, and that criterion 1 has been met. The Commission agreed that at least one country (Iceland) has demonstrated freedom, and noted the existence of control schemes operating in at least one sector (*i.e.* high health, high performance horses). The Commission agreed with the experts that criterion 2 had been met, and further agreed with the experts and Biological Standards Commission that criterion 3 is met, as reliable means of detection and diagnosis exist, and cases can be distinguished from other diseases. However, the Commission disagreed with the experts' assessments of criterion 4 (b), which the experts assessed as being met. The Commission acknowledged the importance of this disease at farm and sector level, but noted that the experts' assessments focused on the impact of strangles within a specific equine sector, and did not provide evidence of the significance of the impact on the health of animals at the country or zone level. Critically, although the disease is acknowledged to be significant within the equine industry, there was no indication of national or zonal control among Members, apart from one Member which is historically free and maintains this through strict control. The Commission considers none of the elements of criterion 4 to be met.

The Commission concluded that, as none of the elements of criterion 4 were met, infection with *Streptococcus equi* subsp. *equi* does not meet the criteria for inclusion in the list of notifiable diseases. This conclusion and the experts' summary assessment were forwarded

to the Code Commission, and the experts' summary assessment annexed to this report (Annex 5).

## 12.3. Development of case definitions

### 12.3.1. Case definition process and progress update

The Commission thanked the Secretariat for the update. They commended the detailed description provided of the internal processes for ensuring that case definitions published on the WOAH website do not conflict with existing standards and requested that a flowchart be developed to enhance understanding of the steps involved. The Commission noted the efforts made to incorporate feedback received in the development of new case definitions, and to improve documentation in the reports of rationale and justification for those elements excluded from, as well as those incorporated in, case definitions.

### 12.3.2. Case definitions

#### 12.3.2.1. Infection with avian metapneumovirus (turkey rhinotracheitis)

The Commission reviewed the draft case definition for infection with avian metapneumovirus (turkey rhinotracheitis) prepared by the expert group, along with the accompanying technical report and the opinion of the Biological Standards Commission on the case definition. Both Commissions met for a discussion on the case definition, and this report summarises their combined position. The Commissions (here, Biological Standards Commission and the Scientific Commission) commended the work of the experts.

The Commissions proposed that, when a disease-specific chapter for this condition is drafted, consideration be given to naming the chapter 'infection with avian metapneumovirus (turkey rhinotracheitis and swollen head syndrome of chickens) as the same pathogenic agent causes both diseases. They noted that a corresponding update would be required in Chapter 1.3. of the *Terrestrial Code*. The experts recommended, and the Commissions agreed, that the animal host is defined as 'poultry' following the definition in the *WOAH Terrestrial Code* Glossary as this includes game birds as well as turkeys and chickens, and is aligned with similar definitions for several other avian diseases.

The Commissions noted that the experts recommended four options, any one of which is sufficient for confirming a case of infection with avian metapneumovirus for the purposes of notification to WOAH. For Option 1 involving isolation of the agent, the Commissions replaced 'isolated and characterised', with 'isolated and identified' as the term 'characterised' may be interpreted by Members as requiring more efforts than those needed to confirm that the organism is as stated. The Commissions revised the second option proposed by the experts to separate the components for antigen and nucleic acid detection (thus resulting in five instead of the expert-proposed four options for confirmation of a case), and recommended revisions to both components. The Commissions indicated that when nucleic acid specific to avian metapneumovirus is detected, its identity must be confirmed, noting that the methods for doing so include but are not limited to molecular sequencing. For the option referring to the detection of antigen, the Commissions recommended that additional evidence supporting this finding should be added to the option. The Commissions considered that clinical signs and pathologic lesions, even if non-specific for this disease, together with a positive laboratory test would be sufficient to confirm a case of infection with avian metapneumovirus, and added this element to the options for antigen detection (now Option 3) and antibody detection (now Option 5). For both options, they removed the third element 'there is cause to suspect that the animal host has previously been associated with or had contact with avian metapneumovirus' as they felt it unlikely to be relevant and considered there may be circumstances where this could lead to inappropriate declaration of a confirmed case which may have unintended consequences.

The revised case definition was endorsed by the Commission. As no conflict was identified between the endorsed case definition and either the *WOAH Terrestrial Code* or *WOAH Terrestrial Manual*, the endorsed case definition was forwarded to the Code Commission and will be made available on the WOAH website in due course. The experts' report is provided as Annex 6.

#### 12.3.2.2. Infection with pathogenic rabbit lagoviruses (rabbit haemorrhagic disease)

The Commission reviewed the draft case definition for infection with pathogenic lagoviruses (rabbit haemorrhagic disease) prepared by an expert group, along with the accompanying technical report and the opinion of the Biological Standards Commission on the case definition. Both Commissions met for a joint discussion on the case definition, and this report summarises their combined position. The Commissions (here, Biological Standards Commission and the Scientific Commission) commended the work of the experts.

The Commissions recommended that references to 'rabbit haemorrhagic disease' in the *WOAH Terrestrial Code* be updated to 'infection with pathogenic lagoviruses' for consistency with the current WOAH convention for listing terrestrial animal diseases, and to reflect the expanding host range of the pathogenic agent.

The Commissions also agreed with leporids (specifically *Oryctolagus cuniculus*, and *Lepus* and *Sylvilagus* species) as the animal host species, and the two distinct phylogenetic groups of the pathogenic lagoviruses (RHDV which includes RHDVa, and RHDV2) identified for the purposes of notification to WOAH. The Commissions further agreed that European brown hare syndrome virus should not be included in the scope of the case definition for rabbit haemorrhagic fever as it is not a WOAH-listed disease.

The Commissions noted that the experts recommended only one option as suitable for confirmation of a case (detection of either antigen or nucleic acid specific to pathogenic lagoviruses, provided it is accompanied by additional supporting evidence), and had not recommended options for virus isolation (there are no *in vitro* (cell culture) methods for isolation of virus), evidence of active infection detected by seroconversion (several reasons including short incubation period and high mortality), or detection of antibodies in conjunction with supporting evidence (would be used only rarely, and because of the high mortality and short incubation period).

The Commissions agreed with the experts regarding the reasons to not include virus isolation as an option. This Commissions also agreed that it would be inappropriate to include an option based on seroconversion alone, emphasising that the existence and worldwide diffusion of non-pathogenic but antigenically related lagoviruses as the main reason for this. However, noting that mortality varies after infection with pathogenic rabbit lagoviruses and depends on the virus and the age of the rabbit, the Commissions disagreed with the experts and recommended inclusion of the option for detection of antibodies to pathogenic rabbit lagovirus in conjunction with supporting evidence (thus creating an Option 2). The Commissions agreed that the supporting evidence should consist of two elements (either the presence of clinical signs or pathological lesions, or the presence of an epidemiological link to a suspected or confirmed case). The Commissions further noted that the entry in *WOAH Terrestrial Manual* Chapter 3.7.2. 'Rabbit haemorrhagic disease' Table 1 'Test methods available for the diagnosis of rabbit haemorrhagic disease and their purpose' regarding the use of the isotype ELISA for the purpose 'Confirmation of clinical cases' (currently '++') is being changed to '+' (= suitable in very limited circumstances).

The Commission endorsed the revised case definition.

The Commission identified no conflict between the endorsed case definition and the *WOAH Terrestrial Manual* , but noted that despite host species not being mentioned in Article 13.2.1 of the disease-specific chapter on rabbit haemorrhagic disease in the *Terrestrial*

*Code*, there is a possible conflict between the case definition proposed by the experts and the *WOAH Terrestrial Code* by omission (i.e. hares and *Sylvilagus* spp.) under Article 13.2.2. 'RHD free country'. The Commission recommended that the provisions of Chapter 13.2. be amended to reflect the expanded host range of the case definition.

Due to the potential for conflict between the endorsed case definition and the *Terrestrial Code*, the endorsed case definition was forwarded to the Code Commission to inform their revisions of, and for incorporation into, Chapter 13.2. of the *Terrestrial Code*, and will not be made available to Members on the WOAH website. However, the experts' report is annexed to this report as Annex 7.

### 12.4. Recommendations from WOAH Scientific and Technical Review on insects

Dr Megan Quinlan, coordinator for the 41st edition of the WOAH *Scientific and Technical Review* updated the Commission on key findings of the Review which was commissioned to explore the state of play of live insect trade, discuss experiences with shipments, and the risks and gaps associated with this trade. The objective of the Review was to encourage discussion on the role of international bodies and various stakeholders to address concerns and improve conditions for trade in live insects.

One of the key challenges identified by Dr Quinlan was the absence of an overarching framework for the international trade in insects, with diverse requirements between different international, regional, and national technical or regulatory bodies based on their respective mandates. Sanitary certificates may at times be requested for insect consignments, without corresponding assessments on risks to animal health, or attestations of the production and handling processes undergone by the insects. Dr Quinlan stressed that inconsistency in requirements and lack of guidance have at times hampered shipments that present negligible risks (for example, seed colonies representing sterile, non-vectored species that have been subject to robust quality control systems for research purposes).

The Commission thanked Dr Quinlan for her extensive work on the Review and for highlighting potential actions that may be taken by WOAH under its remit to improve the conditions for insect trade. The Commission noted the growing importance of this subject given the increasing volume of insects being traded, especially as food and feed, and agreed that the risks to animal health should be examined, in particular those associated with the movement of arthropod species capable of vectoring animal diseases.

The Commission considered the existing coverage and reference to insects in the *Terrestrial Code*, which (with the exception of bees) are present in the contexts of vector-borne disease management, and feed and food safety. The Commission requested that this subject be discussed in further detail with the Code Commission at the next joint meeting of the bureaus in February 2023.

The Commission also acknowledged the various international bodies that could play a role in insect trade, and encouraged WOAH to engage relevant organisations such as the International Plant Protection Convention (IPPC) and Codex to facilitate consistency in international regulations and guidance on insect trade. The Commission was also informed of an upcoming annual event organised by the International Platform of Insects for Food and Feed, a non-profit organisation that represents the interests of insect producers at European level, and supported the participation of WOAH representatives at this event to understand the growth of the insect sector and contributions as a complementary source of protein to address regional and global food challenges.

