

Final report on the updated assessment of the Geographical BSE-Risk (GBR) of PARAGUAY - 2003

10 April 2003

NOTE TO THE READER

Independent experts have produced this report, applying an innovative methodology by a complex process to data that were supplied by the responsible country authorities. Both, the methodology and the process, are described in detail in the final opinion of the SSC on "the Geographical Risk of Bovine Spongiform Encephalopathy (GBR)", 6 July 2000 and its update of 11 January 2002. These opinions are available at the following Internet address:

<http://europa.eu.int/comm/food/fs/sc/ssc/outcome_en.html>

This report, and the opinion of the SSC based on it, is now serving as the risk assessment required by the TSE-Regulation EU/999/2001 for the categorisation of countries with regard to their BSE-status. The final BSE-status categorisation depends also on other conditions as stipulated in annex II to that TSE-Regulation.

1. DATA

- The information available was suitable to carry out a qualitative assessment of the GBR. Nevertheless, this report is based on reasonable worst case assumptions, in cases where data are not complete.

Sources of data

- Country dossier (CD) consisting of information provided from the country's authorities in Paraguay in 1998-2002.

Other sources:

- EUROSTAT data on export of "live bovine animals" and on "flour, meal and pellets of meat or offal, unfit for human consumption; greaves" (customs code 230110), covering the period 1980-2001.
- UK-export data (UK) on "live bovine animals" (1980-1996) and on "Mammalian Flours, Meals and Pellets", 1988-1996. As it was illegal to export mammalian meat meal, bone meal and MBM from UK since 27/03/1996, exports indicated after that date under customs code 230110 should only have included non-mammalian MBM.
- Export data from Cyprus, the Czech Republic, Estonia, Hungary, Lithuania, Romania, Slovenia and Switzerland.

2. EXTERNAL CHALLENGES

2.1 Import of cattle from BSE-Risk¹ countries

- According to the CD, no live cattle were imported from BSE risk countries, including the UK, over the period 1988 – 2001. Data from earlier years are unavailable. From the records of UK exports, no live animals were exported to Paraguay over the period 1980 – 2001. This is confirmed by the data recorded in Eurostat.
- According to Eurostat and other data, 15 live cattle were imported from France in 1980 and 27 bovines from Switzerland in 1981.
- With the resolution N° 2/2001 Paraguay prohibited the import of live animals from countries affected by BSE or from countries with an unknown situation concerning BSE. It is not specified in the CD, which countries are considered "with an unknown situation concerning BSE".

¹ BSE-Risk countries are all countries already assessed as GBR III or IV or with at least one confirmed domestic BSE case.

2.2 Import of MBM² from BSE-Risk countries

- According to the CD, no MBM were imported from BSE risk countries, over the period 1988 – 2001. This is confirmed by Eurostat and other data. Data from earlier years are unavailable. Eurostat and other data have not registered exports of MBM to Paraguay in the period 1980-2001.
- With the resolution N° 2/2001 Paraguay prohibited the import of products and by products (edible and non edible), which contain in its formulation protein of bovine, ovine and caprine origin, proceeding from countries affected by BSE or from countries with an unknown situation concerning BSE.

2.3 Overall assessment of the external challenge

The level of the external challenge that has to be met by the BSE/cattle system is estimated according to the guidance given by the SSC in its final opinion on the GBR of July 2000 (as updated in January 2002).

- Live cattle imports:

In total the country imported 42 live cattle over the period 1980 to 2001 (Eurostat and other data) from BSE-risk countries, of which no one came from the UK. These imports represent a negligible external challenge. The resulting external challenge is as given in table 1.

- MBM imports:

The country imported no MBM from BSE risk countries, including the UK, in the period 1980-2001. Therefore, the associated external challenge was negligible.

