

# **Risk assessment report on beef and beef offal imported to Japan from Nicaragua (Prions/Self-tasking)**

(Expert Committee on prions)

Food Safety Commission of Japan (FSCJ)  
February, 2011

## **6. Nicaragua**

### **(1) Live Cattle**

#### **a. Risk of BSE Invasion**

##### **Import of Live Cattle from BSE Risk Countries**

Data on imported live cattle to Nicaragua are shown in Table 40. Figures in the table are taken from the questionnaire response by the Nicaraguan authority and the data of cattle exports from BSE risk countries to Nicaragua (Source: the World Trade Atlas. Trade statistics published by state governments are also used for some figures). Table 40 shows the number of cattle imported from the BSE risk countries only during the period when weighting factors are set.

According to the questionnaire response, Nicaragua banned importation of live ruminants, and products/byproducts with risk from countries with BSE and scrapie cases in 1998. Data are not available for the import of live cattle from 1986 to 1987. The numbers of live cattle imported to Nicaragua from BSE risk countries between 1988 and 2007 are 930 from the US and 98 from other countries (Mexico).

Meanwhile, the World Trade Atlas reports export of 1,263 head of cattle from the US to Nicaragua.

##### **Import of MBM from BSE Risk Countries**

Data on imported MBM to Nicaragua are shown in Table 41. The figures in the table are taken from the questionnaire response by the Nicaraguan authority and the data on MBM exports from BSE risk countries to Nicaragua (Source: the World Trade Atlas. Trade statistics published by state governments are also used for some figures). Table 41 shows the amount of MBM imported from the BSE risk countries only during the period for which weighting factors are set.

According to the questionnaire response, in 1998 Nicaragua banned the import of MBM for ruminant feeds from countries with BSE cases. For the import of MBM, there are no data available for year 2000 and earlier. According to the data for the period between 2001 and 2007, there was no import of MBM from BSE risk countries.

Meanwhile, according to the World Trade Atlas, 15 tons of MBM was exported from the US to Nicaragua in 1994.

##### **Import of Animal Oil/Fat from BSE Risk Countries**

The questionnaire response from Nicaragua states that the regulation for live cattle and MBM also applies to animal oil/fat (Nicaragua banned importation of live ruminants, and products/byproducts with risk from countries with BSE and scrapie cases in 1998). In the period between 1988 and 2007, animal oil/fat was imported from BSE risk countries including 10,270 tons from the US and 1,371 tons from Canada.

The majority of the imported oil/fat is used for industrial purposes, not for livestock feed.

##### **Assessment of the Use of Imported Live Cattle and MBM for Animal Feed**

The questionnaire response from the Nicaraguan authority did not include detailed description of live cattle and MBM that are considered to have no possibility of being a source of exposure. Accordingly, all of the cattle and MBM imported from BSE risk countries are regarded as a source of exposure.

Because the questionnaire response states that no data on MBM are available for year 2000 and earlier, data on the trade statistics are used for this period.

We determined that animal oil/fat has no risk because they are not imported for cattle feed.

**Table 40. Import of Live Cattle from BSE Risk Countries experienced by Nicaragua**

			1986-1990	1991-1995	1996-2000	2001-2005	2006-2007	Total
			Number of imported cattle	Number of imported cattle	Number of imported cattle	Number of imported cattle	Number of imported cattle	Number of imported cattle
Import data <sup>1</sup>	UK	Questionnaire	0	0	0	0	0	0
		Trade statistics	0	0	0	0	0	0
	Europe (Countries with moderate contamination)	Questionnaire	0	0	0	0	0	0
		Trade statistics	0	0	0	0	0	0
	Europe (Countries with low contamination)	Questionnaire	0	0	0	0	0	0
		Trade statistics	0	0	0	0	0	0
	USA	Questionnaire	/	23	889	18	0	930
		Trade statistics	/	101	882	279	1	1,263
	Canada	Questionnaire	0	0	0	0	0	0
		Trade statistics	0	0	0	0	0	0
	Others (Mexico)	Questionnaire	0	0	0	0	98	98
		Trade statistics	0	0	0	0	0	0
<b>Total</b>	<b>Questionnaire</b>	<b>0</b>	<b>23</b>	<b>889</b>	<b>18</b>	<b>98</b>	<b>1,028</b>	
	<b>Trade statistics</b>	<b>0</b>	<b>101</b>	<b>882</b>	<b>279</b>	<b>1</b>	<b>1,263</b>	