### 12.5. Capturing genotype information in WAHIS

The Commission was reminded that WOAH Members report disease information through WAHIS in accordance with Articles 1.1. of the *Terrestrial* and *Aquatic Animal Health Codes*, through immediate notifications, follow-up reports and six-monthly reports. For many of the listed diseases in WAHIS, an optional field called 'serotype/subtype/genotype' can be activated to assist those Members who choose to report this information to do so in a standardised way. The World Animal Health and Analysis Department (WAHIAD) considered that activating this field would support Members' control efforts for some diseases, while for others, WAHIAD anticipated little benefit would result from field activation.

WAHIAD requested SCAD's opinion on the diseases for which activation of the field would, or would not, provide benefit to Members.

The Commission commented that, in general, recording such information (when available, and if a Member chooses to do so) would be useful for Members in informing their knowledge of the epidemiology of the diseases, and in development of their risk assessments. In particular, the Commission recommended that the field be activated for those listed zoonotic diseases with severe public health impact, including *Mycobacterium tuberculosis* complex. The Commission also noted that in the particular case of lumpy skin disease (LSD), it is possible to distinguish the LSD virus from other pox virus and the need to differentiate different virus strains using nucleic acid methods, so field activation would support Members' disease control activities.

### 12.6. Antiparasitic drug resistance

The Commission was updated on the activities of the WOAH Electronic Expert Group on Antiparasitic Resistance (EEG-APR), and advised that the EEG-APR completed its mandate in December 2021 with the publication of the document 'Responsible and prudent use of anthelmintic chemicals to help control anthelmintic resistance in grazing livestock species'. The Commission was advised that this publication was presented during the last Antimicrobial Resistance Working Group meeting held from 27 to 29 April 2022. The Antimicrobial Resistance Working Group commended the work of the EEG-APR, and asked that the EEG-APR continues to explore independently the next steps to be undertaken in anthelmintics and other parasites outside of WOAH's definition of antimicrobial agents.

The Commission reviewed the publication and agreed that the work of the EEG-APR should continue. However, they considered that it may be too soon to begin development of standards and that guidelines may be more appropriate at this stage. They agreed that it would be useful to expand the scope of the work to include ectoparasites.

The opinion of the Commission was forwarded to the Antimicrobial Resistance Working Group and Code Commission for consideration.

### 12.7. Monkeypox

Since early May 2022, increasing numbers of cases of human infection with monkeypox virus have been reported from both endemic and non-endemic countries to the World Health Organization (WHO). On 23 July 2022 WHO decided that the multi-country outbreak of monkeypox represents a public health emergency of international concern (PHEIC). Declaration of a PHEIC constitutes the highest level of global public health alert under the International Health Regulations, and can enhance coordination, cooperation and global solidarity.

WOAH is monitoring the situation closely because the heightened prevalence in humans may increase the risk of transmission to animals, and affect the epidemiology of the disease. WOAH has developed a 'Questions and Answers on Monkeypox and Animals' page on its website and provides links to other resources. In addition, the Commission was consulted twice (in late May and again in August) to consider whether infection with monkeypox virus would meet WOAH's definition of an emerging disease (of animals) if it were identified in animals other than those known to be reservoirs for infection in endemic countries. The August consultation (updated at this meeting) took into consideration reports of transmission of monkeypox from humans to individual dogs. To date, the Commission considers that infection with monkeypox virus should not be considered by WOAH as an emerging disease (of animals). Currently, the outbreak is maintained by human-to-human transmission, and there is no evidence that infection with monkeypox virus impacts the health of domestic animals at the level of a country of zone, or has an impact on the health of wildlife. Increased morbidity and spread to new geographical areas have been observed only in humans.

### 12.8. Avian influenza (H3N8)

In late May 2022 the Commission discussed whether infection with avian influenza (H3N8) should be notified to WOAH as an emerging disease (of animals) or according to Article 10.4.1. should it be detected in poultry or in domestic or captive wild birds, respectively. At the time of the assessment (concluded in early June 2022), and noting that two cases of infection with influenza A (H3N8) had been detected in humans but not in animals, the Commission's opinion was that infection with avian influenza (H3N8) should not be considered by WOAH as an emerging disease (of animals). They noted no change in the epidemiology of the infection in birds, although this subtype has traditionally been associated with birds, horses and dogs. In addition, despite reports of infections in humans, there have been no detections in animal species, nor has human-to-human transmission been detected. Further, a preliminary FAO/OIE/WHO Joint Rapid Risk Assessment for human infection with influenza A (H3N8), China (published on 18 May 2022) concluded that while further human infections with influenza A (H3N8) viruses cannot be excluded, the risk is low. The likelihood of sustained human-to-human transmission is also low based on the limited information obtained to date.

### 12.9. Considerations on the vaccination of wild animals of high conservation value

The Commission welcomed the opportunity to provide feedback on a revised document prepared by the Wildlife Working Group (WWG) on considerations on the vaccination of wild animals of high conservation value, first discussed in their September 2019 meeting.

The Commission commended the updated document but expressed concern about extending the scope of the document to wild animals, defined as including ‘captive wild (zoo) animals and free-living wild animals’. The Commission proposed that the scope be restricted to ‘captive wild (zoo) animals and endangered species of free-living wild animals’ (for example, Przewalski's horses, or Saiga antelopes threatened by an emerging disease). The Commission’s main concern is to ensure that vaccination of wild animals does not affect the disease status of the relevant compartment, zone, or country, and recommended that any vaccine used be non-replicating and that it be possible to differentiate vaccinated from infected animals.

## 13. For Commission information

### 13.1. Updates on standing items

#### 13.1.1. OFFLU

The Commission was briefed on the activities of OFFLU[7], the Joint WOAH-FAO Network of Expertise on Animal Influenza and their contribution to the WHO Consultation on the Composition of Influenza Virus Vaccines on avian influenza and swine influenza for the period September 2021 to February 2022. Data on 939 H5, H7 and H9 avian influenza genetic sequences were contributed by animal health laboratories from Africa, the Americas, Asia, Europe and Oceania. 397 H1 and H3 global swine influenza virus sequences were also analysed and submitted. Antigenic characterisations undertaken by OFFLU contributing laboratories provided information for updating WHO’s recommendations for development of new candidate vaccine viruses for pandemic preparedness.

In response to the avian influenza epidemic with continued high numbers of detections in poultry and wild birds, OFFLU experts shared epidemiological and molecular data on currently circulating viruses and released situation updates and statements needed to inform surveillance and control policies. Swine influenza experts shared data on the global swine influenza situation in pig populations by providing regional and country-specific reports from Asia, Europe and Americas. Equine influenza experts participated in the WOAH expert surveillance panel on equine influenza vaccine composition to update the vaccine recommendations for the equine industry in 2022. The OFFLU annual report 2021 is published on the website.

[7] https://www.offlu.org/; accessed 28 September 2022

### 13.1.2. STAR-IDAZ International Research Consortium

The Commission was updated on the activities of the Secretariat of STAR-IDAZ International Research Consortium of Animal Health (SIRCAH)[8], currently co-hosted from WOAH. The current SIRCAH is supported by a five-year EU-funded project that will come to an end in September 2022. The proposal for further funding for the next 4.5 years was successful under the European Commission Horizon Europe 2022 programme. WOAH, CABI, Defra, Kreavet and UKRI-BBSRC will be partners in SIRCAH2 'Support for the International Research Consortium on Animal Health', which is anticipated to begin in October 2022.

The next phase of funding will enable the STAR-IDAZ IRC to build on its current programme and further engage the private sector, which is important in ensuring the delivery of animal health solutions, including vaccines, diagnostics, drugs, and other control strategies. There will also be more emphasis on strengthening the regional networks, which have been successfully revitalized during the pandemic with virtual meetings.

WOAH will be leading the work package (WP) on international engagement and advocacy with the aim to maintain and enlarge the network. In addition, WOAH will keep contributing to the others' WPs for operational support to the STAR-IDAZ network, research prioritisation and programme alignment, communication and dissemination.

In addition, the Commission was informed about the meeting of the STAR-IDAZ IRC Executive Committee of the 1st of March and of the Scientific Committee held in June 2022 to discuss the activities of the Working Groups (WGs) on the current priorities: ATA, ASF, emerging diseases, influenza, veterinary vaccinology, One Health, bovine tuberculosis, and helminths. During the meeting, members were updated on new initiatives and projects, including the European Partnership for Animal Health and Welfare, and the ICRAD third call.

Five regional virtual meetings took place during the last six months (Africa and Middle East (AMERN), the Americas, Asia and Australasia, and the European Collaborative Working Group for Animal Health and Welfare (CWG AHW)). During the meetings, regional members were updated on the status and activities of the Networks, common research priorities for the Regions were discussed and agreed, opportunities for sharing resources, including access to samples and strains of organisms, specialised facilities and expertise were explored as well as international funding opportunity.

In the last six months STAR-IDAZ IRC published the 2022 *African Swine Fever Virus Research Review*[9] in collaboration with USDA and Global ASF Research Alliance (GARA), and the *Global veterinary vaccinology research and innovation landscape survey report*[10].

### 13.1.3. WOAH antimicrobial resistance activities for information

#### 13.1.3.1. Chapter 6.10 Responsible and prudent use of antimicrobial agents in veterinary medicine

The Commission was updated on the broadened scope of Chapter 6.10. to include additional text concerning antimicrobial use in non-food producing (companion and leisure) animals and the inclusion of a new article related to non-food producing animals (Article 6.10.9. 'Responsibilities of animal owners'). The revised chapter further expands the text to include the One Health concept, and elaborates the role of the Competent Authority in the design, implementation and evaluation of a multisectoral National Action Plans and in reporting antimicrobial use data to WOAH's global database (ANIMUSE). Responsibilities of relevant stakeholders are now aligned with the Codex Code of Practice where appropriate. The revised chapter and rationale for the proposed changes were discussed

[8] https://www.star-idaz.net/; accessed 28 September 2022
[9] https://www.star-idaz.net/app/uploads/2022/03/ASFV-Report_draft_final_31-march-2022.pdf, accessed 26 September 2022
[10] https://www.star-idaz.net/app/uploads/2022/06/Star-Idaz-Veterinary-Vaccinology-report_Jan-2022.pdf, accessed 26 September 2022

and endorsed by the AMR Working Group during their August 2022 meeting, and were considered by Code Commission during their September 2022 meeting.

