

**AUSTRALIA'S RESPONSE TO THE**

**Questionnaire for the Provision of Information  
Needed for the Food Safety Risk Assessment of Beef  
and Beef Offal Imported to Japan -  
July, 2007 Food Safety Commission**

**JANUARY 2008**

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## I. Information Needed for the Risk Assessment of Live Cattle

### 1. External Challenge

#### 1.1. Import of live cattle

##### 1.1.1. Import control and legal basis

Please provide information on Bovine Spongiform Encephalopathy (BSE)-related control measures in the tables below, and attach a copy of applicable legal regulations to this questionnaire.

##### (1) Control measures implemented or amended (in chronological order)

Date of Implementation	Control measures implemented or amended
1988	Import of live cattle from UK and Ireland banned
1991	Import of live cattle from Europe banned
2001	Import of live cattle from Japan banned
May 2003	Import of live cattle from Canada banned
December 2003	Import of live cattle from US banned  Cattle imported from these countries were traced, and those imported from 1982 onwards that were alive at the time of tracing, have been placed under permanent quarantine surveillance in accordance with Section 55A, Regulation 36 of the Commonwealth <i>Quarantine Act (1908)</i> . This section of the Act prohibits the unauthorised movement of cattle, or their sale for slaughter, and ensures that their carcasses will be disposed of in an approved manner. These measures allow the normal commercial management of the animals, but prohibit their use for the production of human or animal food.  The importation of cattle into Australia is currently prohibited from all countries except New Caledonia, although not all prohibitions are due to BSE risk.

##### (2) Control measures on imports via third countries

The same measures above apply to cattle whether imported directly or via third countries.

##### (3) Punitive clauses

The *Quarantine Act (1908)* is at [I. Appendix 1.1.1, Attachment 1](#).

The Biosecurity Australia policy for BSE and live cattle and their products is at [I. Appendix 1.1.1, Attachment 2](#).

The powers of Australian Quarantine and Inspection Service (AQIS) officers under the Quarantine Act (1908) are detailed at [I. Appendix 1.1.1, Attachment 3](#).

**1.1.2. Competent authorities responsible for import control and compliance monitoring**

*Please give the name of the competent authorities and outline compliance deviations/ breaches, if any, after enforced the regulations, along with the reactions of the authorities.*

Biosecurity Australia (policy).  
 Australian Quarantine and Inspection Service (operations).  
 There have been no instances reported of breaches of the above measures. Australia is an island continent and as such has no land-based borders with another country. It would be extremely difficult for cattle to be illegally imported into Australia due to well-prepared and well-resourced quarantine controls.

**1.1.3. Number of imported live cattle by country and year since 1986**

*(Number of heads)*

Country	1986 - 1987	1987 (June - Dec)	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Canada	56	700	199	984	46	72	104	0	10	0	0	0	0	0
Cocos Keeling Islands					76									
Denmark	0	0	0	33	0	29	0	0	0	42 (2)	24 (3)	0	0	0
France	0	0	78	0	79	28	0	0	0	0	0	0	0	0
Ireland	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Japan	0	0	0	0	0	0	0	0	0	0	0	0	24 (4)	0
NZ	200	73	161	137	61	32	45	34	16	7	0	0	0	0
UK	2	17	19 (1)	0	0	0	0	0	0	0	0	0	0	0
US	0	35	0	149	279	123	210	167	21	113	35	97	59	81



Country	2000	2001	2002	2003	2004	2005	2006	2007
Canada		7 (5)	0	0	0	0	0	0
US	4	12	39	23	0	0	0	0

*Source document:* Australian Bureau of Statistics (ABS), Australian Quarantine and Inspection Service records

(1) Cattle from the United Kingdom in 1988 were embarked to Australia before the presence of BSE in that country was made clear and import bans were imposed.

(2) Denmark recorded BSE in a cow imported from the UK in 1992 and had its first case of BSE in indigenous cattle in 2000.

(3) These animals were 24 buffalo imported from Bulgaria via Denmark.

(4) 24 Waygu cattle imported from Japan via the US

(5) This table shows that seven cattle were imported from Canada in 2001. However, 21 cattle have been imported from Canada into Australia since 1996 - 14 of these were imported via the US (3 in 1996, 10 in 1997 and 1 in 1999) and are included in the statistics for imports from that country in this table.

**1.1.4. Number of cattle imported from BSE risk countries\***

*(1) Please insert in each cell, the number of cattle for which rendering into feeding stuffs cannot be excluded and which could have led to the exposure of domestic cattle to the BSE agent. \* BSE risk countries: Countries in level III or IV according to the geographical BSE risk (GBR) assessment by European Food Safety Authority (EFSA) and/or countries where at least one BSE animal has been confirmed thus far.*

*(See Appendix.)*

(Number of heads)

Country and birth cohort (1)	1986-1987	1987-1988	1988-1989	1989-1990	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Canada (2)										2	2	1		
Europe (non-UK)		17	38	15										
US (2)										2	19			

Country and birth cohort	2000	2001	2002	2003	2004	2005	2006	2007

Source documents: Risk Assessment: The likelihood that bovine spongiform encephalopathy (BSE) established in the Australian herd as a result of the importation of cattle from the UK and Europe (1980 to 1991). Risk Assessment: The likelihood that bovine spongiform encephalopathy (BSE) established in the Australian herd as a result of the importation of cattle from North America (1996 to 2004).

(1) Data are presented by birth cohort rather than year of importation.

(2) Imported US and Canadian cattle were investigated from 1996 onwards. The year 1996 has been used as a baseline since it was a requirement in the *OIE Terrestrial Animal Health Code 2003* to have had effective BSE controls in place for seven years.

*(2) Provide reasons for exclusion with documentary evidence where available, for each group of cattle herd that is excluded from the external challenge.*

Risk assessments have shown that there is a negligible risk that BSE established in the Australian cattle population as a result of importation of cattle. These risk assessments were submitted to the World Organisation for Animal Health (OIE) for BSE risk assessments of Australia. These detailed risk assessments provide the reasons why nearly all of imported cattle can be excluded from the external BSE challenge.

*Risk Assessment: The likelihood that bovine spongiform encephalopathy (BSE) established in the Australian herd as a result of the importation of cattle from the UK and Europe (1980 to 1991) was prepared by Biosecurity Australia in November 2001. This includes an assessment of the risk posed by imported Japanese cattle. (I. Appendix 1.1.4, Attachment 1). A similar investigation, The likelihood that bovine spongiform encephalopathy (BSE) established in the Australian herd as a result of the importation of cattle from North America (1996 to 2004) was undertaken in 2004 (I. Appendix 1.1.4, Attachment 2). Both papers concluded that the likelihood was negligible that BSE could have become established within the Australian cattle herd as a result of the importation of live cattle from Europe and from North America respectively.*

#### 1.1.5. Confirmed BSE-infected cases in imported cattle

*Has any BSE animal been confirmed among imported cattle? If any, describe how the infected animals and their cohorts were dealt?*

No BSE cases have been confirmed in imported cattle.

#### 1.2. Imports of Meat and Bone Meal (MBM\*)

\* MBM: All the materials defined as such by H.S Code (2301.10) (Same as in the GBR.)

##### 1.2.1. Import control and legal basis

*Please provide information on BSE-related control measures in the tables below, and attach a copy of applicable legal regulations to this questionnaire.*

*(1) Control measures implemented or amended (in chronological order)*

Date of Implementation	Control measures implemented or amended
1966	Prohibition on the importation of MBM, meat meal, greaves and stockfeeds of animal-derived materials (except materials such as fish meal and milk/milk products) from all countries except New Zealand (this import restriction was originally introduced because of concerns with the potential importation of anthrax spores in animal derived stockfeeds).
1998	Above measure replaced by Section 39 of Quarantine Proclamation 1998.
2003	The Biosecurity Australia policy that implemented the above measure was refined.

*(2) Control measures on imports via third countries*

The same measures above apply whether imports are direct or via third countries.

*(3) Punitive clauses*

The *Quarantine Act (1908)* is included at I. Appendix 1.1.1, Attachment 1.  
 Proclamation 77A (1966) under the *Quarantine Act* – I. Appendix 1.2.1, Attachment 1.  
 Since replaced by Section 39 of Quarantine Proclamation 1998 – I. Appendix 1.2.1, Attachment 2.  
*Importation of Stockfeed and Stockfeed Ingredients – Finalised Risk Management Measures for Transmissible Spongiform Encephalopathies (TSEs)* - current Biosecurity Australia policy – I. Appendix 1.2.1, Attachment 3.  
 The powers of Australian Quarantine and Inspection Service (AQIS) officers under the Quarantine Act (1908) are detailed at I. Appendix 1.1.1, Attachment 3.

**1.2.2. Competent authorities responsible for import control and compliance monitoring**

*Please give the name of the competent authorities and outline compliance deviations/ breaches, if any, after enforced the regulations, along with the reactions of the authorities.*

Biosecurity Australia (policy).  
 Australian Quarantine and Inspection Service (operations).  
 In 2004, 3 imported consignments of stockfeed ingredients tested PCR positive for ruminant MBM and were re - dispatched.