		1986-1990		1991-1995		1996-2000		2001-2005		2006-2007		Total
		Number of imported cattle	UK Equivalent	Number of imported cattle	UK Equivalent	Number of imported cattle	UK Equivalent	Number of imported cattle	UK Equivalent	Number of imported cattle	UK Equivalent	Number of imported cattle
Number of imported cattle with a potential of being a source of exposure	UK	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	Europe (Countries with moderate contamination)	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	Europe (Countries with low contamination)	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	USA	/	/	23	0.0005	889	0.0178	18	0.0004	0	0.00	930
	Canada	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
	Others (Mexico)	0	0.00	0	0.00	0	0.00	0	0.00	98	0.00	98
	<b>Total</b>	<b>0</b>	<b>0.00</b>	<b>23</b>	<b>0.0005</b>	<b>889</b>	<b>0.02</b>	<b>18</b>	<b>0.0004</b>	<b>98</b>	<b>0.00</b>	<b>1,028</b>
		<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>/</b>

(Reference) Numbers calculated using the figures in the trade statistics.

Trade Statistics <sup>2</sup>	Total	0	0.00	101	0.002	882	0.02	279	0.01	1	0.00002	1,263
		<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>/</b>

1: 'Number of cattle imported' and 'Number of imported cattle with a potential of being a source of exposure' cover only the period when weighting factors are set.

2: We regard all the cattle as a source of exposure because the exact number is unknown from the trade statistics as to how many of the imported cattle were not a source of exposure.

**Table 41. Import of MBM from BSE Risk Countries experienced by Nicaragua**

		1986-1990	1991-1995	1996-2000	2001-2005	2006-2007	Total	
		Volume of importation (ton)	Volume of importation (ton)	Volume of importation (ton)	Volume of importation (ton)	Volume of importation (ton)	Volume of importation (ton)	
Import data <sup>1</sup>	UK	Questionnaire				0	0	0
		Trade statistics	0	0	0	0	0	0
	Europe (Countries with moderate contamination)	Questionnaire				0	0	0
		Trade statistics	0	0	0	0	0	0
	Europe (Countries with low contamination)	Questionnaire				0	0	0
		Trade statistics	0	0	0	0	0	0
	USA	Questionnaire				0	0	0
		Trade statistics		15	0	0	0	15
	Canada	Questionnaire				0	0	0
		Trade statistics	0	0	0	0	0	0
	Others ( )	Questionnaire				0	0	0
		Trade statistics	0	0	0	0	0	0
	<b>Total</b>	<b>Questionnaire</b>	<b>Data not available</b>	<b>Data not available</b>	<b>Data not available</b>	<b>0</b>	<b>0</b>	<b>0</b>
		<b>Trade statistics</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>

		1986-1990		1991-1995		1996-2000		2001-2005		2006-2007		Total
		Volume of importation (ton)	UK equivalent	Volume of importation (ton)	UK equivalent	Volume of importation (ton)	UK equivalent	Volume of importation (ton)	UK equivalent	Volume of importation (ton)	UK equivalent	Volume of importation (ton)
Volume of Imported MBM with a potential of being a source of exposure	UK							0	0.00	0	0.00	0
	Europe (Countries with moderate contamination)							0	0.00	0	0.00	0
	Europe (Countries with low contamination)							0	0.00	0	0.00	0
	USA	/	/					0	0.00	0	0.00	0
	Canada							0	0.00	0	0.00	0
	Others ( )							0	0.00	0	0.00	0
	<b>Total</b>							<b>0</b>	<b>0.00</b>	<b>0</b>	<b>0.00</b>	<b>0</b>
			<b>Data not available</b>	<b>Data not available</b>	<b>Data not available</b>	<b>Data not available</b>	<b>Data not available</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>

(Reference) Numbers calculated using the figures in the trade statistics.

Trade statistics <sup>2</sup>	Total	0	0.00	15	0.0003	0	0.00	0	0.00	0	0.00	15
		<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	

- 1: 'Volume of MBM imported' and 'Volume of imported MBM that can be a source of exposure' are calculated only for the period when weighting factors are set.
- 2: We regard all of the MBM as a source of exposure because the exact number is unknown from the trade statistics as to how many of the imported MBM were not a source of exposure.