#### 13.1.3.2. Technical Reference Document of Antimicrobials of Veterinary Importance for Swine

The Commission was updated on the AMR Working Group's efforts since the development of the document. After an issue was raised by a swine expert from the World Veterinary Association, the Working Group recommended that WOAH seek feedback from external experts on swine health concerning the inclusion of *Chlamydia suis* given its geographical importance and availability of licensed veterinary medicinal products for its treatment. Publication of the technical document was not approved by the Working Group until further revision related to chlamydiosis was completed. The technical document will be resubmitted to the Working Group for review at its October 2022 meeting.

### 13.1.4. Global Burden of Animal Diseases programme (GBADS) and the WOAH Collaborating Centre for the Economics of Animal Health

SCAD noted that the GBADs programme continues to develop and refine methodologies to assess the economic burden of animal diseases in a systematic manner to include net loss of production, expenditure, and trade impacts. Since the last update, focus has been on (i) enhancing the programme's theory of change, (ii) advancing work on the creation of estimates, (iii) engaging in the initial phases of external validation of the GBADs methods, (iv) expanding the programme's analytical platform, and (v) progressing on country case study activities. In the coming months, the programme will be working to complete delivery of the current phase of the programme.

Particularly, regarding the development of the Animal Health Loss Envelope (AHLE), targeted case studies are being used to provide initial burden estimates and to identify priority areas for future method development and data acquisition. To date, the AHLE methodology has been applied to calculate estimates for the major share of intensive chicken and pig meat production (70 to 80% of the global production) and derive estimates for Ethiopia focusing on small ruminants and cattle. It is also recognised that greater clarity is needed in communicating the concept outside of the GBADs programme. This is being refined through a discussion paper, which is now in its second redraft prior to submission, and through the creation and trialling of the AHLE dashboards.

A model for animal disease burden attribution has been created with various levels of attribution. At the highest level are infectious causes, non-infectious causes, and external factors. The AHLE can be attributed further looking at disease-specific issues and if necessary, disease variations such as the severity or different serotypes. To date the AHLE has been estimated at the highest level for small ruminants in Ethiopia. A systematic review of cause-specific impacts is ongoing.

The WOAH Collaborative Centres for the Economics of Animal Health (CCEAH) in Europe is promoting the systematic use of and training on the methods for economics in animal health for the benefit of WOAH Members. To date, it has delivered on four key outputs. These outputs include (i) the establishment of two case studies in the Netherlands and Norway; (ii) the development of a biomass estimation guide; and (iii) an assessment of potential synergies with DISCONTOOLS (a provider of information on 53 infectious diseases), and engagement with the private agricultural sector. Work continues to develop the necessary strategic alliance to implement analyses for the estimation of the AHLE in the established case studies. Further, activities have begun to establish a CCEAH for the Americas. A five-year workplan is being created and an application for the establishment of the centre will be submitted in the coming months to align with possible endorsement at the 2023 General Session.

### 13.1.5. WOAH Observatory

The Commission received an update on activities during the first year of the Implementation phase of the Observatory. In December, WOAH will publish the first annual report on the implementation of WOAH standards. Following the approach progressively developed via the prototypes, the

Observatory has used WOAH data along with some external data to describe Members' implementation of WOAH Standards. Limitations of these data and its impact on conclusions is acknowledged but has still allowed for identification of very relevant findings and recommendations.

The general objective of the Observatory, state of play, and first findings of the annual report were presented to the Commission. Much of the data was not available in a format that allows assessment, covered different scopes, and inconsistent purposes for reporting (voluntary versus compulsory). A need to collect more specific information was identified as well as a need to evaluate the current data we collect such as the WAHIS annual report. A lack of data directly assessing the implementation of standards and discrepancies between WAHIS reporting and Standards was also identified, suggesting the need for a better connection between WAHIS reporting and the Standards.

The Commission was also updated on the results of a survey of Focal Points on Aquatic Animals conducted in early 2022 to identify barriers to the implementation of standards and transparency in disease reporting. Half of responding Members were very confident that they notified aquatic animal diseases to WOAH in a timely and comprehensive way. Two thirds of responding Members considered that they have trade regulations equivalent to WOAH Standards. Barriers included lack of human resources and workforce capacity, impact of notification on trade, lack of priority given by government agencies to aquatic animal health, and lack of knowledge on notification obligation or procedures.

#### 13.1.6. WOAH research coordination activities

SCAD was informed that an action plan for WOAH research coordination activities was developed in June 2022. The aim of the plan is to identify and disseminate research needs of importance for WOAH and engage with research communities and funders in a coordinated manner. This will facilitate the production of impactful research findings that can support WOAH activities including standard setting and global strategies.

The plan is in accordance with WOAH's Seventh Strategic Plan covering the period from 2021 to 2025 and which includes 'leveraging relevant scientific expertise to address multisectoral animal health and welfare issues' as one of its five strategic objectives. Currently WOAH promotes and coordinates collaboration to develop international animal health policy and works with leading research institutes, scientific consortiums, and technical resource partners as well as its network of Reference Laboratories and Collaborating Centres to obtain the best available science to support its Members' decision-making processes. WOAH is committed to scientific excellence, and thus is uniquely placed to identify and prioritise areas where scientific knowledge requires further development ('knowledge gaps'). This activity will complement and enhance the current research coordination activities on major infectious diseases of livestock of STAR-IDAZ IRC.

The Commission welcomed WOAH's research coordination activities, as these could bring additional knowledge to support scientific evidence for standard setting. The Commission noted that it would be important to apply criteria to the identified research needs to prioritise those research needs that could generate impactful knowledge. The Commission acknowledged the importance of this activity as a basis of the science system, and for identifying research gaps that, when filled, would support WOAH's standard-setting activities.

## 14. Programme and priorities

### 14.1. Update and prioritisation of the work programme

The Commission updated its work programme, identified the priorities, and scheduled the dates for the various *ad hoc* Group meetings, which will be accessible to Members through the WOAH website.

The updated work programme is attached as Annex 8.

## 15. Adoption of the meeting report

The Commission adopted the report that was circulated electronically after the meeting.

## 16. Date of the next meeting

The next meeting of the Commission is scheduled to take place between 13 and 17 February 2023 with a possible extension of three days of virtual meetings (21 to 23 February 2023).

## 17. Meeting Review

A meeting review was conducted in accordance with the Commission Performance Management Framework.

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…/Annexes

**Annex 1.**

**Adopted Agenda**

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 19 to 23 September 2022**

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**1. Welcome**

**2. Meeting with the Director General**

**3. Adoption of the agenda**

**4. Feedback from the 89th General Session**

**5. Terrestrial Animal Health Code**

5.1. Member comments received for Commission consideration

5.1.1. Chapter 8.14 – Infection with rabies virus

5.1.2. Chapter 11.4. Bovine spongiform encephalopathy

5.2. Other considerations

5.2.1. Chapter 4.7.7. Containment zone

5.2.2. Mycobacterium tuberculosis complex

**6. *Ad hoc* and Working Groups**

6.1. Meeting reports for endorsement

6.1.1. *Ad hoc* Group on the revision of BSE standards and the maintenance of official BSE risk status: 22-24 June 2022

6.2. Planned *ad hoc* Groups and confirmation of proposed agendas

6.2.1. *Ad hoc* Group on the evaluation of AHS status: 28–30 September 2022 (cancelled)

6.2.2. *Ad hoc* Group on the evaluation of BSE risk status: 4–6 October 2022 (cancelled)

6.2.3. *Ad hoc* Group on the evaluation of PPR status: 19–21 October 2022

6.2.4. *Ad hoc* Group on the evaluation of FMD status: 2–4, 7 and 9 November 2022

6.2.5. *Ad hoc* Group on the evaluation of the endorsement of dog-mediated rabies control programmes: 8–10 November 2022

6.2.6. *Ad hoc* Group on the evaluation of CBPP status: 16 November 2022

6.2.7. *Ad hoc* Group on the evaluation of CSF status: 5–7 December 2022 (to be confirmed)

6.2.8. *Ad hoc* Group on the review of BSE surveillance guidelines: 25 October 2022

6.3. Meeting reports for information

**7. Official animal health status**

7.1. Annual reconfirmations for maintenance of status

7.1.1. Selection of status for comprehensive review of 2022 annual reconfirmations

7.1.2. Strategy for the assessment of increasing annual reconfirmations

7.2. Specific update on official animal health status

7.2.1. Update on situation of countries/zone with suspended or reinstated disease status

7.3. State of play and prioritisation of expert mission to Members requested by the Commission

7.3.1. Follow-up of past missions/virtual interviews

7.3.2. State of play and prioritisation

7.4. Standards and procedures related to official status recognition

7.4.1. Questionnaire and procedure for recovery of free status, or risk assessment, in case of recurrence of rinderpest

7.4.2. Follow-up on the impact assessment related to the revised BSE standards and list of countries already having an official risk status by WOAH

7.4.3. Development of the Official Status Management Platform

**8. Global control and eradication strategies**

8.1. Peste des Petits Ruminants. Global Control and Eradication Strategy

8.2. African swine fever. Global control initiative

**9. WOAH Collaborating Centres**

**10. Liaison with Other Commissions and Departments**

10.1. Terrestrial Animal Health Standards Commission (Code Commission)

10.1.1. Framework for *Terrestrial Code* standards: disease-specific chapter

10.1.2. Proposal for new Biosecurity Chapter

10.1.3. Revisions of *Terrestrial Code* Chapters 8.10, 12.4 and 12.11

10.2. Biological Standards Commission

**11. Conferences, workshops, meetings, missions**

**12. Disease control: specific issues**

12.1. Emerging diseases

12.1.1. Emerging diseases Standard Operating Procedure update

12.1.2. Consideration of stable events that previously were submitted to WAHIS as emerging disease events

12.1.3. Annual reassessment of emerging diseases (SOP 5.1)

12.2. Evaluation of pathogenic agent against listing criteria of *Terrestrial Code* Chapter 1.2.

12.2.1. Consideration of the listing criteria in Chapter 1.2.

12.2.2. Consideration of the categorisation used in *Terrestrial Code* Chapter 1.3

12.2.3. Consideration of requests and determination of way forward (SOP 3.1-2)

12.2.4. Consideration of expert consultation report and BSC opinion (SOP 3.2-8)

12.3. Development of case definitions

12.3.1. Case definition process and progress update

12.3.2. Case definitions

12.4. Recommendations from WOAH Scientific and Technical Review on insects

12.5. Capturing genotype information in WAHIS

12.6. Antiparasitic drug resistance

12.7. Monkeypox

12.8. Avian influenza (H3N8)

12.9. Considerations on the vaccination of wild animals of high conservation value

**13. For Commission information**

13.1. Updates on standing items

13.1.1. OFFLU

13.1.2. STAR-IDAZ International Research Consortium

13.1.3. WOAH antimicrobial resistance activities for information

13.1.4. Global Burden of Animal Diseases programme (GBADS) and the WOAH Collaborating Centre for the Economics of Animal Health