External Challenge experienced by PARAGUAY				
<i>External challenge</i>		<i>Reason for this external challenge</i>		
Period	Overall Level	Cattle imports	MBM imports	Comment
1980 to 2000	Negligible	Negligible	Negligible	

Table 1: External Challenge resulting from live cattle and/or MBM imports from the UK and other BSE-Risk countries. The Challenge level is determined according to the SSC-opinion on the GBR of July 2000 (as updated in January 2002).

On the basis of the available information, the overall assessment of the external challenge is as given in the table above.

² For the purpose of the GBR assessment the abbreviation “MBM” refers to rendering products, in particular the commodities Meat and Bone Meal as such; Meat Meal; Bone Meal; and Greaves. With regard to imports it refers to the customs code 230110 “flours, meals and pellets, made from meat or offal, not fit for human consumption; greaves”.

3. STABILITY

3.1 Overall appreciation of the ability to avoid recycling of BSE infectivity, should it enter processing

Feeding

Use of MBM in cattle feed

- According to the CD, the use of animal protein is not a common practice in Paraguay and it is only used for poultry and pigs. Figures on MBM production are unavailable.
- Cattle production in Paraguay is based largely on a natural and cultivated grazing system. There are no clear figures on the use of protein supplements as regards the husbandry system (beef or dairy production). According to the CD, beef and dairy herds receive mineral supplements, which may include calcinated bone ash, and occasional protein supplements that are based on vegetable protein.
- The exclusive use of vegetable protein supplements is justified, according to the CD, by the fact that relative prices favour the use of vegetable concentrates. Information on comparative prices for MBM and protein concentrates from vegetal origin is provided. According to the CD the average cost of 1 kg of MBM (45 % protein) in Paraguay is 0,20 US\$ while the cost of 1 kg of Cotton seed (40 % protein) is 0,036 US\$.
- Although the use of MBM in cattle feed is unlikely, as a reasonable worst case assumption, there remains a possibility that some dairy cattle received small amounts of MBM.

Feed bans

- An official ruminant MBM to ruminant feed ban was implemented in 1996 (Resolution 364/96).

Potential for cross-contamination and measures taken against

- According to the CD, there are 25 feed mills producing feed stuff. Some of these plants have different lines of production according to the type of product and animal species to which the feed stuff is intended. The small plants use only raw material of vegetal origin.
- According to the CD, the plants producing cattle feed use only material from vegetal origin. The feed mills that use MBM to produce feed stuffs for pigs and poultry must label the final product with an statement on the ruminant MBM to ruminant feed ban. The co farming of cattle with pigs is not common in Paraguay.
- As there are plants using the same line to produce concentrates for different species, no active measures to prevent accidental cross contamination are in place and it is legally possible to feed ruminants with non-ruminant MBM, cross-contamination can not be excluded, during feed production, transport or on farm

Control of Feed bans and cross-contamination

- According to the CD, the implementation of the ruminant MBM to ruminant feed ban is controlled by “continuous monitoring of cattle farms”. The farm activities are registered in an official book, including production and animal nutrition. The book is controlled by the Official Veterinary Service of Paraguay. No details are available as to the frequency and results of the controls carried out.

Rendering

- According to the CD, offal is normally not processed and is mostly sold for human consumption or exported. Animal waste from the slaughterhouses is incinerated and buried. This procedure is particularly used in small slaughterhouses.
- Until 2001 only one slaughterhouse existed with an associated rendering plant. This plant was mainly used for tallow production, but some MBM was also produced. It is assumed that all non-marketable offal from that slaughterhouse was rendered in that plant, most likely including SRM and material unfit for human consumption. It is not clear if this rendering plant processed offal from other slaughterhouses. The rendering process involved steam cooking at a temperature of 150°C (6-7 bar) for 2 hours. According to the CD, controls were based on the production register and carried out by the official veterinary service. No information on the frequency and results of controls performed is available
- According to the CD, from 2001 onwards, 8 rendering plants were approved. These plants produce calcinated bone ash for dairy herds and tallow from meat and offal used mainly for industrial purposes and blood meal for export to regional and international markets. No information on the rendering process and parameters applied by these plants is provided.