### Assessment for external challenge

External challenge was evaluated based on the questionnaire response by the Nicaraguan government. The levels of invasion risk for live cattle between 1986 and 2007 was regarded 'negligible with UK equivalents of 0 (1986–1990), 0.0005 (1991–1995), 0.02 (1996–2000), 0.0004 (2001–2005), and 0 (2006–2007). (The UK equivalents obtained in evaluation of invasion risk levels using trade statistics were 0.02 or lower for all periods between 1986 and 2007. The level of invasion risk for this period, therefore, was regarded 'negligible'.)

External challenge resulting from MBM import was evaluated based on the questionnaire response and trade statistics. The UK equivalents for MBM were 0 (1986–1990), 0.0003 (1991–1995), and 0 (1996–2007). The invasion risk for this period, therefore, was regarded 'negligible'.

The overall invasion risk (combination of risks by imported live cattle and MBM) was regarded 'negligible' for the whole period between 1986 and 2007. (Table 42).

**Table 42. External Challenge (Nicaragua)**

	1986-1990	1991-1995	1996-2000	2001-2005	2006-2007
Live cattle	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>
MBM	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>
Overall Level	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>

## **b. Domestic Stability (BSE propagation risk of the country)**

### **Feed regulations**

In 2001, the Nicaraguan government implemented a ban on feeding of cattle-derived MBM, bone meal, meat meal, and feeds containing these materials to cattle.

In Nicaragua, cattle are mainly fed with grass and forage while MBM is not used as cattle feed. MBM is mainly used as supplemental feed for poultry and pigs. Mixed rearing of cattle and pigs/poultry is not practiced in Nicaraguan farms.

Compliance with feed regulations at farms is not surveyed in Nicaragua.

The compliance with regulations on feed manufacturing and distribution is monitored by the Ministry of Agriculture and Forestry (MAGFOR) by using monitoring lists. Data on the results of the monitoring, however, are not available. No sampling test is carried out to check contamination of animal protein in cattle feed.

### **Use of SRM**

Based on the 2001 ministerial order, it is legally obliged to incinerate the cattle died at the quarantine, as well as carcasses, brain and spinal cord of the cattle condemned at antemortem or postmortem inspection. In 2004, brain, skull, eyes, trigeminal ganglia, spinal cord, and dorsal root ganglia of cattle aged 30 months or over and tonsils, small intestine, and distal ileum of cattle at all ages are designated as SRM.

Until SRM was legally defined, head (brain, skull, eyes and trigeminal ganglia), vertebral column, and spinal cord were used for human consumption, while small intestine (including distal ileum) was used as byproduct, and tonsils were processed at rendering. After SRM was designated in 2004 as above, head, vertebral column, spinal cord, and distal ileum are used for rendering, and small intestine and other parts are used as byproducts.

Cattle subject for emergency slaughter and cattle condemned at antemortem have been incinerated both before and after the regulation was implemented.

### **Rendering Conditions**

Since 2001, rendering conditions of 133°C /20min./3 bar (at 133°C for a minimum of 20 minutes at absolute pressure of 3 bar pressure) have been legally obliged. MAGFOR monitors the compliance with rendering regulations through monthly surveys of MBM manufacturing processes. No violation of regulations has been found.

### **Measures to Prevent Cross-contamination**

No information regarding the number of feed mills and prevention measures for cross contamination have been obtained.

There are four rendering facilities in Nicaragua, all of which are dedicated plants to process cattle byproducts, and therefore there is no possibility of cross contamination with other materials or other animal species, according to the questionnaire response. MBM is produced only from the parts not suitable for human consumption that are obtained from authorized slaughterhouses.

### **Others**

Transmissible spongiform encephalopathy (TSE) cases have not been detected in Nicaragua.

### **Assessment of Domestic Stability**

The domestic stability was assessed based on the questionnaire response by the Nicaraguan government by placing a focus on the level of regulations and taking into consideration that information regarding compliance with feed regulations and testing of feed samples has not been obtained. Our assessment revealed that the risk of exposure/propagation was “high” (1986–2001), and “moderate to low” (2002–2007) in Nicaragua (Table 43, Table 44).