**1.2.3. Imported MBM by country and year since 1986**

*(Reference: H.S. Code: 2301. 10, Meat and Bone Meals, Meat Meals, and greaves)*

*(Metric tons – rounded figures)*

Country	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
NZ	(1)	(1)	59	0	0	1330	1277	722	94	83	1033	1105	490	1278

Country	2000	2001	2002	2003	2004	2005	2006	Jan-Oct 2007
NZ	1076	536	821	435	385	708	497	
Australia (re-imports) (2)	0	0	94	20	0	0	20	

*Source documents:* Australian Bureau of Statistics (ABS), the Australian Quarantine Inspection Service (AQIS) in its AIMS database (AQIS Import Management System) which commenced in 1993, and the Australian Customs COMPILE database (Customs On-Line Method of Producing Lodgeable Entries), which commenced in 1997. ABS data for H.S. Code 2301.10 is not included where investigations of AQIS and Customs data have shown mis-coding of shipments.

(1) Figures not available for New Zealand imports for 1986 and 1987.

(2) These are exports of Australian MBM that have been re-imported for commercial reasons.

**1.2.4. MBM imported from BSE risk countries\***

(1) Please insert in each cell, the number of metric tons of MBM that could not be excluded, with certainty, from use as a cattle feed.

\* *BSE risk countries:* Countries in level III or IV according to the geographical BSE risk (GBR) assessment by European Food Safety Authority (EFSA) and/or countries where at least one BSE animal has been confirmed thus far.

(See Appendix.)

Country	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999

Country	2000	2001	2002	2003	2004	2005	2006	2007

Not applicable - there have been no imports of MBM since 1966 from any GBR III or IV country.

(2) Describe the reasons for exclusion with documentary evidence where available, for each quantity of MBM that is regarded as unused for cattle feed.

Not applicable - there have been no imports of MBM since 1966 from any GBR III or IV country.

### 1.3. Import of animal oil and fat

#### 1.3.1. Import control and legal basis

Please provide information on BSE-related control measures in the tables below, and attach a copy of applicable legal regulations to this questionnaire.

(1) Control measures implemented or amended (in chronological order)

Date of Implementation	Control measures implemented or amended
1966	Prohibition on the importation of MBM, meat meal, greaves and stockfeeds of animal-derived materials (except materials such as fish meal and milk/milk products) from all countries except New Zealand (this import restriction was originally introduced because of concerns with the potential importation of anthrax spores in animal derived stockfeeds).
1998	Above measure replaced by Section 39 of Quarantine Proclamation 1998.
2003	The Biosecurity Australia policy that implemented the above measure was refined.

(2) Control measures on imports via third countries

The same measures above apply whether imports are direct or via third countries.

(3) Punitive clauses

The *Quarantine Act (1908)* is included at [I. Appendix 1.1.1, Attachment 1](#).

Proclamation 77A (1966) under the *Quarantine Act* – [I. Appendix 1.2.1, Attachment 1](#)

Since replaced by Section 39 of Quarantine Proclamation 1998 – [I. Appendix 1.2.1, Attachment 2](#).

*Importation of Stockfeed and Stockfeed Ingredients – Finalised Risk Management Measures for Transmissible Spongiform Encephalopathies (TSEs)* - current Biosecurity Australia policy – [I. Appendix 1.2.1, Attachment 3](#).

The powers of AQIS officers under the Quarantine Act (1908) are detailed at [I. Appendix 1.1.1, Attachment 3](#).

#### 1.3.2. Competent authorities responsible for import control and compliance monitoring

Please give the name of the competent authorities and outline compliance deviations/breaches, if any, after enforced the regulations, along with the reactions of the authorities.

Biosecurity Australia (policy).

Australian Quarantine and Inspection Service (operations).

There have been no instances reported of breaches of the above measures.

**1.3.3. Imported animal oil and fat by country and year since 1986**

*(Reference: H.S. Code: 1502.00, ruminants-derived oil/fat; 1503.00, tallow and oil/fat; 1516.10, animal oil/fat and its fraction)*

*H.S Code 1502.00 fats of bovine animals, sheep or goats, raw or rendered (1)*

(Metric tons)

Country	1986 (2)	1987 (2)	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Australia (re-imports) (3)												0.63	20	
China													0.48	
Ireland														1.296
Netherlands							0.004							0.306
New Caledonia			72	57.6	43.2									
New Zealand				0.3	14		0.75	57.42	78.825	20	496.124	144.5		
Papua New Guinea														181.095
United Kingdom			0.65	1.254	0.8	0.35		0.017	0.01	0.002		0.09		
USA			0.001				0.01	0.26						0.02

*H.S Code 1502.00 (continued)*

Country	2000	2001	2002	2003	2004	2005	2006	2007
Australia (re-imports) (3)			14.825					14.872
Germany			0.001					
New Zealand	35.02	1,024.415		41.22				
Papua New Guinea	106.827	35.21					36.036	71.211
United Kingdom			0.001					

*Source document:* Australian Bureau of Statistics (ABS)

(1) - Animal oil or fat can not be imported into Australia for use in ruminant feeds except from New Zealand, but may be imported for human food, cosmetic or industrial uses.

(2) Figures not available for 1986 and 1987.

(3) These are Australian exports that have been re-imported for commercial reasons.



*H.S Code 1503.00* lard stearin, lard oil, oleostearin, oleo-oil and tallow oil, not emulsified or mixed or otherwise prepared kgs (1)

(Metric tons)

Country	1986 (2)	1987 (2)	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
China												1.6		
Country unknown						0.206								
Germany												0.185		
Indonesia												0.064		
Japan							0.015							
Korea Republic of													604.5	
Malaysia								250.99			34.56	69.06		
New Zealand				925.68		1,003.495					20.75	1,064.38		550.672
Singapore				44.56										
United Kingdom			1.14		10.713	0.201	0.185							
USA			0.054		3.176	16.927	2.419	0.925						

*H.S Code 1503.00 (continued)*

Country	2000	2001	2002	2003	2004	2005	2006	Jan-Oct 2007
<b>Australia (re-imports) (3)</b>						18.98		
<b>Canada</b>			38.025	23,650.225	3,894.510			
<b>China</b>				0.16				
<b>Fiji</b>				18.42				
<b>Korea Republic of</b>	1							
<b>New Zealand</b>	1,147.05 8	1,087.72	6,434.026	2,175.620				
<b>Sweden</b>						0.14		
<b>USA</b>		0.462	0.381		1.083	4.464	11.252	6.696

*Source document:* Australian Bureau of Statistics (ABS)

(1) -Animal oil or fat cannot be imported into Australia for use in ruminant feeds except from New Zealand, but may be imported for human food, cosmetic or industrial uses. These products are also highly purified and do not pose a risk.

(2) Figures not available for 1986 and 1987.

(3) These are Australian exports that have been re-imported for commercial reasons.

*H.S Code 1516.10 animal or vegetable fats and oils and their fractions, partly or wholly hydrogenated, interesterified, re-esterified or elaidinised, whether or not refined, but not further prepared (1)*

Australian dollar value \$'000 (2)

Country	1986 (2)	1987 (2)	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Australia (re-imports)													25.557 (4)	35.21 (4)
Chile														0.283 (4)
China													1.31 (4)	
France			0.74 (4)	3.068 (4)	0.444 (4)		1.897 (4)					0.332 (4)		
Germany						7.275 (4)	14.34 (4)	17.363 (4)	16.572 (4)				5.1 (4)	497.869 (4)
Hong Kong (SAR China)											0.235 (4)			
Japan						2.001 (4)	2.397 (4)	0.307 (4)	1.039 (4)		0.938 (4)			
Malaysia			27.69 (4)										3.766 (4)	5.491 (4)
The Netherlands					1.118 (4)				0.209 (4)				4.997 (4)	
New Zealand			13.266 (4)	33.756 (4)	11.138 (4)				47.552 (4)	19.753 (4)	117.669 (4)	223.824 (4)	306.178 (4)	216.521 (4)
Norway			54.347 (4)	53.51 (4)	15.933 (4)	40.041 (4)	22.17 (4)	66.629 (4)	41.494 (4)	50.408 (4)	63.139 (4)	47.383 (4)	75.587 (4)	57.107 (4)

*H.S Code 1516.10 (continued)*

Country	1986 (3)	1987 (3)	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Republic of Korea											12.745 (4)			
Singapore				83.883 (4)								17.354 (4)	1.104 (4)	
Sweden					15.513 (4)	15.631 (4)				3.189 (4)				11.57 (4)
Switzerland			2.728 (4)											
Thailand											0.957 (4)			
United Kingdom									0.05 (4)					
USA			0.033 (4)		4.903 (4)	0.475 (4)	0.337 (4)	0.289 (4)	0.001 (4)	0.211 (4)	0.33 (4)	0.515 (4)	1.404 (4)	3.352 (4)

*H.S Code 1516.10 (continued)*

Country	2000	2001	2002	2003	2004	2005	2006	Jan-Nov 2007
Australia (re-imports)	0.691 (4)							
Chile	20.592 (4)							
Germany	958.023 (4)							
Italy		2.428 (4)						
Malaysia	12.774 (4)	18.333 (4)	76.163 (4)	20.893 (5)	38.182 (5)	32.346 (5)	24.347 (5) & 5.499 (6)	
New Zealand	55.331 (4)	1.257 (4)		7.661 (5)		36.341 (5)	14.547 (5)	
Norway	65.18 (4)	9.36 (4)	9.971 (4)	12.384 (4) & 6.932 (5)	13.269 (5)	3.506 (5)		
Papua New Guinea		31.094 (4)	12.412 (4)					
USA	4.926 (4)				66.34 (5)			1.501 (6)
Singapore					23.237 (5)			
The Netherlands					39.916 (7)			
Sweden				28.318 (5)				
Taiwan	0.332 (4)							

*H.S Code 1516.10 (continued)*

Source document: Australian Bureau of Statistics (ABS)

(1) Animal oil or fat cannot be imported into Australia for use in ruminant feeds except from New Zealand, but may be imported for human food, cosmetic or industrial uses. These products are also highly purified and do not pose a risk.