SRM and fallen stock

- No SRM-ban is in place. However, an important component of the Paraguayan cattle system is the use of offal, including brain, spinal cord and intestine for human consumption. Traditionally offal is not regarded as waste or used for animal feed, but rather used for human consumption. Furthermore, Paraguay exports approximately 3,000 tonnes of offal (including SRM) annually. There is no information on the fate of SRM unfit for human consumption; it is not explicitly excluded from rendering. According to the CD, fallen stock is buried or burnt, but not processed.

Conclusion on the ability to avoid recycling

- Feeding MBM to cattle was apparently never a common practice. In addition, since 1996 there is a ruminant MBM to ruminant feed ban, although its compliance is not fully reliable. The likelihood that MBM would deliberately be given to cattle seems to be very small, due to the economic disincentive to use animal protein instead of vegetable protein. Cross-contamination cannot be excluded.
- It is assumed that some bovine material, including SRM, could have been rendered throughout the reference period.

3.2 Overall appreciation of the ability to identify BSE-cases and to eliminate animals at risk of being infected before they are processed

Cattle population structure

- According to the CD, in Paraguay there is a population of about 9,7 million cattle (7% dairy cattle and 93% beef cattle) with the approximate age distribution: 21% less than 1 year, 20% between 1 and 2 years, 59% over 2 years (about 5 million cattle).
- According to the CD, beef herds are very large and extensively farmed. Approximately 85% of cattle are owned by 15% of the farmers. In contrast, dairy farms are much smaller and most milk production is derived from small holdings. Co-farming with pigs and poultry is not common.
- Approximately 80% of beef cattle are slaughtered between 2 and 6 years. According to the CD dairy cows die at an old age and are not generally sent for slaughter or rendering.

BSE surveillance

- According to the CD, BSE is officially notifiable since 1996 (Resolution 381/1996). There is no information available in the CD on a definition of an official BSE suspect case. No compensation to farmers is foreseen.
- According to the CD, surveillance is mainly passive and is carried out in the framework of the rabies surveillance system that began in 1977.
- All animals reported to be suspect for neurological disorders, including animals found dead are tested for rabies. Since 1997, those that are negative are all tested for BSE by histopathology. In 1997, 64 rabies negative suspects were examined, 50 in 1998, 46 in 1999, 105 in 2000 and 18 in 2001 (OIE requirement at 5.7 million adult cattle: About 310).
- In addition, further samples from healthy animals slaughtered for human consumption older than 24 months were also tested (120 in 1997, 145 in 1998, 403 in 1999, 369 in 2000, 480 in 2001 and 409 in 2002.). All samples were found to be negative.

	1997	1998	1999	2000	2001	2002	Total
Rabies negative	64	50	46	105	104	55	424
Healthy animals >24 m	130	145	403	369	376	354	1777
Total	194	195	449	474	480	409	2201

Table 2: Number of brains sampled and tested for BSE in Paraguay from 1997 to 2002 in the framework of the surveillance program.

- According to the CD, all samples were processed in an officially approved laboratory by personnel trained in the UK as well as in other European countries.

- The absence of compensation for suspect cases is seen to be a negative incentive but the BSE education campaign (since 1996) and the notification tradition re-rabies is expected to make notification of suspects more likely.
- Testing for BSE only began in 1997 and the numbers of samples are below the OIE requirements.

3.3 Overall assessment of the stability

For the overall assessment of the stability, the impact of the three main stability factors (i.e. feeding, rendering and SRM removal) and of the additional stability factor, surveillance has to be estimated. Again, the guidance provided by the SSC in its opinion on the GBR of July 2000 (as updated in January 2002) is applied.