13.1.5. WOAH Observatory

13.1.6. WOAH research coordination activities

**14. Programme and priorities**

14.1. Update and prioritisation of the work programme

**15. Adoption of the meeting report**

**16. Date of the next meeting**

**17. Meeting Review**

**Annex 2.**

**List of Participants**

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 19 to 23 September 2022**

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**MEMBERS OF THE COMMISSION**

**Dr Cristóbal Zepeda**
(President)
Area Director South America Pacific and Central America
USDA APHIS
UNITED STATES OF AMERICA

**Dr Trevor Drew**
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**Dr Silvia Bellini**
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**WOAH HEADQUARTERS**

**Dr Gregorio Torres**
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**Dr Roberta Morales**
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**Dr Min Kyung Park**
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**Dr Jenny Hutchison**
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Research Coordinator
SIRCAH STAR-IDAZ
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**Dr Anna-Maria Baka**
Chargée de mission
Status Department

**Dr Rachel Tidman**
Global Rabies Coordinator
Science Department

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**Annex 3.**

**12.2.3.1 LISTING ASSESSMENT FOR *THEILERIA MUTANS***

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 19 to 23 September 2022**

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This assessment was conducted by the Scientific Commission for Animal Diseases during their September 2022 meeting.

## 1. Summary

| Criterion | Outcome |
|---|---|
| **Criterion 1:** International spread of the pathogenic agent (via live animals or their products, vectors or fomites) has been proven. | YES |
| **Criterion 2:** At least one country has demonstrated freedom or impending freedom from the disease, infection or infestation in populations of susceptible animals, based on the provisions of Chapter 1.4. | NO |
| **Criterion 3:** Reliable means of detection and diagnosis exist, and a precise case definition is available to clearly identify cases and allow them to be distinguished from other diseases, infections or infestations. | YES |
| **Criterion 4a:** Natural transmission to humans has been proven, and human infection is associated with severe consequences. | NO |
| **Criterion 4b:** The disease has been shown to have a significant impact on the health of domestic animals at the level of a country or a zone taking into account the occurrence and severity of the clinical signs, including direct production losses and mortality. | NO |
| **Criterion 4c:** The disease has been shown to, or scientific evidence indicates that it would, have a significant impact on the health of wildlife taking into account the occurrence and severity of the clinical signs, including direct economic losses and mortality, and any threat to the viability of a wildlife population. | NO |
| **CONCLUSION:** Does infection with *Theileria mutans* match the listing criteria that are described in the Terrestrial Animal Health Code Chapter 1.2? | NO |

## 2. Scientific rationale

### 2.1. Criterion 1: International spread of the pathogenic agent (via live animals or their products, vectors or fomites) has been proven

*Theileria mutans* is present in eastern, western and southern African countries throughout the range of its tick vectors [1]. Historically, there are a very few reports of its identification in countries outside of Africa (for example, England [2,3], USA [4], Australia [5], India [6], Guadeloupe [7]) but these may well be in error as subsequent publications with confirmation using modern diagnostic techniques have not appeared. For example, although it appears likely that international movement of animals in the 18th century was responsible for the importation of *Theileria* spp. from West Africa to the Caribbean islands, the report of T. mutans in Guadelope [7] was likely due to serological cross reaction with a closely related species [8].

**Assessment**: [YES] (in Africa)

### 2.2. Criterion 2: At least one country has demonstrated freedom or impending freedom from the disease, infection or infestation in populations of susceptible animals, based on the provisions of Chapter 1.4

Given the limited global distribution of infection with *Theileria mutans*, there is potential for many countries to demonstrate freedom or impending freedom from this infection.

The Commission notes that the disease is considered of such negligible importance so most countries have not prioritised efforts to demonstrate freedom.

Assessment: [NO]

### 2.3. Criterion 3: Reliable means of detection and diagnosis exist, and a precise case definition is available to clearly identify cases and allow them to be distinguished from other diseases, infections or infestations

The *WOAH Terrestrial Manual* chapter for theileriosis [9] makes reference to *Theileria mutans* and mentions a serological test (indirect enzyme-linked immunosorbent assay for *T. parva* and *T. mutans*) that is based on recombinant parasite-specific antigens, noting also that the schizonts of *T. mutans* are distinct from *T. parva* under microscopic examination. In addition, an early (1989) molecular methods (DNA probes) specific for *T. mutans* is referenced.

The Commission remarked that 'diagnosis' involves making the association between the pathogen and the presence of the pathogen. They noted that *T. mutans* may frequently be present as a co-infection with other more pathogenic *Theileria* species but may not be contributing to the disease.

Assessment: [YES]

### 2.4. Criterion 4a: Natural transmission to humans has been proven, and human infection is associated with severe consequences

No evidence identified.

Assessment: [NO]

### 2.5. Criterion 4b: The disease has been shown to have a significant impact on the health of domestic animals at the level of a country or a zone taking into account the occurrence and severity of the clinical signs, including direct production losses and mortality

*Theileria mutans* is commonly described as causing no disease, or only mild disease [9]. However, one source, although noting that 'its [*T. mutans*] only practical significance in southern Africa is the confusion that it causes in the differential diagnosis of *T. parva*' does state that 'in eastern Africa, pathogenic strains of the parasite occur, which may cause severe clinical illness and death' [1]. Nevertheless, no relevant information was identified concerning the occurrence and severity of the clinical signs, including direct production losses and mortality.

Assessment: [NO]

### 2.6. Criterion 4c: The disease has been shown to, or scientific evidence indicates that it would, have a significant impact on the health of wildlife taking into account the occurrence and severity of the clinical signs, including direct economic losses and mortality, and any threat to the viability of a wildlife population

*Theileria mutans* infects African buffalo, usually asymptomatically [10].

Assessment: [NO]

### 2.7. Conclusion

This assessment indicates that *T. mutans* does not meet the criteria of Chapter 1.2 and so should not be added to the list of notifiable diseases in Chapter 1.3 of the *Terrestrial Code*.

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**Annex 4.**

**12.2.3.2 Listing assessment for atypical bovine spongiform encephalopathy**

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 19 to 23 September 2022**

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This assessment for atypical bovine spongiform encephalopathy (aBSE) was conducted by the Scientific Commission for Animal Diseases during their September 2022 meeting.

## 1. Summary

| Criterion | Outcome |
|---|---|
| **Criterion 1:** International spread of the pathogenic agent (via live animals or their products, vectors or fomites) has been proven. | NO |
| **Criterion 2:** At least one country has demonstrated freedom or impending freedom from the disease, infection or infestation in populations of susceptible animals, based on the provisions of Chapter 1.4. | NO |
| **Criterion 3:** Reliable means of detection and diagnosis exist, and a precise case definition is available to clearly identify cases and allow them to be distinguished from other diseases, infections or infestations. | YES |
| **Criterion 4a:** Natural transmission to humans has been proven, and human infection is associated with severe consequences. | NO |
| **Criterion 4b:** The disease has been shown to have a significant impact on the health of domestic animals at the level of a country or a zone taking into account the occurrence and severity of the clinical signs, including direct production losses and mortality. | NO |
| **Criterion 4c:** The disease has been shown to, or scientific evidence indicates that it would, have a significant impact on the health of wildlife taking into account the occurrence and severity of the clinical signs, including direct economic losses and mortality, and any threat to the viability of a wildlife population. | NO |
| **CONCLUSION:** Does atypical bovine spongiform encephalopathy match the listing criteria that are described in the Terrestrial Animal Health Code Chapter 1.2? | NO |

## 2. Scientific rationale

### 2.1. Criterion 1: International spread of the pathogenic agent (via live animals or their products, vectors or fomites) has been proven

There is evidence of aBSE oral transmission to a single animal under extremely high dose of exposure and a lengthy incubation period [1]. However, there is no proven case of natural transmission of aBSE among animals, nor is there any evidence of international spread.

Assessment: [NO]

**2.2. Criterion 2: At least one country has demonstrated freedom or impending freedom from the disease, infection or infestation in populations of susceptible animals, based on the provisions of Chapter 1.4**

This is a disease that is spontaneously manifested, so it is impossible for any Member to confirm freedom from this pathogen. Whilst there are countries that have not reported detection of a case of aBSE, there is no known means by which a country can be assured that a spontaneous case of aBSE will not occur in the future. Therefore, due to the characteristics of this disease, this criterion is considered not to be met.

Assessment: [NO]

**2.3. Criterion 3: Reliable means of detection and diagnosis exist, and a precise case definition is available to clearly identify cases and allow them to be distinguished from other diseases, infections or infestations**

Reliable means of detection and diagnosis exist, and it is possible to clearly identify cases and distinguish them from other diseases, in particular cBSE.

Assessment: [YES]

**2.4. Criterion 4a: Natural transmission to humans has been proven, and human infection is associated with severe consequences**

There has been no case of aBSE reported in a human. However, given the similarity of aBSE to cBSE and the effectiveness of the measures currently adopted for cBSE, the Commission emphasised the importance of all Members continuing to apply these measures to prevent the potential recycling of infectious materials, and monitoring for the occurrence of aBSE.

Assessment: [NO]

**2.5. Criterion 4b: The disease has been shown to have a significant impact on the health of domestic animals at the level of a country or a zone taking into account the occurrence and severity of the clinical signs, including direct production losses and mortality**

This disease manifests spontaneously. It occurs very rarely and does not have a significant impact on the health of domestic animals at the level of a country or a zone.