(2) For these commodities, no quantities are recorded due to an Australian Customs office regulation. Therefore only dollar values are provided.

(3) Figures not available for 1986 and 1987.

(4) Code 15161000013 – Animal fats and oils and their fractions, hydrogenated, inter-esterified, re-esterified or elaidinised but not further worked

(5) Code 1516109037 – Animal fats and oils and their fractions, hydrogenated, inter-esterified, re-esterified or elaidinised (excl. biodiesel) not further prepared

(6) Code 1516100070 – Animal fats and oils and their fractions, hydrogenated, inter-esterified, re-esterified or elaidinised, not further prepared

(7) Code 1516101036 – Biodiesel derived from animal fats and oils and their fractions not further prepared

**1.3.4. Animal oil and fat imported from BSE risk countries\***

(1) Please insert in each cell, the number of metric tons of oil/fat that could not be excluded, with certainty, from use as a cattle feed.

\* **BSE risk countries:** Countries in level III or IV according to the geographical BSE risk (GBR) assessment by European Food Safety Authority (EFSA) and/or countries where at least one BSE animal has been confirmed thus far.

(See Appendix.)

Country	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999

Country	2000	2001	2002	2003	2004	2005	2006	2007

Not applicable - animal oil or fat cannot be imported into Australia for use in ruminant feeds except from New Zealand, but may be imported for human food, cosmetic or industrial uses.

*(2) Describe the reasons for exclusion with documentary evidence where available, for each quantity of animal oil and fat that is regarded as unused for cattle feed.*

Not applicable - animal oil or fat cannot be imported into Australia for use in ruminant feeds except from New Zealand, but may be imported for human food, cosmetic or industrial uses.

## 2. Internal Challenge

### 2.1. Feed ban

#### 2.1.1. Feeding control (e.g. restraints on materials, labeling, etc.) and legal regulations

*Please provide information on BSE-related control measures in the tables below, and attach a copy of applicable legal regulations to this questionnaire.*

*(1) Control measures implemented or amended (in chronological order)*

Date of Implementation	Control measures implemented or amended
1996	Ban (voluntary) on feeding ruminant MBM to ruminants.
1997	Ban (mandatory) on feeding ruminant MBM to ruminants and mandatory labelling of stockfeeds containing ruminant MBM (this ban changed the negligible use of MBM for ruminant feed to zero use, and imposed little economic burden on the cattle and sheep industries).
1998	Nationwide audit of the above measures
1999	Ban (mandatory) on feeding specified mammalian MBM to ruminants and mandatory labeling of stockfeeds containing specified mammalian MBM (included all MBM of mammals except for materials derived entirely from horses, pigs and kangaroos; did not include blood).
2000	Nationwide audit of the above measures
2001	Nationwide audit of the above measures
2001-2002	Ban (mandatory) on feeding all material derived from vertebrate animals to ruminants and mandatory labeling of stockfeeds containing material derived from vertebrate animals (except tallow, gelatine and milk/milk products).
2003	Nationwide audits were superseded by programmed official compliance inspections of all renderers, all stockfeed manufacturers, and a random selection of retailers, carried out by inspectors authorised by state and territory governments.
1997-2007	Educational materials distributed to rendering plants, feed mills, stock feed retailers and farmers.
1997-2007	Voluntary industry quality assurance schemes introduced at rendering plants, feed mills and cattle farms that include the ruminant feed ban, and subject to independent audits.

## (2) Punitive clauses

Extracts/summaries of the legislation in each Australian State and Territory are included at I. Appendix 2.1.1 Attachments 1 – 9.

Examples for New South Wales and Western Australia of penalties and powers under state and territory legislation in regard to the ruminant feed ban are contained in I. Appendix 2.1.1 Attachment 2 and Attachment 8. Other jurisdictions have similar provisions and these can be provided if required.

### 2.2. Situation of Compliance and Possibility of Cross-contamination

#### 2.2.1. Form of farming

##### 2.2.1.1. Typical feeding for cows and beef cattle

*Please describe typical ways of feeding\* at each growing stage of dairy cows and beef cattle. Give information on how the feeding method has been changed since 1986 to present.*

#### General

The composition of diets for cattle in Australia is covered by legislation as follows:

- all cattle in Australia have been and remain subject to the official prohibition on the feeding of meat and bone meal (MBM), which dates from 1997 as described above;
- the testing for chemical residues indirectly influences the composition of cattle diets and is conducted by the Australian National Residue Survey.

The voluntary ban on feeding ruminant MBM to ruminants in 1996 changed a negligible use of ruminant MBM in cattle feed to a zero use and imposed little economic burden on the cattle industry. Some protein meals available for calves and other classes of cattle in Australia since 1996 are shown in Table 1. All these meals are derived from plants.

Table 1. Some protein meals available for cattle in Australia

	Crude protein content %	By-pass or protected protein (%)	Production 2006-2007 <sup>1</sup> (kilotonnes)
Cottonseed	41	30–40	387.8 kt
Sunflower (SFM)	40–45	20	18.0 kt
Soybean	50	30	31.9 kt
Peanut	42	30	48.0 kt
Canola	50	30	512.6 kt
Lupins	32	25	173.8 kt
Field peas	16	25	148.8 kt
Faba beans	26	10	107.5 kt

<sup>1</sup>Australian Commodity Statistics 2007, Australian Bureau of Agricultural and Resource Economics



## **Dairy**

### **Dairy Calves**

The sequence of feeding dairy calves begins with colostrum. Delivery of colostrum via stomach tube becoming standard practice for the rearing of dairy calves in Australia. At least 4 L of colostrum is fed to each calf as soon as possible after birth – within six hours. Calves are then fed with either whole milk or with milk replacer until weaning. In some feeding systems, calves are allowed access to dry meal during the first few days of their life.

Whole milk feeding is common but milk replacer powders are favoured in some places because of their lower cost. In addition, milk replacers can be fortified with vitamins, minerals and ionophores. The two basic types of milk replacer contain either butterfat or tallow as the principal source of energy source. Butterfat is favoured because it is more easily emulsified than tallow. Tallow used in calf milk replacer must be highly purified if it is to emulsify properly and not cause gut disorders.

Weaning in Australia can occur when calves are 6 weeks old. In this case, calves are fed pellets or meals with a high content of protein for a period before being moved to pasture. In some instances older calves are weaned directly onto high quality pasture.

Rations for calves have a high energy and protein content and, depending upon price and availability, may contain varying proportions of rolled barley, rolled oats, cracked corn, protein meal, limestone and salt. Molasses may be added to the meal to increase palatability. A small amount of higher fibre hay (less than 10% of the total dry matter in the total ration) is given to assist in rumen development.

### **Adult Dairy Cattle**

Australia's climate allows dairy production from unhoused cattle that are maintained at pasture the whole year round. Approximately 80% of the feed requirements for dairy cows come from grazing.

Between 1991-92 and 2001-02 the proportion of Australian dairy farms using grazing systems consistently exceeded 87%. There has been a noticeable shift from so-called "strip grazing" systems to "small paddock" systems over the last few years

Dairy production from cattle maintained on feedlots is unusual in Australia. On the other hand, the practice of feeding supplements of hay, silage and grains, to grazing cattle is increasing for cattle. The grains used as supplements include wheat, barley, oats and sorghum. Hay and silage used in supplements is made from an assortment of plant species including legumes such as lucerne, temperate grasses such as ryegrass and tropical grasses such as paspalum.

The percentage of dairy farms feeding concentrates or grains rose by almost 7% between

1991-92 and 2001-02, to an estimated 87% of Australian dairy farms. Over the same period the average quantity of purchased concentrates used per farm rose by 53 tonnes to 83 tonnes. Purchased feed consists of either pellets or pre-mixed supplements. The amount of self-mixed concentrates more than doubled to be an average of 31.3 tonnes per farm in 2001-02. The estimated amount of by-products fed more than quadrupled over the decade to 21 tonnes on average per farm in 2001-02, with most of this increase occurring since 1995-96. By-products fed to dairy cattle include manufacturing waste such as brewer's grain or orange pulp. The protein meals used for adult cows are shown in Table 1.

*Sources of information on the feeding of dairy cattle and calves in Australia are:*

- *Technology and Farm Management Practices in the Australian Dairy Industry. Boero Rodriguez, V. 2003*
- *NSW Agriculture DairyLink manuals on feeding dairy calves and cattle*

## **Beef Cattle**

The breeding phase of beef cattle production in Australia occurs at pasture and with unhusbanded animals. The growing phase of beef cattle production occurs on pasture or in feedlots. The northern beef production system operates in the tropical and sub-tropical regions of Australia and largely uses humped (*Bos indicus*) cattle. The southern beef production system operates in milder climates and largely uses *Bos taurus* cattle. Pasture is the predominant feedstuff for both production systems.