**Table 43. Domestic Stability in Nicaragua**

Item	Status
Feeding	2001: Ban on ruminant-derived MBM to ruminants.
Use of SRM	<p>2001: Incineration of cattle died at the quarantine, carcasses, brain, and spinal cord of the cattle condemned at antemortem or postmortem inspection, was obliged.</p> <p>2004: SRM was defined.</p> <p>[SRM] Before the definition: Head (brain, skull, eyes and trigeminal ganglia), vertebral column, and spinal cord: used for human consumption. Small intestine (including distal ileum): used for byproduct. Tonsil was processed at rendering.</p> <p>After the definition: Head, vertebral column, spinal cord, and distal ileum: used for rendering. Small intestine and other parts: used as byproducts.</p> <p>[Cattle subject for emergency slaughter and cattle condemned at antemortem] Have been incinerated both before and after the regulation was implemented.</p>
Rendering conditions	2001: Regulation to oblige process of cattle-derived MBM and meat meal at 133°C/20 min./3 bar is implemented.
Measures to prevent cross-contamination	<p>[Feed mills] No information is obtained for the number of facilities and prevention measures against cross contamination.</p> <p>[Rendering facilities] All of the four facilities are specialized plants to process cattle byproducts, and therefore there is no possibility of cross contamination with other materials or other animal species. MBM is produced only from the parts not suitable for human consumption that are obtained from authorized slaughterhouses.</p>

**Table 44. Assessment of Domestic Stability in Nicaragua**

	Feeding	Use of SRM, Rendering Conditions, Preventive measure against cross-contamination, etc.	Risk of exposure/ propagation
1986–2001	No specific regulations	–	<b>High</b>
2002–2007	Ban on feeding ruminant-derived protein to ruminants	Process of cattle-derived MBM and meat meal at 133°C/20 min./3 bar is obliged.	<b>Moderate to low</b>

**c. Verification by surveillance, etc.**
**Population Structure**

The total cattle population in Nicaragua is approximately 3,300,000, according to the questionnaire response.

**Surveillance Outline**

International Regional Organization for Plant and Animal Health (OIRSA)<sup>7</sup> has analyzed the BSE risk factors according to the OIE Terrestrial Animal Health Code and in 2000 implemented a regulation to conduct sampling based on the number of cattle in each member country of OIRSA. Until 2004, sampling was conducted by

<sup>7</sup> OIRSA: International Regional Organization for Plant and Animal Health made up with nine countries in Central America (Belize, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, and Panama).

randomly selecting 3 animals each month from healthy cattle subject to routine slaughtering (regardless of ages) in slaughterhouses of authorized companies. Since 2004, sampling has been made mainly from cattle aged 24 months or over showing neurological symptoms, cattle died with unknown cause, and cattle died during testing. The size of samples is determined annually based on the OIRSA standards. Histological methods and immunohistochemical methods are used to test the samples. The numbers of cattle surveyed are available for year 2000 and later. In 2000, the surveillance was conducted with 8 animals, and with 100 to 200 animals each year after 2001. No animal has been diagnosed as BSE positive. Whilst surveillance outcome for over the 7 year period (2001 to 2007) was assumed not enough to meet the standard which “will allow the detection of BSE around a study design prevalence at least one case per 100,000 in the adult cattle population, at a confidence level of 95%” as stipulated by OIE. (Table 45).

**Table 45. Surveillance Point Calculation in Nicaragua**

**Number of cattle raised (2007): 3,300,000\* → 300,000 points are needed in seven years.**

Year	Number of animals surveyed				Total
	Routine slaughter	Fallen slaughter	Casualty slaughter	Clinical suspect	
2001	107	0	9	0	<b>116</b>
2002	178	3	32	0	<b>213</b>
2003	128	6	23	0	<b>157</b>
2004	25	22	56	0	<b>103</b>
2005	21	63	98	0	<b>182</b>
2006	10	48	73	0	<b>131</b>
2007	13	43	46	0	<b>102</b>
Total	482	185	337	0	<b>1,004</b>
Surveillance point	(× 0.2) 96	(× 0.9) 167	(× 1.6) 539	(× 750) 0	<b>802</b> <b>(Goal achieved )</b>

Notes:

- Surveillance points were compared with the points needed by the OIE Type A Surveillance.
- Surveillance points were calculated under an assumption that all the animals are aged 4 years or over and aged less than 7 years-
- The cattle population in the questionnaire response by the Nicaraguan government was used for calculation with an assumption that all the animals are aged 24 months or over.