Assessment: [NO]

**2.6. Criterion 4c: The disease has been shown to, or scientific evidence indicates that it would, have a significant impact on the health of wildlife taking into account the occurrence and severity of the clinical signs, including direct economic losses and mortality, and any threat to the viability of a wildlife population**

The Commission could find no evidence that natural infection of wildlife with aBSE has occurred.

Assessment: [NO]

**2.7. Conclusion**

The Commission concluded that atypical bovine spongiform encephalopathy does not meet the listing criteria of Chapter 1.2 of the *Terrestrial Code*.

**References**

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**Annex 5.**

**12.2.4.1 Listing assessment for Strangles (*Streptococcus equi* subsp. *equi*)**

**SUMMARY OF THE EXPERT ASSESSMENT OF INFECTION WITH *STREPTOCOCCUS EQUI* (STRANGLES) AGAINST THE LISTING CRITERIA OF *WOAH TERRESTRIAL CODE* CHAPTER 1.2. (JANUARY 2022)**

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 19 to 23 September 2022**

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Three experts participated in this consultation:

- **Prof. Ashley Boyle** (University of Pennsylvania, United States of America)
- **Dr Richard Newton** (British Horseracing Association, United Kingdom)
- **Prof. Seongho Ryu** (Jeju Halla University, Republic of Korea).

## 1. Summary

| Criterion | 1 | 2 | 3 |
|---|---|---|---|
| **Criterion 1:** International spread of the pathogenic agent (via live animals or their products, vectors or fomites) has been proven. | YES | YES | YES |
| **Criterion 2:** At least one country has demonstrated freedom or impending freedom from the disease, infection or infestation in populations of susceptible animals, based on the provisions of Chapter 1.4. | YES | YES | YES |
| **Criterion 3:** Reliable means of detection and diagnosis exist, and a precise case definition is available to clearly identify cases and allow them to be distinguished from other diseases, infections or infestations. | YES | YES | YES |
| **Criterion 4a:** Natural transmission to humans has been proven, and human infection is associated with severe consequences. | NO | NO | YES |
| **Criterion 4b:** The disease has been shown to have a significant impact on the health of domestic animals at the level of a country or a zone taking into account the occurrence and severity of the clinical signs, including direct production losses and mortality. | YES | YES | YES |
| **Criterion 4c:** The disease has been shown to, or scientific evidence indicates that it would, have a significant impact on the health of wildlife taking into account the occurrence and severity of the clinical signs, including direct economic losses and mortality, and any threat to the viability of a wildlife population. | NO | NO | NO |
| **CONCLUSION:** Does infection with *Streptococcus equi* match the listing criteria that are described in the Terrestrial Animal Health Code Chapter 1.2? | YES | YES | YES |

## 2. Scientific rationale

### 2.1. Criterion 1: International spread of the pathogenic agent (via live animals or their products, vectors or fomites) has been proven

A recent genome sequencing project investigating genetic relationships among 670 *Streptococcus* equi isolates recovered from 19 different countries confirmed national and international transmission events maintaining endemic strangles in horse populations throughout the world [1]. The high-resolution sequencing included examples of genomically identical isolates recovered from different geographically diverse locations but which were definitively linked by international movement of horses. This provides very strong scientific evidence of the international spread of strangles.

### 2.2. Criterion 2: At least one country has demonstrated freedom or impending freedom from the disease, infection or infestation in populations of susceptible animals, based on the provisions of Chapter 1.4

Iceland's equine population is free from *S. equi* subsp. *equi* [2,3].

Iceland's equine population was established by introduction of animals by settlers in the 9th and 10th century, and has been geographically isolated since that time as subsequent imports were banned.

### 2.3. Criterion 3: Reliable means of detection and diagnosis exist, and a precise case definition is available to clearly identify cases and allow them to be distinguished from other diseases, infections or infestations

A precise case definition is available of both acute and carrier states. Acute disease is characterized by pyrexia, mucopurulent nasal discharge, and abscessation of the lymph nodes of the head and neck [4,5].

The etiological agent for strangles is *Streptococcus equi* subsp *equi* and can be differentiated from other bacteria (in particular *Streptococcus equi* subsp *zooepidemicus*) via culture techniques [6] or PCR assays [7,8]. Carrier status is defined by a positive culture or PCR obtained from the nasopharynx or guttural pouch six weeks or longer after the acute infection [9]. Rapid, sensitive and specific molecular detection methods recently have been reviewed [10].

### 2.4. Criterion 4a: Natural transmission to humans has been proven, and human infection is associated with severe consequences

Streptococcus *equi* subsp. *equi* is an invasive pathogen with a very restricted host range. However, one expert noted the potential zoonotic role of *Streptococcus equi* subsp. *equi* [11–14]. Infections of humans with this pathogen appear to occur very rarely (usually in immunocompromised persons) after close contact with horses, and may be associated with bacteremia, sepsis, and meningitis.

### 2.5. Criterion 4b: The disease has been shown to have a significant impact on the health of domestic animals at the level of a country or a zone taking into account the occurrence and severity of the clinical signs, including direct production losses and mortality

Infection with *S. equi* subsp. *equi* is classically characterised by acute pyrexia followed by pharyngitis and associated inappetence and subsequent abscess formation in the submandibular and retropharyngeal lymph nodes, often followed by marked purulent nasal discharge; coughing and ocular discharge may also be noted (reviewed as a consensus by Boyle et al. [15]). The disease can occur in horses of any age and fatality rates have been reported at 1 to 10%, and rates of morbidity are far higher. Strangles causes profound disruption and economic losses to the equine industry, and is one of the most challenging equine infectious diseases to manage (perspective with examples provided by Waller [16]). The disease is considered endemic in most countries where it occurs and affected premises may have long-standing recurring bouts of clinical disease, which carry considerable health and welfare consequences for affected horses.

### 2.6. Criterion 4c: The disease has been shown to, or scientific evidence indicates that it would, have a significant impact on the health of wildlife taking into account the occurrence and severity of the clinical signs, including direct economic losses and mortality, and any threat to the viability of a wildlife population

No evidence found to support this criterion.

### 2.7. Conclusion

The experts were unanimous in their opinion that infection with *Streptococcus equi* subsp. *equi* (*S. equi*, strangles) fulfilled the criteria for listing outlined in *WOAH Terrestrial Code* Chapter 1.2.

They noted that inclusion of this condition in the OIE list would help ensure that asymptomatic carriers are prevented from spreading the organism between countries, and that this will improve the health and welfare of equids around the world, as well as providing economic benefits for the equestrian community.

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**Annex 6.**

**12.3.2.1 Report of the Development of the Case Definition for Infection with Avian Metapneumovirus (Turkey Rhinotracheitis)**
**2 July 2021 to 21 January 2022**

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 19 to 23 September 2022**

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The objective of this report is to provide the rationale and scientific justification for elements of the case definition for infection with avian metapneumovirus (turkey rhinotracheitis), developed via videoconference and email exchanges between 2 July 2021 and 21 January 2022.

The purpose of the case definition is to support notification to the WOAH as described in the *Terrestrial Animal Health Code* (the *Terrestrial Code*) Chapter 1.1.

Details of the experts and WOAH staff who contributed to the drafting process are provided in Appendix 1.

## 1. Process

The Official 2021-1 provides a synopsis of this initiative: 'Developing case definitions for OIE-listed diseases for terrestrial animals'[1].

This report including the draft case definition will be presented for consideration first to the Biological Standards Commission (BSC) and then to the Specialist Commission for Animal Diseases (SCAD) at their next meetings. After endorsement by SCAD, and provided there is no conflict with the *WOAH Terrestrial Code*, the finalised case definition will be published on the WOAH website and, following the standard-setting process, eventually will be included in the *Terrestrial Code*.

## 2. Background

Turkey rhinotracheitis is listed in the *WOAH Terrestrial Code* Chapter 1.3 'Diseases, infectious and infestations listed by the OIE' in Article 1.3.6 in the category of 'avian diseases and infections'. There is no corresponding disease-specific chapter in the *WOAH Terrestrial Code*, but the current WOAH Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (the *WOAH Terrestrial Manual* ) contains Chapter 3.3.15 'Turkey rhinotracheitis'. An update to the *WOAH Terrestrial Manual* chapter was amended by BSC in September 2021 and circulated to Members for first-round comments.

WOAH WAHIS was consulted on 15 December 2021 for summary information[2] on 'turkey rhinotracheitis' developed from data contained in official reports (six-monthly reports, immediate notification and follow-up reports). Figure 1 summarises the total numbers of new outbreaks reported to the WOAH between January 2006 and June 2021.

## 3. Discussion

### 3.1. Disease name

The experts expressed concern with use of the name 'turkey rhinotracheitis' as the disease affects a wide range of wild and domestic bird species in addition to turkeys. Noting that the title of the *WOAH Terrestrial Manual* Chapter 3.3.15 (amended by BSC in September 2021) has been updated to 'Turkey rhinotracheitis (avian metapneumovirus infections)', the experts suggested that the OIE listing in the *WOAH Terrestrial Code* for this condition be amended to follow the pattern of 'infection with [pathogenic agent]'.

### 3.2. Pathogenic agent

The pathogenic agent for 'turkey rhinotracheitis' is avian metapneumovirus (aMPV), a single-stranded non-segmented negative-sense RNA virus belonging to the family *Pneumoviridae*, genus *Metapneumovirus* [1].