Pastures in Australia are based on introduced plant species or native plant species. Supplements are fed at times of the year when pasture growth is deficient or may not meet the nutritional requirements associated with pregnancy or lactation. Supplements are required during times of drought.

Supplementary feeds used as a source of energy for beef cattle maintained at pasture include:

- Hay, silage and grain; as for dairy cattle;
- Alternative roughages of low nutritive value including cotton hulls, rice hulls, sunflower hulls, grape marc, bagasse (by product of sugarcane processing), oat hulls, canola hay, cane tops and rice straw. The feeding of poultry litter or mushroom litter that may contain poultry litter is illegal in Australia as it may contain traces of MBM. Alternative roughages are usually fed in combinations with a source of protein or non-protein nitrogen as described below.

Supplementary feeds used as sources of protein (either protein itself or non-protein nitrogen) for beef cattle maintained at pasture include:

- Protein blocks or licks which usually contain water, molasses, urea, salt, a phosphorus source, and a protein meal (see Table 1) and cement;
- Bypass or protected proteins such as cottonseed meal (see Table 1).
- Urea (a source of non-protein nitrogen) provided to cattle as blocks licks and mixes, usually in association with molasses for palatability.

About 30% of beef cattle in Australia complete the growing phase of meat production in feedlots. Feedlots in Australia are accredited under a quality assurance scheme managed by Aus-Meat Limited, which is the organisation responsible for establishing and maintaining Australia's "National Industry Standards for Meat Production and Processing".

Diets used for cattle in Australian feedlots have changed little over the last decade. Depending upon price, availability and market requirements, diets are generally composed of:

1. grains: Aus-Meat accreditation requires that 50% of the diet for feedlot cattle must consist of grains; barley or sorghum is preferred over wheat; oats are not favoured because of their high fibre content; virtually no soy or maize is used in Australia
2. roughage: those used vary in quality from high quality lucerne or clover hays to chaff and straw, which are used as rumen "fill"
3. by-products: by-products used in Australia are brewer's grains, orange pulp and cottonseed hulls and meal, and a few feedlots use molasses
4. vitamin and mineral premixes: these come almost entirely from major international companies specialising in feed supplementation and comply with Australia's import requirements

It is noteworthy that protein meals are rarely used in feedlots in Australia. Grains contain sufficient protein for optimum growth in the class of cattle used in feedlots.

The general information above on beef cattle production was obtained from Meat and Livestock Australia. Information on feedlots was obtained from the Australian Lot Feeders Association.

#### **2.2.1.2. Co-farming of cows and beef cattle and the percentage of such co-farmed bovines in all the domestic cattle**

*Question: Is co-farming of cows and beef cattle present in your country?*

- YES (Provide the percentage, if possible, in the next line.)

Yes, dairy cows and beef cattle may both be raised on a relatively small percentage of cattle farms. The percentage of the cattle herd on such farms is not available. However, the same legal requirements for the ruminant feed ban apply to both dairy and beef cattle, even though they are generally subject to different husbandry and feeding systems.

#### **2.2.1.3. Co-farming of bovines with pigs and/or poultry and the percentage of such co-farmed bovines in all the domestic cattle**

*Question: Is co-farming of bovines with pigs and/or poultry present in your country?*

- YES (Provide the percentage, if possible, in the next line.)

Yes, cattle may be reared on a small percentage of pig and/or poultry farms. The percentage of the cattle herd on such farms is not available. It is illegal to feed poultry litter to ruminants.

## 2.2.2. Information on feed mills

### 2.2.2.1. Number of feed mills

Insert in each cell below, the total number of operating mills in each period.

(Number of feed mills)

Year Type of feed mill		1986-1990	1991-1995	1996-2000	2001-2005 (1)	2006 (1)
		Dedicated mills* (2)	Dedicated to pig feed	No data	No data	No data
Dedicated to poultry feed	No data		No data	No data	20	16
Dedicated to pig and poultry feed	No data		No data	No data	9	9
Dedicated to ruminant feed	No data		No data	No data	37	73
Dedicated to horse feed	No data		No data	No data	3	5
Dedicated to aquaculture feed	No data		No data	No data	2	2
Mixed feed mills** (3) Using MBM, poultry meal and/or fish meal	Production lines separated from each other	No data	No data	No data	3	3
	Production line flushed before switch production	No data	No data	No data	43	28
	No measures taken to prevent cross-contamination	No data	No data	0	0	0
Mixed feed mills** (3) NOT Using MBM, poultry meal and/or fish meal	No cross contamination measures required	No data	No data	No data	No data	13

\* Dedicated mills do not produce feed for ruminant and non-ruminant animals on the same premises.

\*\* Mixed feed mills produce feed for ruminant and non-ruminant animals on the same premises

(1) Approximate number of commercial feed mills only from data provided by the Stock Feed Manufacturers' Council of Australia.

(2) Please note that these figures DO NOT include dedicated feed manufacturing operations located on livestock farms such as feedlots, dairies and pig and poultry.

(3) Some mixed feed mills in Australia have made a commercial decision not to use ruminant MBM in the production of non-ruminant feeds. An extra row has been added to the table above to cater for this category of mill.

### 2.2.2.2. Feed production

(1) Output of feed products for each animal species

Insert in each cell below, the total metric tons of feed produced in each period.

(Total metric tons)

Year		1986-1990	1991-1995	1996-2000	2001-2005 (1)	2006-(1)
		Type of feed mill				
Compound feed produced in dedicated mills (2)	For ruminants	No data	No data	No data	990,800	1,807,750
	For pig	No data	No data	No data	110,000	122,000
	For poultry	No data	No data	No data	1,697,000	1,817,000
	For pig and poultry	No data	No data	No data	565,000	1,003,000
	Others (horse and aquaculture )	No data	No data	No data	141,000	138,300
Compound feed produced in mixed feed mills	For ruminants	No data	No data	No data	2,241,500 (3)	745,500
	For pig	No data	No data	No data		683,400
	For poultry	No data	No data	No data		653,700
	Others (horse and aquaculture)	No data	No data	No data		171,800

(1) Approximate quantities only from data provided by the Stock Feed Manufacturers' Council of Australia.

(2) Please note that these figures DO NOT include dedicated feed manufacturing operations located on livestock farms such as feedlots, dairies and pig and poultry.

(3) No data is available on the split by feed type for the feed supplied for 2001-2005, but percentages should approximate those for 2006.

*(2) Output by type of raw materials*

*(Total metric tons)*

Year		1986-1990	1991-1995	1996-2000	2001-2005 (1)	2006-(1)
Raw materials						
MBM	Containing ruminant-derived materials	No data	No data	No data	566,000 (2)	(3)
	Not containing ruminant-derived materials	No data	No data	No data		
Animal oil and fat	Containing ruminant-derived materials	No data	No data	No data	560,000 (2)	(3)
	Not containing ruminant-derived materials	No data	No data	No data		
Fishmeal		No data	No data	No data		(3)
Other feeds ( )		No data	No data	No data	See 2.2.1.1 for information on plant-based meals	

(1) Approximate quantities only from data provided by the Australian Renderers' Association. Approximately 50% - 60% of production is exported and not used in Australia.

(2) No data is available by species for meat and bone meal/tallow, except that approximately 46,000 tonnes of poultry meal are produced annually.

(3) Data for 2006 is estimated to be approximately the same as for 2001-2005.

### 2.2.2.3. Usage of MBM and animal oil/fat for each application

#### MBM

(Total metric tons)

Type	Application	1986-1990	1991-1995	1996-2000	2001-2005 (1)	2006-
MBM containing ruminant-derived materials	As feed for ruminants	No data	No data	No data	No data	No data
	As feed for non-ruminants	No data	No data	No data	No data	No data
	As fertilizer	No data	No data	No data	No data	No data
	Condemned	No data	No data	No data	No data	No data
MBM not containing ruminant-derived materials	As feed for ruminants	No data	No data	No data	No data	No data
	As feed for non-ruminants	No data	No data	No data	No data	No data
	As fertilizer	No data	No data	No data	No data	No data
	Condemned	No data	No data	No data	No data	No data
All animal protein meals (2)	As feed for ruminants	No data	No data	No data	0	0
	As feed for pigs/poultry	No data	No data	No data	286,000	(3)
	As pet food	No data	No data	No data	40,000	(3)
	Condemned	No data	No data	No data	0	0
	Exports	No data	No data	No data	300,000	(3)

(1) Approximate quantities only from data provided by the Australian Renderers' Association.

(2) No data are available on the use of MBM by species of production. Therefore data above include all animal protein meals, including meat meals, poultry meals, feather meals, fish meals and blood meals.

(3) Data for 2006 is estimated to be approximately the same as for 2001-2005.

