Report of the WOAH Scientific Commission for Animal Diseases

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World Organisation for Animal Health
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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 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

[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

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.

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.

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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

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

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 *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.

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.

[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

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 Standards Commission.

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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Dr Charmaine Chng
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Dr Monal Daptardar
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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.

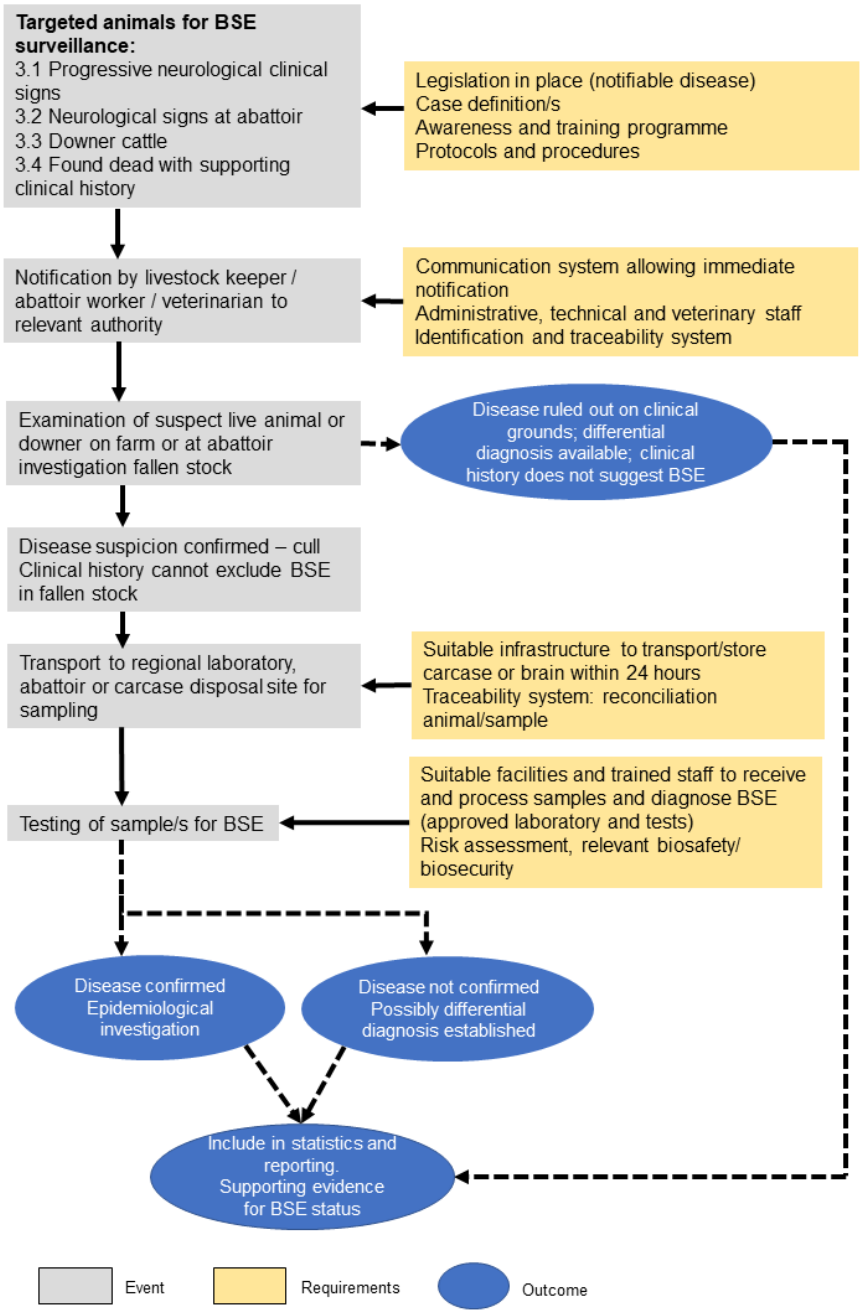

Figure 1. Overview of the flow of the components of a credible surveillance system to detect BSE cases.

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 • Expected prevalence of these diseases (if data available) • Percentage of notifications of bovines with neurological signs compatible with BSE in recent years • 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 • 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 • 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 • Percentage of adult bovines found dead in transport relative to transported adult bovine population. • 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).

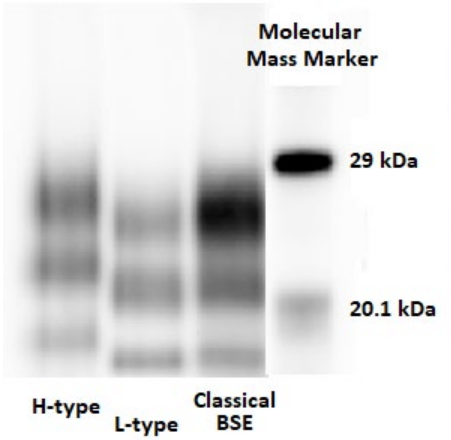

Figure 1. Western immunoblot on brain samples from classical and atypical BSE cases. Antibody Sha31; the bottom protein band is higher in H-type BSE compared to classical BSE, whereas it is lower in L-type BSE.

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 **Stiff/Lame** **Neurological** **Other on gait**	(No) / Yes, describe: (No) / May be / Yes, describe: (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:

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

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

1.1. 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.

1.2. 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

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.

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 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.

2.1. Maintenance of the controlled BSE risk status

2.1.1. 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.

2.1.2. 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.

2.2. Maintenance of a negligible BSE risk status

2.2.1. 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

[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.

2.2.2. 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
Australia
Belgium
Bolivia
Brazil
Bulgaria
Canada
Chile
China (People's Rep. of)[11]
Colombia
Costa Rica
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland[14]
France
Germany
Hungary
Iceland
India
Ireland
Italy
Korea (Rep. of)
Latvia
Liechtenstein
Lithuania
Luxembourg
Malta
Mexico
Namibia
New Zealand
Nicaragua
Norway
Panama
Paraguay
Peru
Poland
Portugal[9]
Romania
Serbia[10]
Singapore
Slovakia
Slovenia
Spain[12]
Sweden
Switzerland
The Netherlands
United Kingdom[13]
United States of America
Uruguay

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

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.

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.

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.

[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.

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.

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

[18] Including Azores and Madeira.

Belgium	Ecuador[19]	Mexico	Spain[20]
Brazil[21]	Finland[22]	New Caledonia	Sweden
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),

[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.
[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.

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 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 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

[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.

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;

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.

- 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;

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 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.

[36] Including Balearic Islands and Canary Islands.

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. 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. 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 for the purpose of the Code, provision on the establishment of a protection zone and containment zone among others.	SCAD opinion forwarded to TAHSC and addressed at its February 2023 meeting.	
1	Ch. 8.14. 'Infection with rabies virus'	Informed of disagreement of some Members on		

		February 2023	Next steps	Timeline
		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 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 dourine to progress on the revision of Chapter 12.3.	Nominated representative to participate in AHG meeting	AHG planned for July 2023, with presentation of their 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	Follow-up on recommendations made to the applicant Members with positive outcome during the next annual reconfirmation campaign.	

		February 2023	Next steps	Timeline
		status/endorsement and five applications were rejected.		
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.	
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.		

		February 2023	Next steps	Timeline
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*. ***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. **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 **Infection with Crimean-Congo haemorrhagic fever**: case definition discussed with BSC and revised with expert. SCAD requested to seek further clarification from experts.	Forward revised case definition to TAHSC 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.

		February 2023	Next steps	Timeline
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.		
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 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		