[1] https://oiebulletin.fr/?officiel=10-3-2-2021-1_case-definitions
[2] https://wahis.oie.int/#/dashboards/qd-dashboard

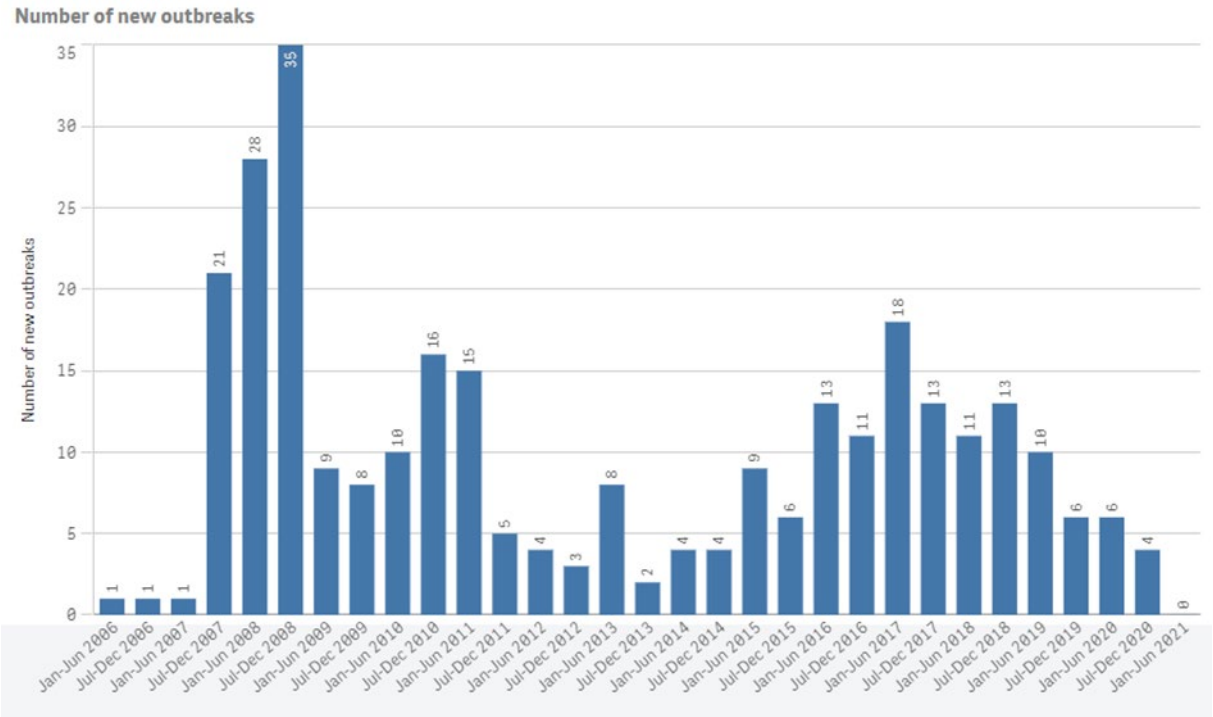


***Figure 1 New outbreaks of 'turkey rhinotracheitis' notified to WAHIS by Members between January 2006 and June 2021.***

### 3.3. Host

The experts noted that a wide range of wild and domestic bird species (including Galliformes and ducks) are susceptible to infection with aMPV [2]; however, for the purpose of notification to the WOAH, they recommended that animal hosts for infection with aMPV be 'poultry', as defined in the *WOAH Terrestrial Code* Glossary.

### 3.4. Epidemiologic and diagnostic criteria

The experts identified four options (any one of which is sufficient) to confirm a case of infection with aMPV for the purposes of notification to the WOAH (Appendix 1).

The clinical signs associated with infection with aMPV in susceptible animals are non-specific and diagnosis must be confirmed with laboratory testing [3]. Consequently, the experts did not include presence of clinical signs in any of the four options proposed for confirming a case for the purposes of notification.

#### 3.4.1. Option 1

The experts agreed that isolating and characterising aMPV in samples from poultry would be sufficient to confirm a case of infection with aMPV. They elected to omit 'excluding vaccine strains' from this option, noting that disease prevention may be achieved in poultry flocks using either inactivated or live vaccines, or a combination of both [3], and that reversion to virulence has been documented following use of live vaccines [4,5].

#### 3.4.2. Option 2

The experts noted the many examples in the *WOAH Terrestrial Code* where confirmation of a case of 'infection with pathogenic agent' by detection of materials such as antigen or ribonucleic acid is supported by the requirement for additional information (e.g. epidemiologic link to a confirmed case, or suspicion of exposure to pathogenic agent). Examples include infection with foot and mouth disease virus (Chapter 8.8.)[3], infection with African swine fever virus (Chapter 15.1.)[4], infection with classical swine fever virus (Chapter 15.2.)[5], infection with African horse sickness virus (Chapter 12.1)[6].

3 https://www.oie.int/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access/index.php?id=169&L=1&htmfile=chapitre_fmd.htm
4 https://www.oie.int/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access/index.php?id=169&L=1&htmfile=chapitre_asf.htm
5 https://www.oie.int/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access/index.php?id=169&L=1&htmfile=chapitre_csf.htm
6 https://www.oie.int/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access/index.php?id=169&L=1&htmfile=chapitre_ahs.htm

In addition, the experts noted the need to consider the purpose of the case definition, which in this case is notification to the WOAH for the purposes of managing the spread of important animal diseases and achieving better disease control. In this context, confirmation of a case can trigger requirements for risk mitigation actions, so requiring substantiating evidence of the presence of actual disease or infection is reasonable.

Nevertheless, the experts considered that the increasingly wide availability of newer technologies such as next-generation sequencing (NGS) may result in identification of pathogens without previous suspicion (i.e. epidemiological links or clinical signs). These technologies offer sufficient confidence in the identification of the agent by the laboratory testing alone, making redundant the need for supplemental evidence. Therefore, the experts did not consider it necessary to include additional options for supporting the confirmation of a case of infection with aMPV by detection of antigen or ribonucleic acid specific to aMPV that is not the consequence of vaccination. Noting that this development has broad application across many pathogenic agents, the experts invite the Specialist Commissions to consider the possibility of omitting the requirement for supporting evidence from case definition options that cover the detection of antigenic material or ribonucleic acid.

#### 3.4.3. Option 3

The experts discussed the role of detection of antibodies that are not a consequence of vaccination in confirming a case of infection with aMPV, and identified two satisfactory options (3 and 4). The experts noted that an antibody response would be expected following vaccination, and agreed that results of testing that might be conducted to monitor a vaccination program should not inappropriately trigger a requirement for notification.

The experts used the term 'seroconversion' to indicate that option 3 requires sequential sampling to demonstrate an increase in serological titres over time from the same flock. The experts considered that this term should be included and explained in the Glossary of the *WOAH Terrestrial Manual* .

#### 3.4.4. Option 4

Option 4 was developed to address the situation where sequential samples were not available, and describes two options for supporting evidence that (together with the results of the antibody testing) are sufficient for confirmation of a case.

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…/Appendix

**Report of the Development of the Case Definition for Infection with Avian Metapneumovirus (Turkey Rhinotracheitis)**
**2 July 2021 to 21 January 2022**

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**Annex 7.**

**12.3.2.2 Report of the Development of the Case Definition for Infection with Pathogenic Rabbit Lagoviruses (Rabbit Haemorrhagic Disease)**
(9 March to 25 August 2022)

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 19 to 23 September 2022**

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The objective of this report is to provide the rationale and scientific justification for elements of the case definition for infection with pathogenic rabbit lagoviruses (rabbit haemorrhagic disease) which was developed via videoconference and email exchange between 9 March and 25 August 2022.

The purpose of the case definition is to support notification to the WOAH as described in the WOAH *Terrestrial Animal Health Code* (the *Terrestrial Code)* Chapter 1.1.

Details of the external experts and WOAH staff who contributed to the drafting process are provided in Appendix 1.

## 1. Process

The Official 2021-1 provides a synopsis of this initiative: 'Developing case definitions for OIE-listed diseases for terrestrial animals' [1].

This report and the draft case definition will be presented for consideration first to the Biological Standards Commission (BSC) and then to the Scientific Commission for Animal Diseases (SCAD) at their next meetings. After endorsement by SCAD, and provided there is no conflict with either the WOAH *Terrestrial Code* or the WOAH Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (the *WOAH Terrestrial Manual* ), the finalised case definition will be published on the WOAH website and, following the standard-setting process, eventually will be included in the *Terrestrial Code*.

## 2. Background

Rabbit haemorrhagic disease is listed in the *WOAH Terrestrial Code* Chapter 1.3 'Diseases, infections and infestations listed by the OIE' in Article 1.3.7. in the category of 'lagomorph diseases and infections'. While there is a corresponding disease-specific chapter in the *WOAH Terrestrial Code* (Chapter 13.2 'Rabbit haemorrhagic disease', most recent update 2012), it does not include a case definition. The *WOAH Terrestrial Manual* contains Chapter 3.7.2. 'Rabbit haemorrhagic disease' (version adopted 2021).

WOAH-WAHIS was consulted on 29 April 2022 for summary information[1] on 'rabbit haemorrhagic disease' developed from data contained in official reports (six-monthly reports, immediate notification, and follow-up reports). Figure 1 summarises the total numbers of new outbreaks reported to the WOAH between January 2005 and December 2021.

## 3. Discussion

### 3.1. Disease name

The experts recommended that references to 'rabbit haemorrhagic disease' in the WOAH *Terrestrial Code* are updated to 'infection with pathogenic rabbit lagoviruses' as this is consistent with the current WOAH convention for listing terrestrial animal diseases and better accommodates the recently expanded host range of the pathogenic agent.

### 3.2. Pathogenic agent

The original or 'classic' pathogenic rabbit lagovirus (rabbit haemorrhagic disease virus, or RHDV) was identified in the 1980s in China. Since then, at least two distinct phylogenetic groups of pathogenic rabbit lagoviruses have been recognised: 1) RHDV and 2) RHDV2 [4,5]. RHDV and RHDVa belong to the same serotype, and are collectively referred to as RHDV [6].