#### Animal oil/fat

(Total metric tons)

Application	Insoluble Impurity Level	1986-1990	1991-1995	1996-2000	2001-2005 (1)	2006-
For human consumption	0.15% or less	No data	No data	No data	50,000	(2)
	More than 0.15%	No data	No data	No data	0	0
As feed	0.15% or less	No data	No data	No data	50,000	(2)
	More than 0.15%	No data	No data	No data	0	0
Exports	All	No data	No data	No data	350,000	(2)
Other use	0.15% or less	No data	No data	No data	0	0
	More than 0.15%	No data	No data	No data	50,000	(2)

(1) Approximate quantities only from data provided by the Australian Renderers' Association.

(2) Data for 2006 is estimated to be approximately the same as for 2001-2005.

### 2.2.3. Competent authorities and situation of compliance

#### 2.2.3.1. Competent authorities responsible for animal feeding and the situation of compliance

*Please give the name of the competent authorities and outline the verification method.*

(1) *Competent authorities:* State and territory governments

(2) *Verification methods of compliance:* Programmed official compliance inspections of a random selection of farms are carried out by inspectors authorised by state and territory governments. These arrangements are detailed within the *National uniform guidelines for ensuring compliance (with the Australian Ruminant Feed Ban) through inspection/sampling and testing programs* (I. Appendix 2.2.3.1, Attachment 1).

These audits are complemented by the thousands of audits conducted annually under industry food safety quality assurance schemes on beef cattle farms (I. Appendix 2.2.3.1, Attachment 2), beef feedlots (I. Appendix 2.2.3.1, Attachment 3), and dairy cattle farms (I. Appendix 2.2.3.1, Attachment 4) which encompass checks on compliance with the ruminant feed ban. When selling cattle, nearly all farmers provide voluntary, but legally binding, declarations that their cattle have not been fed in contravention of the ruminant feed ban (I. Appendix 2.2.3.1, Attachment 5 and Attachment 6).

Additionally, for many years Australian authorities and industries have produced and distributed educational material to assist farmers to meet their legal obligations under the ruminant feed ban. Examples of these materials are provided at (I. Appendix 2.2.3.1, Attachment 7, Attachment 8, Attachment 9, and Attachment 10).



*(3) Results of verification*

*Please give information on compliance deviations/breaches, if any, along with the reactions of the authorities.*

	Inspection Method						Nature of breach and reaction
	Record/inventory inspection		Analysis (analytical method*) PCR		Others ( )		
Year	Number of Audits (1)	Number of breaches (2)	Number of Audits (5)	Number of breaches	Number of audits	Number of breaches	
1998 (3)	54 beef feedlots	0					-
	24 dairies	0					-
2000 (3)	22 beef feedlots	0					-
	25 dairies	0					-
	2 sheep feedlots	0					-
2001-03 (3)	774 feedlots, dairies and cattle farms	17					Sheep farmer prosecuted and fined for feeding prohibited material. Prevent ruminants having possible access to pig/poultry feed.
2004 (3)	664 feedlots, dairies and cattle farms	58					Minor – corrected

Results of verification (continued)

	Inspection Method						Nature of breach and reaction
	Record/inventory inspection		Analysis (analytical method*) PCR		Others ( )		
Year	Number of Audits (1)	Number of breaches (2)	Number of Audits (5)	Number of breaches	Number of audits	Number of breaches	
2005 (4)	8557 feedlots, dairies and cattle farms	15					9 critical and 6 major nonconformities corrected - prevent ruminants having possible access to pig/poultry feed, cleaning of feed mixers.
2006 (4)	8328 feedlots, dairies and cattle farms	7					2 critical and 5 major nonconformities corrected - possible ruminant access to organic fertiliser and dog food.

Please make a list for each type of farm inspected such as cattle farm and sheep/goat farm.

\* For analytical method, specify substance or method used in the analysis (e.g. ELISA). \_\_\_\_\_

- (1) Audits are not random and are targeted at higher risk enterprises. Figures provided are estimates based on collation of data provided by state and territory authorities.
- (2) There may be more than one breach recorded during an audit of an enterprise. Therefore these numbers do not indicate number of non-compliant enterprises.
- (3) Data on nonconformities (breaches) includes minor breaches.
- (4) Data on nonconformities (breaches) does not include minor breaches.
- (4) Includes independent third party audits under industry quality assurance based schemes.
- (5) Testing data on farms is included in data for section I 2.2.3.3.

**2.2.3.2. Control measures and legal basis for feed production and distribution**

*Please provide information on any BSE-related control measures including restrictions on materials, labeling, registration, cross-contamination prevention (separation of production processes), etc. in the tables below, and attach a copy of applicable legal regulations to this questionnaire.*

*(1) Control measures implemented or amended (in chronological order)*

Date of Implementation	Control measures implemented or amended
1996	Voluntary measures – feed mill - Physical cleaning, flushing, sequencing, segregation of manufacture or dedicated plants, labelling of ruminant MBM and feed containing ruminant MBM, education, audits; transport - cleaning, separate or dedicated transport, labelling of ruminant MBM and feed containing ruminant MBM, education, audits; farms - labelling of ruminant MBM and feed containing ruminant MBM, education, audits.
1997	Above measures become mandatory
1998	Nationwide audit of the above measures
2000	Nationwide audit of the above measures
2001	Nationwide audit of the above measures
2003	Nationwide audits were superseded by programmed official compliance inspections of all renderers, all stockfeed manufacturers, and a random selection of retailers, carried out by inspectors authorised by state and territory governments.
1997-2007	Educational materials distributed to rendering plants, feed mills, stock feed retailers and farmers.
1997-2007	Voluntary industry quality assurance schemes introduced at rendering plants and feed mills that include the ruminant feed ban, and subject to independent audits.

*(2) Punitive clauses*

Extracts/summaries of the legislation in each Australian State and Territory, including punitive clauses, is included at [I. Appendix 2.1.1 Attachments 1 – 9](#).

**2.2.3.3. Competent authorities responsible for feed production/distribution and compliance monitoring**

*Please give the name of the competent authorities and outline the verification method.*

*(1) Competent authorities:* State and territory governments for domestic production. Biosecurity Australia and the Australian Quarantine and Inspection Service for imports.

*(2) Verification methods of compliance:* Programmed official compliance inspections of renderers and stockfeed manufacturers, and a random selection of retailers, are carried out by inspectors authorised by state and territory governments. These arrangements are detailed within the *National uniform guidelines for ensuring compliance (with the Australian Ruminant Feed Ban) through inspection/sampling and testing programs* ([I. Appendix 2.2.3.1](#),

Attachment 1). Most state and territory authorities have developed their own detailed procedures on implementing these guidelines (example at I. Appendix 2.2.3.3, Attachment 1). These audits are complemented by the many audits conducted annually on rendering plants (I. Appendix 2.2.3.3, Attachment 2 and Attachment 3) and feed mills (I. Appendix 2.2.3.3, Attachment 4 and Attachment 5) under industry quality assurance schemes, which encompass checks on compliance with the ruminant feed ban.

Additionally, for many years Australian authorities and industries have produced and distributed educational material to assist renderers, feed millers and retailers meet their legal obligations under the ruminant feed ban. Examples of these materials are provided at (I. Appendix 2.2.3.1, Attachment 10 and Appendix 2.2.3.3 Attachment 6 and Attachment 7).

*(3) Results of verification*

*Please give information on compliance deviations/breaches, if any, along with the reactions of the authorities.*

	Inspection Method						Nature of breach and reaction
	Record/inventory inspection		Analysis (analytical method*)		Others ( )		
Year	Number of Audits (1)	Number of breaches (2)	Number of Audits (5)	Number of breaches	Number of audits	Number of breaches	
<b>1998 (3)</b>	36 renderers	6					Minor - labelling corrected.
	39 feed mills	14					Minor - labelling corrected.
	30 retailers	20					Minor - labelling corrected.
<b>2000 (3)</b>	35 renderers	1					Minor - labelling corrected.
	36 feed mills	3					Minor - labelling corrected.
	46 retailers	35					Minor - labelling corrected.
<b>Jan-Feb 2001 (3)</b>	45 retailers	17					Minor - labelling corrected.
<b>2001-03 (3)</b>	116 renderers	16					Minor - labelling corrected.
	331 feed mills	117					Minor - labelling corrected. Revised sequencing, flushing and storage.
	157 retailers	20					Minor - labelling corrected.
			41 (PCR)	0			24 tests were on imported stockfeed ingredients.
<b>2004 (3)</b>	47 renderers	3					Minor – corrected – no major or critical nonconformities.
	262 feed mills	68					Minor – corrected - no major or critical nonconformities.

*Results of verification (continued)*

Year	Inspection Method						Nature of breach and reaction
	Record/inventory inspection		Analysis (analytical method*)		Others ( )		
	Number of Audits (1)	Number of breaches (2)	Number of Audits (5)	Number of breaches	Number of audits	Number of breaches	
2004 (continued)	87 retailers	56					Minor - corrected - no major or critical nonconformities.
			52 (PCR)	8			3 positive tests were on poultry feed. 41 tests were on imported stockfeed ingredients, 3 of which were positive and the consignments were re - dispatched.
2005 (4)	107 renderers	3					Major nonconformities – corrected - labelling.
	125 feed mills	129					2 critical and 39 major nonconformities corrected - flushing and labeling.
	171 retailers	28					10 critical and 18 major nonconformities corrected - labelling.
			23 (PCR)	3			2 positive tests were on poultry feed. 13 tests were on imported stockfeed ingredients.