Feeding

Before 1996 it was legally possible to feed MBM to cattle in Paraguay. Since 1996 there is a ruminant MBM-to-ruminants feed ban in force. Such a feed ban is extremely difficult to control. Therefore, feeding is assessed “**not OK**” throughout the reference period.

Rendering

Rendering exists in Paraguay. Since 2001 the rendering industry has increased its production. The rendering systems did not appear to meet the 133°C/3 bar/20 min. standard. Therefore, rendering is assessed as “**not OK**” throughout the reference period.

SRM-removal

As SRM from cattle fit for human consumption are eaten, this factor can be considered to be “**reasonably OK**”. SRM from condemned or fallen stock is burnt or buried and it is unlikely that it could reach cattle.

BSE surveillance

Regarding the surveillance system, Paraguay would not be able to detect small numbers of clinical BSE-cases.

Stability of the BSE/cattle system in <u>PARAGUAY</u> over time					
Stability		Reasons			
Period	Level	Feeding	Rendering	SRM removal	BSE surveillance
1980 to 1985	Very Unstable	Not OK	Not OK	Reasonably OK	↓
1986 to 1990					
1991 to 1995					
1996 to 2000					
2001-					

Table 3: Stability resulting from the interaction of the three main stability factors and the BSE surveillance. The stability level is determined according to the SSC-opinion on the GBR of July 2000 (as updated in January 2002).

4. CONCLUSION ON THE RESULTING RISKS

4.1 Interaction of stability and challenges

In conclusion, the stability of the Paraguay BSE/cattle system in the past and the external challenges the system has coped with are summarised in the table below. From the interaction of the two parameters “stability” and “external challenge” a conclusion is drawn on the level of “internal challenge” that emerged and had to be met by the system, in addition to external challenges that occurred.

INTERACTION OF STABILITY AND EXTERNAL CHALLENGE IN PARAGUAY			
Period	Stability	External Challenge	Internal challenge
1980 to 1985	Very Unstable	Negligible	Highly Unlikely
1986 to 1990			
1991 to 1995			
1996 to 2000			
2001- at current			

Table 4: Internal challenge resulting from the interaction of the external challenge and stability. The internal challenge level is determined according to guidance given in the SSC-opinion on the GBR of July 2000 (us updated in January 2002).

A very unstable system was exposed to a negligible challenge. The risk that BSE-infected material, derived from imported animals, entered the feed production was considered to be negligible, given the small number of animals. Given the negligible level of the external challenge, no internal challenges occur.

4.2 Risk that BSE infectivity entered processing

Given the negligible risk that BSE-infectivity has been imported into Paraguay, the processing risk was always negligible.

4.3 Risk that BSE infectivity was recycled and propagated

Given the negligible risk that BSE-infectivity entered the country there was no risk that BSE-infectivity was recycled or propagated.

5. CONCLUSION ON THE GEOGRAPHICAL BSE-RISK

5.1 The current GBR as function of the past stability and challenge

The current geographical BSE-risk (GBR) level is *I*, i.e. *it is highly unlikely* that domestic cattle are (clinically or pre-clinically) infected with the BSE-agent.

5.2 The expected development of the GBR as a function of the past and present stability and challenge

- As long as the external challenge remains negligible, the probability of cattle to be (pre-clinically or clinically) infected with the BSE-agent will remain highly unlikely.
- Due to the current very unstable system, any substantial external challenge could lead to an increasing GBR.

5.3 Recommendations for influencing the future GBR

- In order to ensure that the GBR remains as low as at present it is recommended that, additional efforts are made to enhance the stability of the system, i.e. measures to improve the compliance of an effective feed ban.
- Results from an appropriate intensive surveillance programme, targeting at-risk sub-populations such as adult cattle in fallen stock or in emergency slaughter could verify the current assessment and confirm the assumed absence of BSE from the Paraguay territory.
- All measures that improve the stability of the BSE/cattle system of Paraguay would make the system less vulnerable and less dependent on the perfect functioning of a singular control measure.