[1] https://wahis.woah.org/#/dashboards/qd-dashboard

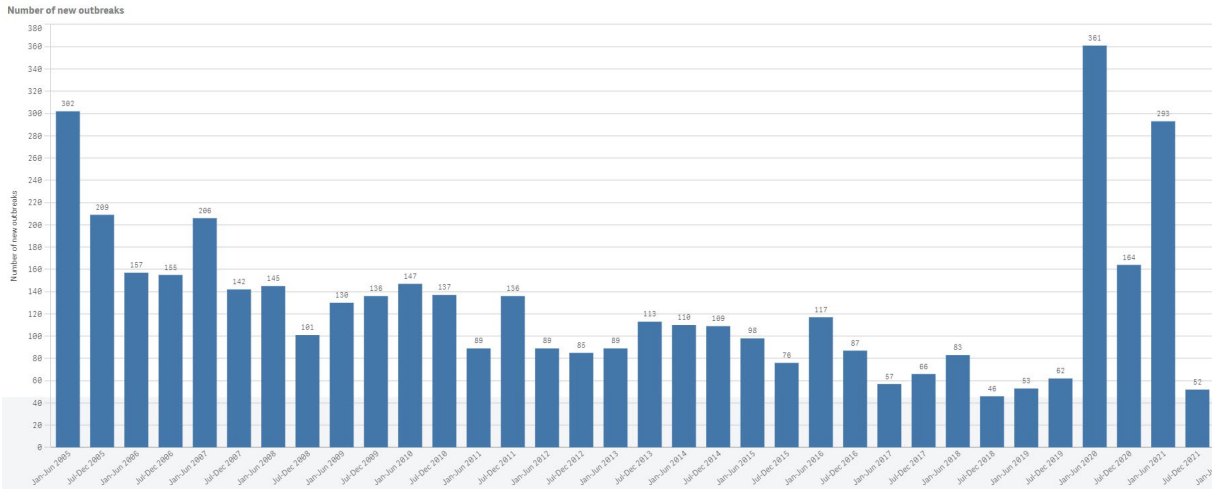


*Figure 1 New outbreaks of 'rabbit haemorrhagic disease' notified to WOAH-WAHIS by Members between January 2005 and December 2021.*

A related pathogenic lagovirus (European brown hare syndrome virus) is associated with a similar clinical syndrome in European hares ('European brown hare syndrome'), but is not included in the scope of this case definition. Currently, European brown hare syndrome is not listed by WOAH in the *Terrestrial Code* Chapter 1.3 but is considered a 'non-OIE listed disease affecting wildlife'.

### 3.3. Hosts

RHDV has only ever been isolated from domestic and wild rabbits (*Oryctolagus cuniculus*) [7]. However, RHDV2 which emerged around 2010 in rabbits in Europe [4] also causes disease in several *Lepus* (hare) [5,8–10] and *Sylvilagus* (including American cottontails) species [11,12]. Recently, RHDV2 has been isolated from the Eurasian badger (*Meles meles*) but there is currently no evidence that this species contributes to the epidemiology of the disease [13].

For purposes of notification to WOAH, the host animals for infection with pathogenic rabbit lagoviruses are defined as leporids. This family includes three genera: rabbits, hares, and cottontail (*Sylvilagus*) species.

### 3.4. Epidemiologic and diagnostic criteria

The experts identified one option for confirming a case of infection with pathogenic rabbit lagoviruses for the purposes of notification to the WOAH. However, another three options commonly incorporated in other WOAH case definitions were not used by the experts for defining infection with pathogenic rabbit lagoviruses.

Virus isolation was not considered an option as there are no in vitro (cell culture) methods for isolation of virus. Although isolation of virus through inoculation of rabbits is possible, welfare concerns preclude using this technique for routine diagnosis.

Seroconversion alone was not included because, although serological tests are available [14,15], the experts felt that seroconversion with its requirement for repeat testing would be of little use in confirming a case of infection with pathogenic rabbit lagovirus, for reasons including: 1) the short incubation period of the disease and high mortality, 2) the ease of direct diagnosis performed with readily available techniques, 3) the limited possibility to distinguish vaccinated from infected rabbits, and 4) the existence and worldwide diffusion of non-pathogenic but antigenically related lagoviruses [14–17].

The experts noted that this option is likely to only be used in rare occasions and when Option 1 (detection of antigen or nucleic acid specific to pathogenic rabbit lagovirus) is not applicable. Pathogenic rabbit lagovirus generally kills an unvaccinated leporid host within hours and there is insufficient time for the host to mount an immune response and develop specific antibodies [5].

#### 3.4.1. Option 1

The experts agreed that detection of either antigen or nucleic acid specific to pathogenic rabbit lagovirus is suitable for confirmation of a case, provided it is accompanied by additional evidence (presence of clinical signs or pathological lesions, or epidemiological link to suspected or confirmed case, or suspicion of previous association or contact with the virus).

### 3.5. Potential for conflict with existing WOAH standards

#### 3.5.1. WOAH Terrestrial Manual

In 'A. Introduction' of the *WOAH Terrestrial Manual* Chapter 3.7.2. 'Rabbit haemorrhagic disease', rabbit haemorrhagic disease is stated to be 'caused by a calicivirus (genus *Lagovirus*, family Caliciviridae)…'. It is noted that the genus *Lagovirus* also contains the causative agent of a disease of the brown hare (European brown hare syndrome virus, EBHSV) but that the two viral species (RHDV and EBHSV) are distinct from each other. Later in this section there is discussion of rabbit haemorrhagic disease resulting from infections with subtype RHDVa and the new RHDV-related virus RHDV2 (initially also called RHDVb). RHDV2 is described as affecting hares as well as rabbits. A new taxonomic classification based mainly on phylogenetic relationships of viral agents belonging to the genus *Lagovirus* has been proposed [15] but has not been adopted by ICTV [18,19] who confirmed the previous classification [20]. Consequently, the current ICTV classification was used in the chapter.

***Table 1.*** *Test methods available for the diagnosis of rabbit haemorrhagic disease and their purpose*

| Method | Purpose | | | | | |
|---|---|---|---|---|---|---|
| | Population freedom from infection | Individual animal freedom from infection prior to movement | Contribute to eradication policies | Confirmation of clinical cases | Prevalence of infection – surveillance | Immune status in individual animals or populations post-vaccination |
| **Detection of the agent[1]** | | | | | | |
| **ELISA** | + | – | ++ | +++ | + | – |
| **EM** | – | – | – | ++ | – | – |
| **HA** | – | – | – | + | – | – |
| **Real-time RT-PCR** | + | – | ++ | +++ | + | – |
| **Detection of immune response** | | | | | | |
| **C-ELISA** | +++ | +++ | +++ | – | +++ | +++ |
| **IsoELISA** | ++ | +++ | ++ | ++ | ++ | ++ |
| **HI** | ++ | ++ | ++ | – | ++ | ++ |

Key: +++ = recommended for this purpose; ++ recommended but has limitations;
+ = suitable in very limited circumstances; – = not appropriate for this purpose.
ELISA = enzyme-linked immunosorbent assay; EM = electron microscopy; HA = haemagglutination test;
RT-PCR = reverse-transcription polymerase chain reaction; C-ELISA = competitive ELISA;
isoELISA = isotype ELISA; HI = haemagglutination inhibition test.

Table 1 of the *WOAH Terrestrial Manual* identifies IsoELISA as suitable ('++') for confirmation of clinical cases. However, the case definition as currently proposed does not include options for detection of immune responses, so could be considered to conflict with Table 1.

**Assessment**: The case definition as proposed may conflict with Table 1 of the *WOAH Terrestrial Manual* . In addition, it is recommended that Chapter 3.7.2 of the *WOAH Terrestrial Manual* be amended to more clearly define those entities considered to be pathogenic rabbit lagoviruses.

#### 3.5.2. Terrestrial Code

Leporids—the host animals according to the case definition—are included in the order Lagomorpha, so the case definition is consistent with the categorisation used in *WOAH Terrestrial Code* Chapter 1.3. Further, Section 13 of the *WOAH Terrestrial Code* is entitled 'Leporidae', so this is also consistent with the case definition.

The disease-specific chapter 13.2 'Rabbit haemorrhagic disease' does not include any form of case definition. It contains no provisions for leporids other than rabbits. In particular, Article 13.2.2 mentions that virological or serological surveys in both domestic and wild rabbits can confirm the absence of the disease.

In section 10.3 of its September 2021 report[2], SCAD recommended that the Terrestrial Animal Health Standards Commission (Code Commission) add the revision of Chapter 13.2 to its work programme, noting that the chapter currently contains neither a case definition not provisions for recovery of free status.

**Assessment**: Despite host species not being mentioned in Article 13.2.1, there is a possible conflict between the case definition proposed by the experts and the *WOAH Terrestrial Code* by omission (i.e. hares and *Sylvilagus* spp.) under Article 13.2.2 'RHD free country'. It is recommended that the provisions of Chapter 13.2 be amended to reflect the expanded host range of the case definition.

### 3.5.3. Conclusion

The case definition, once endorsed, should not be published on the WOAH website but instead be forwarded to Code Commission to inform their revisions of, and for incorporation into, Chapter 13.2 of the *Terrestrial Code*. In parallel, the Biological Standards Commission will be invited to consider the issues raised and propose their resolution in their report.

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…/Appendix

**Report of the Development of the Case Definition for Infection with Pathogenic Rabbit Lagoviruses (Rabbit Haemorrhagic Disease)**

**Virtual, 9 to 25 August 2022**

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**Annex 8.**

**Work Programme of the WOAH Scientific Commission for Animal Diseases (September 2022)**

**MEETING OF THE WOAH SCIENTIFIC COMMISSION FOR ANIMAL DISEASES**

**Paris, 19 to 23 September 2022**

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**Abbreviations**: BSC: Biological Standards Commission; SCAD: Scientific Commission for Animal Diseases; TAHSC: Terrestrial Animal Health Standards Commission (Code Commission).