*Results of verification (continued)*

	Inspection Method						Nature of breach and reaction
	Record/inventory inspection		Analysis (analytical method*)		Others ( )		
Year	Number of Audits (1)	Number of breaches (2)	Number of Audits (5)	Number of breaches	Number of audits	Number of breaches	
2006 (4)	90 renderers	4					4 major nonconformities corrected - labelling.
	237 feed mills	17					17 major nonconformities - labeling, inappropriately stored or identified ingredients.
	258 retailers	43					12 critical and 31 major nonconformities corrected - labelling.
			56 (PCR)	4			3 positives were in non-ruminant feeds. 28 tests were on imported stockfeed ingredients.

*Please make a list for each type of feed produced such as compound feed, MBM and animal oil/fat.*

*\* For analytical method, specify substance or method used in the analysis (e.g. ELISA). \_\_\_\_\_*

(1) Audits are not random and are targeted at higher risk enterprises. Figures provided are estimates based on collation of data provided by state and territory authorities.

(2) There may be more than one breach recorded during an audit of an enterprise. Therefore these numbers do not indicate number of non-compliant enterprises.

(3) Data on nonconformities (breaches) includes minor breaches.

(4) Data on nonconformities (breaches) does not include minor nonconformities.

(4) Includes independent third party audits under industry quality assurance based schemes for renderers and feed mills.

(5) A national sampling programme in which each State/Territory had to take five samples per year was introduced in 2003 and cancelled in 2004 because the PCR method is only validated for ruminant MBM and not for all prohibited MBM. Some states continued to undertake some testing pending a national program currently being developed following further research and development work on analytical methods.

**2.2.4. Results of the examination of bovine feed samples with regard to contamination with MBM or animal protein in general other than milk**

**2.2.4.1. Feed sampling**

*Provide information on feed sampling in the table below (after feed ban implemented):*

Year	Test method* (1)			Number tested (2) (3)	Number of contaminated samples	Number positive	Criteria for a positive sample**
	M	E	O				
2002			PCR	3	0	0	>0.5% bovine or ovine material
2003			PCR	38	0	0	>0.5% bovine or ovine material
2004			PCR	52	5	8	>0.5% bovine or ovine material
2005			PCR	23	1	3	>0.5% bovine or ovine material
2006			PCR	56	1	4	>0.5% bovine or ovine material

*\*Test method: M = Microscope; E = ELISA; O = Other (specify)*

*\*\* Give minimum contamination above which a sample is declared being 'positive', e.g. >0.5%, >0.1%, >0% and/or any other criteria used.*

(1) A national sampling programme in which each State/Territory had to take five samples per year was introduced in 2003 and cancelled in 2004 because the PCR method is only validated for ruminant MBM and not for all prohibited MBM. Some states continued to undertake some testing pending a national program currently being developed following further research and development work on analytical methods. The results do not include testing done as part of research and development.

(2) Please see section I 2.2.3.3 (3) for a breakdown of domestic and import testing.

(3) Sampling is not random and is usually targeted at higher risk enterprises.



#### 2.2.4.2. Sampling procedure

*Describe in detail the sampling procedure (size of batch and number of samples per batch and fraction of batch sampled; place of sampling, i.e. end of line in feed mill, after packaging/loading, at retailer, on the farm) and the method of examination.*

The official program includes sampling at import and domestically and testing with an approved PCR method. The program at import is described in the current Biosecurity Australia policy *Importation of Stockfeed and Stockfeed Ingredients – Finalised Risk Management Measures for Transmissible Spongiform Encephalopathies (TSEs)* (provided at – I. Appendix 1.2.1, Attachment 3). There is limited sampling domestically pending assessment of the future sampling and testing program that may apply, which is being informed by previous and planned research and development programs on different test methodologies. These methodologies include the currently used PCR test, a second commercially available PCR test developed in Australia, classical microscopy based on European standards<sup>1</sup> and rapid lateral flow devices (Neogen’s Reveal® and SDI’s FeedChek®).

A PCR method at the National Measurement Institute is used to check for bovine and ovine materials. The reporting threshold for the test was established based on analysis of a range of plant-based stock feed samples spiked with 0.5% rendered ovine or bovine material. There is currently no set maximum tolerated concentration of contamination. It should be noted that analytical testing of ruminant feeds is a tool to assist audits. It is only one part of a comprehensive national strategy to ensure that banned materials are not fed to ruminants (please refer to the *National uniform guidelines for ensuring compliance (with the Australian Ruminant Feed Ban) through inspection/sampling and testing programs*, I. Appendix 2.2.3.1, Attachment 1).

The method of sampling is described in Appendix 7 of the *National uniform guidelines for ensuring compliance (with the Australian Ruminant Feed Ban) through inspection/sampling and testing programs* (provided at I. Appendix 2.2.3.1, Attachment 1).

#### 2.2.4.3. Sensitivity and specificity of the examination method

Indicate the sensitivity and specificity of the examination method used.

A PCR method at the National Measurement Institute is used to check for bovine and ovine materials. The reporting threshold for the test was established based on analysis of a range of plant-based stock feed samples spiked with 0.5% rendered ovine or bovine material. The test provided 100% sensitivity and 100% specificity for detecting bovine and ovine/hircine material in the Asia Pacific Laboratory Accreditation Cooperation, Animals Materials in Feedstuff Proficiency Testing Program T047 (2006).

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<sup>1</sup> EC/2003/126 Commission Directive of 23 December 2003 on the analytical method for the determination of constituents of animal origin for the official control of feedingstuffs.

#### **2.2.4.4. Follow-up of breaches**

*Give information on the follow-up taken by the authorities in cases where breaches of the feed ban were found.*

Please see sections I 2.2.3.1, 2.2.3.3 and 2.2.4.2.

#### **2.2.5. BSE-free MBM**

*If you consider that there has been no significant exposure of cattle to the BSE agent through consumption of MBM or greaves of bovine origin please outline the reason and attach a copy of relevant documents that describe the reasons, if any.*

There is a negligible risk that Australian cattle were exposed to the BSE agent through feeding. Since 1966 Australia has maintained a prohibition on imports of stockfeed of animal origin, including meat and bone meal (MBM) and formulated animal feeds containing MBM, from all countries except New Zealand (which is also free of BSE and scrapie). This measure is enforced through Australia's quarantine laws and has thereby removed any external challenge from BSE infectivity due to the import of contaminated feed. Risk assessments have shown that there was a negligible risk that BSE was introduced to Australia by the import of live cattle. These assessments and Australia's BSE risk reduction measures have been confirmed by the OIE's assessment of Australia in 2006 as meeting the requirements of a *BSE Free* country, and the OIE's updated assessment of Australia in 2007 as meeting the requirements of a *BSE Negligible Risk* country.

## 2.3. Use of Specified Risk Material (SRM)

### 2.3.1. Basic information

#### 2.3.1.1. Number of rendering plants and output

(1) Insert each cell below, the number and output of rendering plants by type of facility, by raw material that is processed and by preventive measures for cross-contamination for each period.

(Number of plants and total metric tons)

			1986-1990	1991-1995	1996-2000	2001-2005 (1) (2)	2006-
Dedicated plants	Containing ruminant-derived materials	Number of plants	No data	No data	No data	102 plants  566,000 tonnes annually	(3)
		Output	No data	No data	No data		
	Not containing ruminant-derived materials	Number of plants	No data	No data	No data		
		Output	No data	No data	No data		
Mixed plants	Production lines separated from each other	Number of plants	No data	No data	No data		
		Output	No data	No data	No data		
	Production line flushed before switch production	Number of plants	No data	No data	No data		
		Output	No data	No data	No data		
	No specific measures taken to prevent cross-contamination	Number of plants	No data	No data	No data		
		Output	No data	No data	No data		

Please include all plants that were operational in a given period, even if they were only operational for a part of that period. Note that bone meal production plants are to be included.

(1) Approximate quantities only from data provided by the Australian Renderers' Association. Approximately 50% - 60% of production is exported and not used in Australia.

(2) No data is available by species for meat and bone meal, except that approximately 46,000 tonnes of poultry meal are produced annually.

(3) Data for 2006 is estimated to be approximately the same as for 2001-2005.

Explain how (and why) dedicated rendering plants ensured that no other raw materials entered their process. Provide also information on the procedure to confirm the absence of cross-contamination.

Dedicated rendering plants are not relevant in Australia. All rendered animal meals are legally prohibited from being fed to ruminant animals. Although many rendering plants may be dedicated to a particular species, this is a commercial decision and has no relevance to Australia's BSE risk reduction measures.

*Describe procedures for ensuring avoidance of contamination with raw material entering the process in dedicated rendering plants.*

As explained above, dedicated rendering plants are not relevant in Australia and therefore procedures to guard against cross contamination from tissues from other species not required. However, rendered animal proteins are produced in accordance with the *AS 5008-2001 Australian Standard for Hygienic Rendering of Animal Products*. The standard requires that all rendering plants implement ISO 9000 aligned quality management systems, HACCP plans and labelling of rendered products related to the ruminant feed ban. This national standard includes processing parameters to control pathogens present in Australia (e.g. *Clostridium* spp. and *Salmonella* spp.).

