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Committee on Sanitary and Phytosanitary Measures

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BOVINE SPONGIFORM ENCEPHALOPATHY CASE IN BRAZIL – FINAL REPORT¹

COMMUNICATION FROM BRAZIL

The following communication, received on 12 March 2013, is being circulated at the request of the Delegation of Brazil.

1. Brazil notified its first case of Bovine Spongiform Encephalopathy (BSE) on 7 December 2012, right after the confirmation of the diagnosis by the OIE International Reference Laboratory in Weybridge, United Kingdom (AHVLA). The reporting protocol followed the procedures set down in the Brazilian BSE Occurrence Manual, which was included in the dossier presented to the OIE when the country was classified as of negligible risk for the disease.

2. The BSE case registered in Brazil refers to one native cow raised for breeding purposes. The cow died at approximately 13 years of age and was raised throughout its productive life on pasture and mineral supplements.

3. A farm employee of Farm Boa Sorte, municipality of Sertanópolis, State of Paraná, observed a fallen cow during a daily survey of the animals. On the next day (Sunday), after being informed that the animal had died (<24 hours of the previous observation), the State Veterinary Service visited the farm to investigate the case. It was decided, then, to collect samples for diagnosis of rabies due to the fact that the disease is endemic in the region.

4. The animal carcass was duly buried in a deep ditch in the same premises where it died. Hence, this animal did not represent any risk of contamination of the food or feed chain.

1 LABORATORY AND EPIDEMIOLOGICAL INVESTIGATION

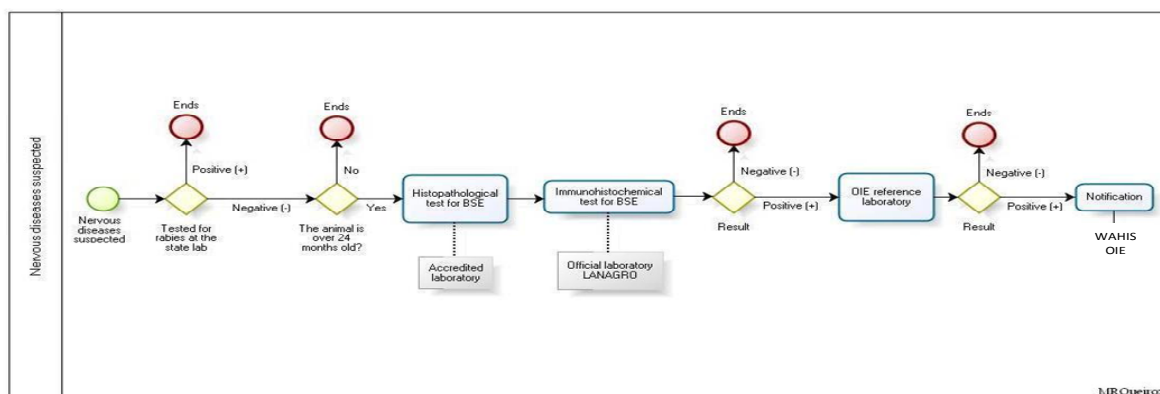
5. As stated in the Brazilian protocol of surveillance of neurologic syndromes, the sample was sent firstly for the diagnosis of rabies and later on for the diagnosis of differential diseases.

6. On 15 June 2012, the National Reference Laboratory - LANAGRO / PE identified the first prionic marking in a bovine sample in Brazil. Right after that, the Ministry of Agriculture, Livestock and Food Supply (MAPA) started a series of field and laboratory activities to accurately check the information given until then, as follows:

1.1 Checking of laboratory procedures

7. The investigation revealed that a temporary overload of work in the Transmissible Spongiform Encephalitis (TSE) diagnostic system was due to a fire at the section of histopathology in one of the laboratories of the accredited network, which partially compromised the flow of samples in accordance with the national protocol for the activity (figure 1).

¹ The Technical Note from the Animal Health Department of the Ministry of Agriculture, Livestock and Food Supply of Brazil was used as a basis for this document.

Figure 1 – Flow of laboratory tests for nervous syndromes and first notification of BSE.

8. Among the actions taken by MAPA to correct the problems in the diagnosis and improve the flow of samples and information among the TSE laboratories network, these can be highlighted:

- Development and implementation of a new computer-based system: "*Sistema de Encefalopatias Espongiformes Transmissíveis (SEET)*", starting 1 January 2013, aiming to facilitate the observation of eventual delays in processing and communication of test results;
- Investment at LANAGRO/PE to implement the Western Blot technique;
- Hiring more professionals to improve operational capacity at LANAGRO/PE laboratory;
- Hiring of a pathologist to implement the diagnosis of TSE's at LANAGRO/MG laboratory;
- Technical audits are being performed more frequently in accredited laboratories of the network.