| | | **September 2022** |
|---|---|---|
| **Update of WOAH Standards** | | |
| | **Glossary** | **Not on agenda** |
| 1 | Ch. 1.2. 'Criteria for the inclusion of diseases, infections or infestations in the OIE list' | SCAD discussed examples for each criterion where problems had been identified by experts or themselves, either with the criterion or with its interpretation. SCAD proposed revisions to the guidance document aimed at improving experts' interpretation of the listing criteria. In addition, they recommended that the Listing SOP be updated such that criterion 1 is assessed internally by WOAH prior to the request being presented to the DDG. At this time, no specific revisions to Chapter 1.2 are recommended, but SCAD welcomes the opportunity to be involved in the discussions when next the chapter is opened for revision. SCAD's opinion was forwarded to TAHSC for their consideration. |
| 1 | Ch. 1.3. 'Diseases, infections and infestations listed by the OIE' | SCAD does not consider the categorisation of Chapter 1.3 as being science-based, but agrees that they provide administrative convenience and provides useful guidance regarding primary species of concern, especially when there is no case definition. However, science-based case definitions should not be constrained by the existing species categorisation within Chapter 1.3.<br>SCAD invites TAHSC to consider SCAD's opinion and ensure consistencies between the categorization of Chapter 1.3 and the section of Volume II of the *Terrestrial Code*.<br>SCAD's opinion provided to TAHSC. |
| | Ch.8.8. Infection with foot and mouth disease virus | Not on agenda |
| | Ch. 8.14. 'Infection with rabies virus' | SCAD responded to the comment forwarded from TAHSC from the EU regarding their position against reducing the waiting period after antibody testing for importation of vaccinated dogs from infected countries (from 3 months to 30 days). SCAD noted that EFSA used in their model the incubation time as parameter, as explained in their report, and thus considered the waiting period initiating from time of exposure rather than time of antibody detection. SCAD emphasised the experimental data that demonstrates that rabid dogs that develop antibodies die on average 7 days after antibody detection (range 0 to 13 days). Therefore, a waiting period of at least 30 days **after antibody detection** will eliminate any residual risks of legally importing rabid dogs that are incubating the disease. The opinion was forwarded to TAHSC. |

| | | September 2022 |
|---|---|---|
| | Chapter 8.15. Infection with Rift Valley fever virus | |
| | Chapter 8.16. Infection with rinderpest virus | SCAD reviewed the two questionnaires, one for the recovery of free status and the other for the risk assessment of all other Members without a case, and suggested few amendments. |
| 1 | Chapter 8.X. Infection with *Trypansoma evansi* (surra) | Not on agenda |
| | Ch. 11.4. Bovine spongiform encephalopathy | SCAD considered specific questions forwarded by TAHSC with regard to the listing/notifiability of atypical BSE and its consideration in the exposure assessment. See also item under listing of diseases. |
| | Ch. 12.1. Infection with African horse sickness virus | Not on agenda |
| | Ch. 12.2. Contagious equine metritis | Not on agenda |
| | Chapter 12.3. 'Dourine' | Not on agenda |
| | Ch. 12.7. Equine piroplasmosis | Not on agenda |
| **Official animal health status recognition** | | |
| 1 | Evaluation of Member dossiers | Not applicable. SCAD was updated on the state of play of applications submitted by Members. |
| 2 | Expert missions to Members | SCAD prioritised in-country missions to be deployed to monitor continuous compliance with the *WOAH Terrestrial Code* requirements for maintenance of official status. |
| 2 | Follow up of Members with official animal health status or with suspended status | SCAD noted the suspension of official status that occurred since its last meeting in February 2022: Indonesia (FMD) Kazakhstan (five FMD zones without vaccination, CSF), Botswana (one FMD zone without vaccination). |
| 1 | Review of annual reconfirmations | SCAD identified 48 annual reconfirmations for comprehensive review its February 2023 meeting. SCAD also agreed on a work strategy for revising the annual reconfirmation dossiers during the months prior to the February meeting. |
| 1 | Harmonisation of the requirements in the *WOAH Terrestrial Code* Chapters for recognition and maintenance of official animal health status | Not on agenda |
| 1 | Impact of revisions of BSE standards on Members' BSE risk status | SCAD considered the *ad hoc* Group report on the revision of the BSE standards and maintenance of official BSE risk status (22 to 24 June 2022) as well as the recommendations of the *ad hoc* Group of the additional questions sent to two Members following the meeting of June 2022. |
| **Disease control issues** | | |
| 2 | Advise on global strategies and initiatives (FMD, PPR, rabies, ASF) | Updates were provided on the global strategies/initiatives for PPR and ASF. |
| **Disease control issues** | | |
| 1 | Consider non-disease-Status and non-standard-setting *ad hoc* Groups reports falling into the SCAD remit | None at this meeting. |
| 2 | Assess recent developments in control and eradication of infectious diseases | **Capturing genotype information in WAHIS**: WAHIAD advised that it is possible to activate an optional field to capture serotype/subtype/genotype information for most |

| | | September 2022 |
|---|---|---|
| | | diseases in WAHIS, and that WAHIAD considered that doing so would support Members' disease control efforts for some diseases, while for others, WAHIAD could see little benefit to Members resulting from activation of this field. SCAD provided feedback, noting that (in general), collection of this information would be helpful to inform Members' knowledge of the epidemiology of the diseases, and to inform risk assessments. In addition, they felt that it was important that this field be activated for all listed zoonotic diseases that have severe public health impacts. SCAD disagreed with WAHIAD's assessment that activation of the field would not be useful for lumpy skin disease, and for *Mycobacterium tuberculosis* complex. |
| 1 | Evaluation of emerging diseases | SCAD expressed its appreciation for the revisions made to the **Emerging Diseases SOP** (April 2022) but requested that a flowchart be developed to assist in understanding the flow of the activities.<br><br>SCAD reviewed the information provided by WAHIAD concerning **three diseases** previously reported to WOAH as emerging diseases. SCAD agreed that the disease events for both *Ehrlichia canis* and pigeon rotavirus should be closed in WAHIS and that there was no need to proceed to an emerging disease assessment. SCAD noted that, as a listing assessment had been conducted for porcine epidemic diarrhoea virus (decision: not to list), this disease is not an emerging disease and WAHIS should be updated accordingly. WAHIAD was advised of SCAD's decision.<br><br>**Monkeypox**: SCAD reviewed recent information and confirmed that its opinion from its August assessment that infection with monkeypox is not an emerging disease in animals was unchanged.<br><br>**Avian influenza (H3N8)**: SCAD reviewed recent information and confirmed that its opinion from its August assessment that infection with avian influenza (H3N8) is not an emerging disease in animals was unchanged<br><br>**Infection with SARS-CoV-2**: SCAD determined that there was as yet insufficient information to support conducting a listing assessment for infection with this pathogenic agent, but recommended that it be retained on the Register of Emerging Diseases. |
| 1 | Evaluation of pathogenic agents against the listing criteria of Chapter 1.2. | See discussion above regarding consideration of the listing criteria of Chapter 1.2, and of the categorisation used in Chapter 1.3 (and Volume II) of the *Terrestrial Code*.<br><br>***Theileria mutans***: SCAD conducted the assessment themselves during the meeting, and concluded that *T. mutans* did not meet listing criteria (2) or any of the elements of (4), so should not be added to the list.<br><br>**Atypical bovine spongiform encephalopathy (aBSE)**: at the request by TAHSC and with the agreement of the DDG (as per the listing SOP), SCAD conducted the listing assessment for this pathogenic agent. They assessed criteria 1, 2, and all components of 4 as [NO] and concluded that atypical BSE should be removed from the list.<br><br>***Streptococcus equi* subsp. *equi***: SCAD finalised the assessment, noting that criterion (3) had been assessed as [YES] by BSC in Feb. 2022. SCAD considered that this pathogenic agent did not meet any of the components of listing criterion (4) and concluded that it |

| | | September 2022 |
|---|---|---|
| | | should not be added to the list. They noted that the subject-matter experts (who unanimously selected [YES] for 4 (b)) made their assessment at the level of individual, farm, or industry, and not at that of a country or zone. |
| 1 | Development of case definitions | SCAD commended the work on the internal processes for case definition development and noted progress made.<br><br>**Infection with avian metapneumovirus (turkey rhinotracheitis):** the case definition was revised, discussed with BSC, and endorsed. As no conflicts were identified with either *WOAH Terrestrial Code* or *Manual*, the case definition will be placed on the website in due course.<br><br>**Infection with rabbit haemorrhagic disease virus**: the case definition was revised, discussed with BSC, and endorsed. As a potential conflict with the *WOAH Terrestrial Code* was identified, the case definition was transferred to TAHSC, and will not be published on the website in the interim. |
| 3 | Insects | SCAD was updated on the key findings of the 41st edition of the WOAH *Scientific and Technical Review* 'Safety, regulatory and environmental issues related to international trade of live insects'. A key challenge is the absence of an overarching framework for the international trade in insects. Potential actions that may be taken by WOAH to improve the conditions for insect trade were outlined. |
| **Liaison with other Specialist Commissions** | | |
| 1 | Terrestrial Animal Health Commission | ***Mycobacterium tuberculosis* complex**: SCAD noted that in their meeting in Feb. 2022 TAHSC did not agree with SCAD's recommendation to expand the definition of *Mycobacterium tuberculosis* complex used by WOAH for the purposes of the *WOAH Terrestrial Code* to include any member of the complex (specifically including *M. bovis, M. caprae* and *M. tuberculosis*) but excluding vaccine strains. SCAD noted that the listing SOP provides a pathway for inclusion of additional strains of *M. tuberculosis* in the complex.<br><br>**Framework for *WOAH Terrestrial Code* standards: disease-specific chapter:** SCAD reviewed the information provided and returned comments to TAHSC on the proposed sections for 'General Provisions' and 'Recommendations on surveillance'.<br><br>**Proposal for new Biosecurity chapter:** SCAD agreed on the need for the chapter and felt that it should be at a high level describing the overarching principles of biosecurity to support the Veterinary Authorities to enforce regulation. SCAD provided their opinion to TAHSC. [Note: TAHSC's position differed.]<br><br>**Requested revision of *WOAH Terrestrial Code* Chapters 8.10, 12.4, 12.11:** SCAD noted that these chapters are very rudimentary and last updated in 2000, 1968, and 1998, respectively. SCAD agreed that the scientific evidence does not support the need to have provisions for horses for Japanese encephalitis (Article 8.10.2) but recommended that these diseases are assessed against the listing criteria to confirm they should be retained on the list prior to beginning work on revision of the chapters. |

| | | September 2022 |
|---|---|---|
| 1 | Biological Standards Commission | BSC and SCAD met virtually soon after the SCAD meeting to discuss the work on case definitions. |
| **Working Groups** | | |
| 2 | Antimicrobial Resistance Working Group | The Commission was updated on two topics: the revision of Chapter 6.10 'Responsible and prudent use of antimicrobial agents in veterinary medicine'; and the development of a technical reference document of antimicrobials of veterinary importance for swine. |
| 2 | Wildlife Working Group | The Commission provided feedback on a revised document on considerations on the vaccination of wild animals of high conservation value. |
| **Other activities that could impact SCAD work programme** | | |
| 1 | Evaluation of applications for WOAH Collaborating Centre status | None at this meeting |
| 3 | Update on the main conclusion/ recommendations of meetings relevant for the work of the Commission | None at this meeting |
| 3 | Updates provided for SCAD information | SCAD was updated on: OFFLU; STAR-IDAZ International Research Consortium; Global Burden of Animal Diseases (GBAD) programme and the WOAH Collaborating Centre for the Economics of Animal Health; WOAH Observatory; and WOAH research coordination activities. |
| | Any other business | None at this meeting |