*(2) Insert each cell below, the number and output of rendering plants by typical rendering process such as pressure, temperature, time, continuous/batch processing, etc.*

*(Number of plants and total metric tons)*

Process conditions (1)		1986-1990	1991-1995	1996-2000	2001-2005 (2)	2006-
Type A - Batch dry atmospheric	Number of plants (3)	No data	No data	No data	58	(4)
	Output	No data	No data	No data	124,000 (22%)	(4)
Type B - Batch dry with pressure cycle	Number of plants (3)	No data	No data	No data	6	(4)
	Output	No data	No data	No data	17,000 (3%)	(4)
Type C - Equacooker continuous dry	Number of plants (3)	No data	No data	No data	36	(4)
	Output	No data	No data	No data	283,000 (50%)	(4)
Type D - Disc continuous dry	Number of plants (3)	No data	No data	No data	5	(4)
	Output	No data	No data	No data	40,000 (7%)	(4)
Type E - Continuous rendering		No data	No data	No data	23	(4)
		No data	No data	No data	102,000 (18%)	(4)

Type A: Atmospheric/114°C/150 mins total processing time (example process only)

Type B: 3 bar/133°C/20 mins time pressure applied (example process only)

Type C: Atmospheric/136°C/75 mins total processing time (example process only)

Type D: Atmospheric/122°C/80 mins total processing time (example process only)

Type E: Atmospheric/102°C/120 mins total processing time (example process only)

(1) Australia rendering systems will provide a 1 to 2 log reduction in BSE infectivity and meet with relevant OIE requirements for a country with Australia's most favourable BSE risk categorization. Australia's current rendering systems are fit for purpose considering Australia's negligible BSE risk.

(2) Approximate numbers and quantities only from data provided by the Australian Renderers' Association. Approximately 50% - 60% of production is exported and not used in Australia.

(3) Number of production lines; some plants may have more than one production line.

(4) Data for 2006 is estimated to be approximately the same as for 2001-2005.

## 2.3.2. Handling of fallen stock

### 2.3.2.1. Control measures and legal basis for rendering

Please provide information on any BSE-related control measures in the tables below, and attach a copy of applicable legal regulations to this questionnaire.

(1) Control measures implemented or amended (in chronological order)

Date of Implementation	Control measures implemented or amended
1996	Development and implementation of the Australian Renderers' Association's <i>Code of Practice for the Hygienic Production of Rendered Material</i> .
1996	Voluntary measures –labelling of ruminant MBM and feed containing ruminant MBM, education, audits.
1997	Above measures become mandatory.
1998	Nationwide audit of the above measures.
2000	Nationwide audit of the above measures.
2002	<i>Code of Practice for the Hygienic Production of Rendered Material</i> revised and upgraded to the <i>AS 5008-2001 Australian Standard for Hygienic Rendering of Animal Products</i> . Voluntary industry quality assurance schemes introduced at rendering plants and subject to independent audits.
2001 -2003	Nationwide audits were superseded by programmed official compliance inspections of renderers carried out by inspectors authorised by state and territory governments.
1997-2007	Educational materials distributed to rendering plants.
2007	Approval of second version of <i>AS 5008-2001 Australian Standard for Hygienic Rendering of Animal Products</i> .

(2) Punitive clauses

Extracts/summaries of the legislation in each Australian State and Territory relevant to the ruminant feedban, including punitive clauses, are included at I. Appendix 2.1.1 Attachments 1 – 9.

Legislative requirements for emergency slaughter and/or sick animal slaughter are provided at I. Appendix 2 3.2.1, Attachment 1.

### 2.3.2.2. Competent authorities responsible for rendering and the situation of compliance

*Please give the name of the competent authorities and outline the verification method.*

(1) *Competent authorities:* State and Territory governments.

(2) *Verification methods of compliance:* Programmed official compliance inspections of renderers are carried out by inspectors authorised by state and territory governments. These arrangements are detailed within the *National uniform guidelines for ensuring compliance (with the Australian Ruminant Feed Ban) through inspection/sampling and testing programs* (I. Appendix 2.2.3.1, Attachment 1). Most state and territory authorities have developed their own detailed procedures on implementing these guidelines (example at I. Appendix 2.2.3.3, Attachment 1).

Most Australian states and territories have enacted legislation that makes it mandatory for rendered animal proteins to be produced in accordance with the *AS 5008-2001 Australian Standard for Hygienic Rendering of Animal Products*, with the remainder progressing legislation. The standard requires that all rendering plants implement ISO 9000 aligned quality management systems and Hazard Analysis Critical Control Point (HACCP) plans and the labelling of rendered products in accordance with legal requirements, including those related to the ruminant feed ban. This national standard includes processing parameters to control pathogens present in Australia (e.g. *Clostridium* spp. and *Salmonella* spp.)

Official audits are complemented by the many of audits conducted annually on rendering plants under industry quality assurance schemes (I. Appendix 2.2.3.3, Attachment 2 and Attachment 3), which encompass checks on compliance with the ruminant feed ban.

Additionally, for many years Australian authorities and industries have produced and distributed educational material to assist renderers meet their legal obligations under the ruminant feed ban. An example of these materials is provided at I. Appendix 2.2.3.1, Attachment 10.

(3) Results of verification

Please give information on compliance deviations/breaches after the regulation was enforced, if any, along with the reactions of the authorities.

	Inspection Method						Nature of breach and reaction
	Record/inventory inspection		Analysis (analytical method*)		Others ( )		
Year	Number of Audits (1)	Number of breaches (2)	Number of Audits (5)	Number of breaches	Number of audits	Number of breaches	
1998 (3)	36 renderers	6					Minor - labelling corrected.
2000 (3)	35 renderers	1					Minor - labelling corrected.
2001-03 (3)	116 renderers	16					Minor - labelling corrected.
2004 (3)	47 renderers	3					Minor - corrected – no major or critical nonconformities.
2005 (4)	107 renderers	3					Major nonconformities – corrected - labelling.
2006 (4)	90 renderers	4					Major nonconformities corrected - labelling.

Please make a list for each rendering type of facilities such as for bovine, pig and mixed plants, etc.

\* For analytical method, specify substance or method used in the analysis (e.g. ELISA).

- (1) Figures provided are estimates based on collation of data provided by state and territory authorities.
- (2) There may be more than one breach recorded during an audit and an enterprise. Therefore these numbers do not indicate number of non-compliant enterprises.
- (3) Data on nonconformities (breaches) includes minor breaches.
- (4) Data on nonconformities (breaches) does not include minor breaches.
- (4) Includes independent third party audits under industry quality assurance based schemes.
- (5) There is no analytical testing conducted at rendering plants because all animal meals are prohibited from being fed to ruminants.

### 2.3.3. Handling of SRM

*Question: Is 'SRM' defined explicitly?*

- YES (Proceed to 2.3.3.1 immediately below.)

#### 2.3.3.1. Definition of SRM

*Describe the latest definition of SRM and, if any, progressive changes in definition over time.*

As a Negligible BSE risk country, it is not an OIE requirement on Australia to exclude SRM from either the human food or animal feed chains to maintain its current risk rating. SRMs are only removed from human food during the slaughter process if required by commercial contracts or by a small number of importing country authorities.

For the purposes of importing beef for human consumption into Australia, Food Standards Australia New Zealand defined SRMs in 2001 as “the skull, brains, eyes, the tonsils, vertebral column and spinal cord, including dorsal root ganglia, of bovine animals aged over 12 months; and the intestines from the duodenum to the rectum of bovine animals of all ages.”

#### 2.3.3.2. Usage of head including tonsils (excluding tongue and cheek meat), the vertebral column (including dorsal root ganglia), the spinal cord and the distal ileum

*\*Japan defines the abovementioned part of body as SRM.*

*Insert in each cell below, the usage of head including tonsils (excluding tongue and cheek meat), the vertebral column (including dorsal root ganglia), the spinal cord and the distal ileum in metric ton by intended use.*

(Total metric tons)

Dedicated to	Feed (1)		Fertilizer (1)	Human consumption (1) (3)	Condemned (1)	Others
	For cattle	For non-cattle (2)				
1986-1990	1%	47%	1%	50%	1%	0%
1991-1995	1%	47%	1%	50%	1%	0%
1996-2000	0%	48%	1%	50%	1%	0%
2001-2005	0%	48%	1%	50%	1%	0%
2006-	0%	48%	1%	50%	1%	0%

(1) No quantitative data are available to answer the above question. Percentages in the above table are qualitative estimates only based on experience from the distribution of carcass parts. Tonsils are not allowed to be used for human food, but other bovine carcass parts are available for any use from animals that pass ante-mortem and post-mortem inspection.

(2) Includes pet food

(3) Includes products exported from Australia.