1.2 Field investigations

9. After the confirmation of the prionic marking in June 2012, MAPA sent federal veterinarians to check the procedures declared by the sanitary authorities of the State of Paraná (ADAPAR) and to carry out additional investigations.

10. Field investigations followed point 3b, Article 11.5.3 of the Terrestrial Animal Health Code of the OIE, and searched animals born in the same premises of origin of the BSE case, in a period of 12 months before and after its birth. Among the information provided during the investigation, the information provided by ADAPAR concerning the age of the animal; feeding management and farms where the case lived were all checked in detail, as can be seen below.

1.2.1 Farms where the case lived

11. The BSE case was born between August and December 1997 at Água do Índio Farm, municipality of Cianorte, State of Paraná, belonging to Companhia de Melhoramento Norte do Paraná (CMNP). It was sold with 24 other animals to the farm Santo Antônio, municipality of Sertanópolis, in the same State.

12. This animal was kept at the birth farm for 15 to 20 months, and on the second farm until it died at the age of approximately 13 years old. In the premises where the BSE case lived there was no evidence of use of potentially contaminated feedstuff or any other feed which could lead to suspicions about the use of meat and bone meal (MBM) in those farms. Further to that, the cow was born in 1997 after the prohibition of the use of ruminant protein to feed ruminants in Brazil, which occurred in 1996.

1.2.1.1 Farm Água do Índio - Cianorte / PR

13. The farm Água do Índio, birthplace of the BSE case, was dedicated to beef cattle production, where steers were weaned and sent for fattening in other farms of the CMNP Group, in the State of

Paraná. Females were used mainly as replacement for the other farms belonging to the group. A few were also sold to farms not belonging to the CMNP, aged a maximum of 36 months old.

14. All animals in farm Água do Índio were fire branded on the left leg with the letters "CMP" and on the right side of the face with the month and year of birth.

1.2.1.2 Farm Santo Antônio / Farm Boa Sorte - Sertanópolis / PR

15. On 13 April 1999, the owner of farm Santo Antonio bought 25 heifers between 15 a 20 months of age, from Farm Água do Índio in an auction in the municipality of Londrina, State of Paraná.

16. In 2003, due to the death of the owner, the farm Santo Antonio was divided into three farms among the heirs: Farm Santo Antonio, Farm Boa Sorte and Farm Vale Verde, and the animals were distributed accordingly among the farms. Out of the 25 animals bought from Farm Água do Índio, ten were found at farm Boa Sorte and two other were at Farm Vale Verde. The BSE case was one of the ten animals which were at Farm Boa Sorte.

1.2.2 Cohort Animals

17. The management of the beef cattle herd at the Group CMNP requires discarding (slaughter) of the animals when they reach 10 years of age, or sooner than that if any reproductive problems occur, as stated in the Standard Operational Procedure implemented by ISO 9000 Certification in their farms. Hence, there are no bovines older than 10 years in the farms of the Group CMN. This is why no more BSE case cohort animals could be found in those farms.

18. Between August 1996 and December 2001, Farm Água do Índio sold 4,946 animals to 44 farms not belonging to the Group CMNP. Out of those, 4,751 animals were sent to 43 farms in 31 municipalities in the State of Paraná, and the remainder, 195 animals, were sent to a farm in the municipality of Paranhos, State of Mato Grosso do Sul. All the 4,946 animals were raised for breeding purposes.

19. All cohort animals were traced back in the 44 farms, and 11 animals were found alive, all of them above 15 years of age, and in good health. As stated before, nine animals were at farm Boa Sorte and two at Farm Vale Verde.

20. Firstly, all cohort animals were individually identified and kept under control by ADAPAR. Later on, despite being healthy, the animals were humanely sacrificed on the premises, brain samples for BSE testing were collected and the carcasses were buried in a deep ditch in an appropriate site on the premises.

21. All tests were performed at LANAGRO/PE and all came out negative.

1.3 General considerations about the investigation

22. The results of the field investigations corroborate existing technical information on the beef cattle production system used in Brazil, and allow us to make some important considerations, as follows:

- Farm Água do Índio belonged to a business enterprise dedicated to livestock production, among other activities, but with a main interest in producing animals for fattening in other premises of the same group. Animals for replacement of the stock were also produced. The management of the enterprise was based on an ISO 9000 certification which established guidelines for culling animals over 10 years old.
- Farm Boa Sorte, where the BSE case lived most of its life, bases its production in a full cycle scheme. Nonetheless, livestock production is secondary to agriculture, which is the main source of income of the farm. Hence, the herd is small and management includes daily inspections of the herd to check for births, abortions and sick animals, especially when the herd is composed of aging cows. This management would allow for the identification of any other case of BSE if it had occurred, which was not the case.