### **BSE Awareness Program and Mandatory Notification**

The Nicaraguan government has started BSE awareness program about nine years ago for official veterinarian officers, inspectors, and managers at slaughterhouses. The program includes trainings on HACCP and SSOP, as well as on sampling methods.

Since 1998, BSE has been designated as a notifiable disease, but no compensation systems have been implemented.

## **(2) Beef and Beef Offal**

### **a. SRM Removal**

#### **Methods of SRM Removal, etc.**

According to the questionnaire response by the Nicaraguan government, head (brain, skull, eyes, and trigeminal ganglia), vertebral column (including dorsal root ganglia), and spinal cord of animals aged 30 months or older, and tonsils and distal ileum of animals at all ages are removed from meat intended for export to Japan. Other parts (head, vertebral column, and spinal cord of animals aged less than 30 months) are not imported to Japan following a notice sent to importers, which instructs them to voluntarily restrain the import of SRM.

After removed, SRM is store in a container marked “SRM,” and decomposed with green paint.

Splitting is a common practice in slaughter houses. Saws used for splitting are washed and sterilized with hot water at 82°C or higher before used for another animal. Spinal cord is removed with a knife and hook, and pieces of spinal cord residues and dura mater are cleaned with special tools from the vertebral column. The carcasses are then washed with high pressure water.

Slaughter inspectors check the carcasses for residual spinal cord.

Tonsils are removed at the head inspection area. Meat inspectors check for removal of tonsils and record the results in the designated form.

The distal ileum is removed after organs are removed and when the part from the intestine to rumen is cut. Meat inspectors check for removal of the distal ileum and record the results in the designated form.

#### **Control based on (SSOP) and (HACCP)**

Compliance with the Sanitary Standard Operation Procedure (SSOP) and Hazard Analysis Critical Control Point (HACCP) are practiced at all facilities. Management of downer cattle, identification of age at the head inspection, removal of SRM, and other items are designated as control points related to BSE.

#### **Additional Requirements, etc. for Export to Japan**

According to the questionnaire response by the Nicaraguan authority, no specific requirement related to BSE has been stipulated for export to Japan.

### **b. Slaughtering Processes**

#### **Antemortem inspection and BSE testing at the slaughter houses**

Antemortem inspection is conducted for all animals by meat inspectors. Any animals with abnormal conditions, disease, or injury are identified as high-risk animals and all parts of the body of animals should be disposed of or incinerated.

BSE tests are carried out only with a part of routine slaughter cattle for a purpose of surveillance.

#### **Stunning and Pithing**

Stunning methods are used in all slaughterhouses in Nicaragua. The type of automatic stun guns with captive pins is used. The slaughter method of injecting pressured air or gas into the skull or the method using a hammer is not used in any slaughterhouses in Nicaragua.

Pithing is not practiced in Nicaraguan slaughterhouses.



**c. Others**

**Mechanically Recovered Meat (MRM)**

Production of mechanically recovered meat (MRM) is prohibited in Nicaragua based on the January 2004 Decision.

**Traceability**

In Nicaragua, an animal identification project was started in 2007, and a total of 6,000 animals are marked with the identification marker as of November 2007. Farmers record the date of birth, identification number at the farm, ear tag number, information on movement, and feeding history for each cattle.

**Number of Slaughterhouses and Number of Slaughtered Animals**

There are 4 slaughterhouses in Nicaragua where beef is processed for export to Japan. The total number of cattle slaughtered in 2007 was approximately 320,000.

**d. Assessment of Risk-reducing Measures at Meat Processing Lines**

Based on the questionnaire response by the Nicaraguan government, the risk-reducing measures at meat processing lines in Nicaragua were assessed. The risk-reducing efficacies of the measures were recognized 'extremely effective' (Table 46).