- All the farms involved in this investigation were classified in a management system where the animals are grass-fed and supplemented with minerals. This management is common to approximately 95% of the beef cattle herd in Brazil, and is considered to be refractory to typical BSE.
- The number of live cohort animals found through the investigation was the expected, having in mind how old those animals would be today (over 15 years old). The permanence of animals of such advanced age is not characteristic of the Brazilian beef cattle industry.

2 SURVEILLANCE SYSTEM

23. Starting in 1997, BSE surveillance has been included in the surveillance system for herbivore rabies, which is an endemic disease in parts of the Brazilian territory. Since then, any suspicion, or occurrence of nervous diseases in cattle became compulsory, and the TSE's were included in a list of diseases subjected to animal health defense measures.

24. The sampling procedures adopted by Brazil for the prevention of BSE follow entirely the standards of the OIE, as defined in the Chapter 11.5 of the Animal Health Code (Terrestrial Code). This model is designed to find BSE cases at a 95% confidence level, considering several aspects which have influence on the expression of this disease, such as cattle demography, sensitivity of tests and the total number of tests performed on at-risk populations. All these aspects are expressed by surveillance points to be reached by countries, which are defined on table 1 of Article 11.5.21 of the Terrestrial Code. This table stratifies the surveillance points according to adult cattle population size and the type of surveillance.

25. This said, in what concerns the sample size and design prevalence, Brazil fits into the category "Countries with adult cattle population size (24 months and older) above 1,000,000 heads", as defined in table 1 of Article 11.5.21 of the Terrestrial Code. Countries which are included in this category are required to reach 150,000 surveillance points to be recognized as "negligible risk of BSE". Brazil, however, had reached more than 2,500,000 surveillance points when it was recognized by the OIE as negligible risk for BSE in May 2012, i.e., more than 15 times the surveillance points required for that category.

26. Brazil has been sampling animals from all the four subpopulations described by the Terrestrial Code, as well as sampling all categories of age.

3 RISK MITIGATION MEASURES

27. Since 1990, MAPA has been applying preventive measures to avoid the occurrence of BSE. These measures have been constantly updated in view of the scientific information available and on the recommendations of the Terrestrial Code.

28. It is important to underscore that every single risk mitigation measure put in place in Brazil, and communicated to the OIE, which eventually led to the recognition of the country as of negligible risk for BSE are still enforced, as follows:

- Import control for bovine, its products and by-products, to avoid the introduction of the agent of the BSE;
- Control of the production of feedstuff for ruminants, to avoid the transmission of the agent in case it were present;
- Removal, during slaughter, of potential risk material, such as: spinal cord, brain, distal ileum, eyes and tonsils, which are destroyed and not sent to rendering;
- Meat and bone meal sterilization (at 133°C, 20', 3 bar), to reduce agent infectivity, if it was present;
- Surveillance directed to early detection of the disease, in order to check the effectiveness of the measures of risk prevention and mitigation;

- Sanitary education and technical update to constantly train all professionals involved in every level of the sanitary policy, be it official or private, as well as to constantly produce and publish technical information for the consumers.

4 FINAL CONSIDERATIONS

29. Brazil has been recognized by the OIE as a country with negligible risk for BSE at its 80th General Session, which took place in May 2012. This was a result of the fulfillment of all criteria set out by the Terrestrial Code, which, as mentioned before, are still under full enforcement.

30. Brazil understands that the occurrence of this isolated case of BSE is not related to any flaws in the risk mitigation procedures in place, which are fully operative and due to the fact that the affected animal was aged over 11 years.

31. Having in mind that the epidemiological situation of Brazil has not been altered by the notification of this BSE case, the Scientific Commission for Animal Diseases (SCAD/OIE), during its recent meeting (4-8 February 2013) decided to keep the classification of Brazil as a country with negligible risk for BSE.

32. Considering the aforementioned information, the results of the epidemiological investigation conducted by the Brazilian veterinary services and the AHVLA report that states that "Although the poor quality and the indeterminate fixation history of the sample compromises interpretation, even so we note that the sample appears to have some characteristics of H-Type rather than L or C-Type of BSE", the Brazilian veterinary services believe that this is a case of atypical BSE (rare and spontaneous).

33. It is important to highlight that this animal did not enter the meat-processing chain, having been buried on the farm where it died; therefore, it did not represent any risk of contamination.

34. Based on these results, the Animal Health Department / SDA / MAPA considers the investigation on the BSE case in Brazil closed, as described in the Final Report sent out to the countries through the OIE's World Animal Health Information System (WAHIS).