**Table 46. Summary of Assessment for Nicaragua**

		Measure	Judge
<b>Current Practice of SRM Removal</b>	<b>Definition of SRM</b>	2004: The following items were defined as SRM. - 30 months old or older: Brain, skull, eyes, trigeminal ganglia, spinal cord, vertebral column, and dorsal root ganglia. - All ages: Tonsils, small intestine, distal ileum.	<b>SRM is removed based on the regulations of the specific country (Methods of practice, etc.: Very good)</b>
	<b>Removal of SRM</b>	[Meat intended for export to Japan] - Cattle at 30 months old or older: Head, vertebral column, and spinal cord are removed - Cattle at all ages: Tonsil and distal ileum are removed.  Other parts (head, vertebral column and spinal cord of animals aged less than 30 months) are not exported to Japan following a notice sent to importers, which instructs them to voluntarily restrain import of SRM.	
	<b>Methods, etc.</b>	Split saws are washed between animals.	
		Carcasses are washed with high-pressure water.	
Slaughter inspectors check for the spinal cord residues on carcasses.			
HACCP and SSOP are practiced at all facilities.			
<b>Inspection at slaughter houses Stunning and pithing</b>	<b>Inspection at slaughterhouse</b>	- Antemortem inspection is conducted for all animals by meat inspectors. Any animals with abnormal conditions, disease, or injury are identified as high-risk animals and all parts of the body of animals should be disposed of or incinerated.  - BSE tests are carried out only with a part of routine slaughter cattle for a purpose of surveillance	<b>Good</b>
	<b>Stunning with injection of pressured air or gas into the skull</b>	Not practiced.	
	<b>Pithing</b>	Not practiced.	
<b>MRM</b>		Not produced (legally prohibited since 2004).	
<b>Additional requirements, etc. for export to Japan</b>		- No specific requirement related to BSE has been stipulated for export to Japan.	
<b>Livestock Hygiene Requirements</b>			
<b>Administrative guidance on import of beef for human consumption, etc. by notice</b>		Importing companies are instructed to withhold import of SRM for human consumption even from non-affected countries in order to prevent possible confusion in case BSE occurs in that country.	
<b>Assessment of risk-reducing measures</b>		<b>Efficacy of risk-reducing measures: 'extremely effective'</b>	

### (3) Conclusion

The evaluation of beef and beef-offal imported from Nicaragua to Japan, based on the Nicaragua's responses, resulted in our consideration that the external challenge is "negligible" for the whole period between 1986 and 2007. In addition, the risk against domestic (internal) stability was considered that "risk of exposure/propagation" was "high" (1986–2001) and s "moderate to low" (2002–2007).

Based on the results of assessments for external challenge and risk against domestic stability, the risk of BSE exposure/propagation in Nicaragua is considered to be negligible.

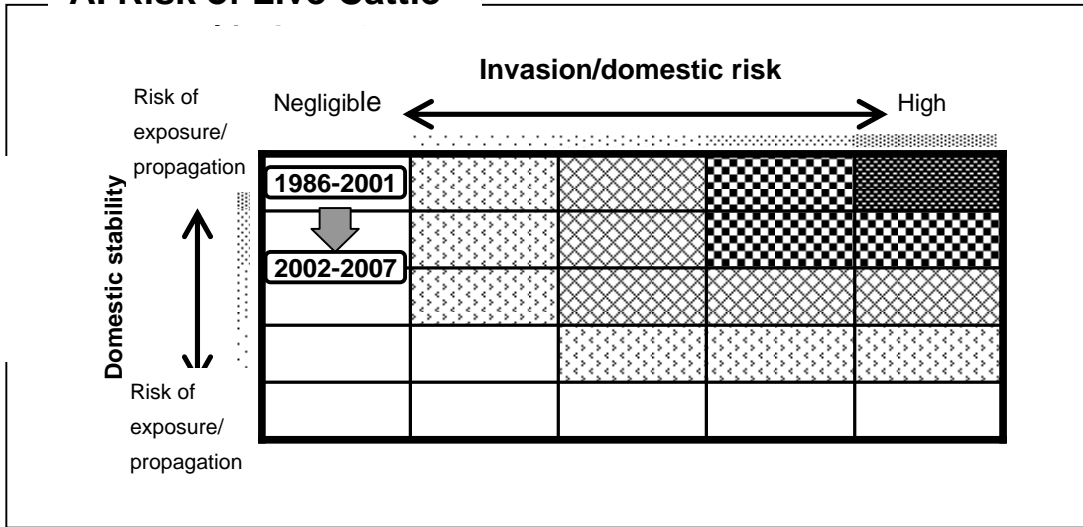
The surveillance so far has turned out to be with no BSE positive cattle. However, the surveillance outcome of the immediate past 7 years (2001-2007) was not assumed sufficient enough to meet the standard which "will allow the detection of BSE around a design prevalence of at least one case per 100,000 adult cattle population, at a confidence level of 95%", based on the using point system (BSurvE system) employed by the OIE. Thus improvement of the surveillance system is desired to allow a higher level of scientific verification.

Risk-reducing effect during the meat processing steps was assessed as "extremely effective."

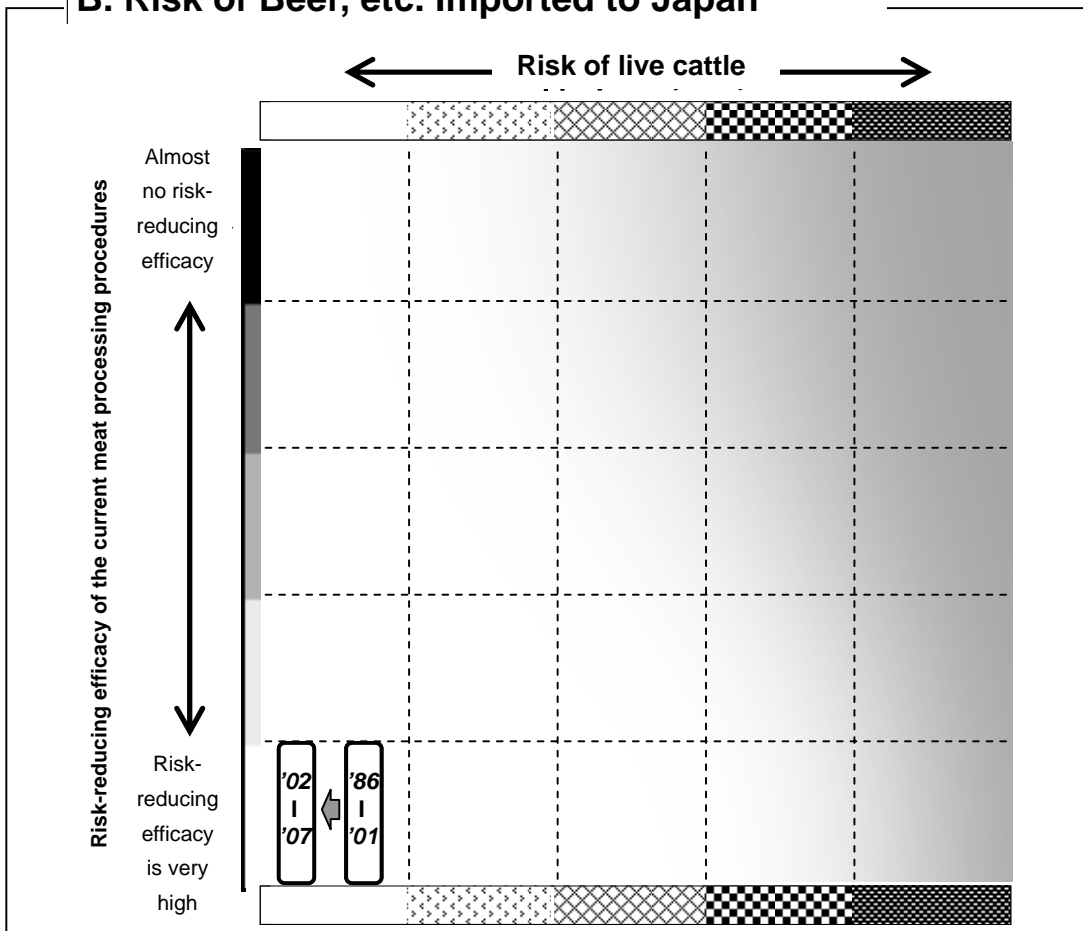
Judging from those presented above, the potential risk of BSE exposure/propagation in Nicaragua is considered negligible, and the risk-reducing effect during the meat processing steps was assessed as "extremely effective." Therefore, the risk of BSE prion contamination in beef and beef-offal imported from Nicaragua is considered to be negligible.

<Reference: Nicaragua>

### A. Risk of Live Cattle



### B. Risk of Beef, etc. Imported to Japan



Periods show the birth cohort years (birth years of cattle)