**2.3.3.3. Rendering of head including tonsils (excluding tongue and cheek meat), the vertebral column (including dorsal root ganglia), the spinal cord and the distal ileum**

*Insert in each cell below, the required information as regards the rendering of head including tonsils (excluding tongue and cheek meat), the vertebral column (including dorsal root ganglia), the spinal cord and the distal ileum from healthy bovines and bovine fallen stock (i.e. dead/killed on farm or in transport), emergency slaughter animals or bovine animals condemned at antemortem.*

	head including tonsils (excluding tongue and cheek meat), the vertebral column (including dorsal root ganglia), the spinal cord and the distal ileum of healthy bovines		Fallen bovine stock, emergency slaughter animals or bovines condemned at antemortem	
Period	Rendered (in %; specify its fate)	Not rendered (in %; specify its fate)	Rendered (in %; specify its fate)	Not rendered (in %; specify its fate)
1986-1990	49% (animal feed including pet food)	50% (human food) 1% (condemned)	20% (animal feed including pet food)	80% (carcasses left on farm)
1991-1995	49% (animal feed including pet food)	50% (human food) 1% (condemned)	20% (animal feed including pet food)	80% (carcasses left on farm)
1996-2000	49% (non-ruminant feed including pet food)	50% (human food) 1% (condemned)	20% (non-ruminant feed including pet food)	80% (carcasses left on farm)
2001-2005	49% (non-ruminant feed including pet food)	50% (human food) 1% (condemned)	20% (non-ruminant feed including pet food)	80% (carcasses left on farm)
2006-	49% (non-ruminant feed including pet food)	50% (human food) 1% (condemned)	20% (non-ruminant feed including pet food)	80% (carcasses left on farm)

*(1) If only a fraction of the mentioned materials is rendered, explain how this fraction is determined and how large it was in the different periods.*

The percentages above are approximations only. No data is collected on these matters. Percentages in the above table are qualitative estimates only based on experience from the distribution of carcase parts. The skulls of bovines older than 12 months are generally not split to remove the brain for human consumption. Spinal cords are a defect under quality assurance criteria applied on the slaughter floor and are removed from all sawn bovine carcasses for disposal by rendering or petfood. A very small quantity of brains and spinal cord may be saved for human consumption i.e. by definition they are not deemed inedible. It is estimated that 99% of fallen cattle die on farm and the majority of these are buried or burned on farm. In general, animal welfare legislation prevents the transport of downer animals off-farm before they are euthanased. In some jurisdictions, a small percentage of cattle that die on-farm may be transported to knackeries for processing for pet food. Parts of these animals that cannot be used for pet food may be rendered. In other States for commercial reasons, stock that are dead on farm are not usually collected and rendered. Stock that are dead on arrival at abattoirs are generally rendered. Some abattoirs have a policy of not rendering stock that are dead on arrival and at these establishments dead on arrival stock are buried.

It is estimated that only around 8,000 (0.09%) cattle slaughtered at abattoirs annually can be regarded as fallen stock or emergency slaughter animals in Australia. This estimate is based on a survey of a representative sample of Australian abattoirs. Animal welfare considerations prevent the transport of sick cattle to abattoirs in Australia and emergency slaughter cattle are those that suffer misadventure during transport.

*(2) If head including tonsils (excluding tongue and cheek meat), the vertebral column (including dorsal root ganglia), the spinal cord and the distal ileum are/were consumed by humans, estimate the fraction(%) of head including tonsils (excluding tongue and cheek meat), the vertebral column (including dorsal root ganglia), the spinal cord and the distal ileum that was not regarded edible and was therefore rendered.*

See 2.3.3.3 above.

*(3) If only a part of the animals dead or killed on farm is/was collected for rendering, estimate the fraction (%) and explain what happened to the non-rendered carcasses.*

See 2.3.3.3 above.

## 2.4. Transmissible Spongiform Encephalopathy (TSE) occurrence in animals other than cattle

### 2.4.1. Number of TSE infected animals

*Fill each cell below with the number of infected animals by disease name, species, disposal method for positive animals and period.*

	Scrapie		CWD (Chronic Wasting Disease)	Transmissible Mink Encephalopathy	Others ( )	Disposal Method of Infected Animals
	Sheep	Goat				
1986-1990	0	0	0	0	0	-
1991-1995	0	0	0	0	1 (imported cheetah - <i>Acinonyx jubatus</i> ).	Incineration/ burial with litter mates
1996-2000	0	0	0	0	0	-
2001-2005	0	0	0	0	1 (imported Asiatic golden cat - <i>Catopuma temmincki</i> )	Incineration/ burial
2006-	0	0	0	0	0	-

Australia is free from Scrapie and other animal TSEs. Scrapie was found in 1952 on a single farm, in four out of 10 Suffolk sheep imported from the United Kingdom (UK). This was the one and only occasion that it was diagnosed in Australia. The disease was rapidly eradicated by slaughter-out and has not recurred since. Active surveillance for scrapie was implemented in 1952 and continued for 16 years. This was followed by passive surveillance until 1998 when active surveillance was recommenced in response to the emergence of BSE overseas in the UK and Europe.

Since 1952, Australia has permitted the importation of sheep and goats only from New Zealand, which is free of scrapie and has equivalent import restrictions to those applied in Australia. Passive surveillance for animal TSEs continues to be an important component of the Australian system.

Spongiform encephalopathy was diagnosed in a cheetah in a zoological park in Western Australia in 1992. The cheetah was born in Marwell Zoo in England in 1986, imported together with two littermates to Australia in 1989, and held in quarantine in an “A” class zoo since importation. Marwell Zoo practised a 'feeding in' of culled carcasses to other zoo animals, particularly felids and canids. The affected animal and two siblings were euthanased. In 2002, a second case of spongiform encephalopathy was diagnosed in an imported Asiatic Golden Cat that had died suddenly at the Melbourne Zoo. This animal had been imported in 1998 from Europe. Enquiries with the two European countries in which this zoo cat was previously held did not either conclusively establish sources of exposure to the TSE agent, not exclude that infection had occurred in Europe. Post-mortem findings indicated pancreatic disease and peritonitis as the cause of death. Histopathological findings included spongiform changes in various parts of the brain as an incidental finding. Further testing of tissues at the Australian Animal Health Laboratory (AAHL) and the world reference laboratory led to a definitive diagnosis of spongiform encephalopathy. There have been no other cases of animal TSEs in Australia. Chronic wasting disease, transmissible mink encephalopathy and feline spongiform encephalopathy have not been reported in Australia

#### **2.4.2. National infectious disease control measures**

*Outline the domestic infectious disease control measures in place.*

The organisation of veterinary services in Australia is outlined at I. Appendix 2.4.2, Attachment 1.

Australia's national infectious animal disease control measures are reported annually. The *Animal Health in Australia report 2006* is at I. Appendix 2.4.2, Attachment 2.

In regard to responding to a suspect or confirmed BSE case in Australia, BSE is listed as a disease that is compulsorily notifiable in all Australian states and territories. Additionally, each state and territory has comprehensive legislative powers to investigate and respond to emergency animal disease outbreaks. Response to outbreaks of emergency animal diseases are handled in accordance with the Australian Veterinary Emergency Plan (AUSVETPLAN). The AUSVETPLAN Summary Document the AUSVETPLAN manual for BSE are provided at I. Appendix 2.4.2, Attachment 3 and Attachment 4. AUSVETPLAN manuals provide guidance based on sound analysis, linking policy, strategies, implementation, coordination and emergency management plans for a significant number of emergency animal diseases. AUSVETPLAN manuals are periodically reviewed and are available on the Animal Health Australia website ([www.animalhealthaustralia.com.au](http://www.animalhealthaustralia.com.au)).

The umbrella agreement under which these technical response plans operate is the *Emergency Animal Disease (EAD) Response Agreement*. The Agreement significantly increases Australia's capacity to prepare for and respond to emergency animal disease incursions. The Agreement brings together the Commonwealth, State and Territory governments and livestock industry groups and provides an innovative means to combine the following approaches to combating emergency animal diseases: All parties commit to the participation in an emergency animal disease response through informed and empowered representatives who cooperate to determine and direct the response; all Parties commit to taking all reasonable steps to minimise the risk of the occurrence of an emergency animal disease through the development and implementation of Biosecurity Plans; all Parties commit to maintaining the capability to ensure early detection of, and an effective response to, an emergency animal disease; and all Parties commit to contributing to funding the eligible costs of responding to an EAD by which they are affected. The costs to be shared are identified under the Agreement. The compensation costs included in Cost Sharing under the Agreement are separate from compensation payable to an owner under State or Territory legislation which may vary from jurisdiction to jurisdiction. Training is an essential part of preparedness and the efficiency and effectiveness of responses, and the Agreement provides for training personnel who take part in an emergency animal disease response. The Agreement is reviewed on an ongoing basis.

Responses to emergencies are coordinated by the Consultative Committee on Emergency Animal Diseases (CCEAD). This committee comprises the Chief Veterinary Officers from the Australian National, State and Territory governments, the head of the Australian Animal Health Laboratory, and technical representatives from the livestock industries. CCEAD helps to ensure that the most effective technical response is implemented.

The operational capacity for dealing with emergency disease incidents in each State and Territory is managed through each jurisdiction's emergency management committee, which is chaired by the public safety services or state emergency services. This structure brings together a broad range of resources to help agriculture and animal health authorities deal with any emergency event.

Livestock producers and affiliated industries play an essential role in providing frontline surveillance for emergency diseases, and help to reduce risks by:

- applying on-farm biosecurity measures;
- preparing for their partnership role under the *EAD Response Agreement*; and
- contributing to the development of industry contingency plans to cover the commercial disruption and loss caused by emergency animal diseases.

The Transmissible Spongiform Encephalopathy Freedom Assurance Program (TSEFAP) provides national management of animal TSE risk reduction measures. An outline of the operation of TSEFAP is provided at I. Appendix 2.4.2, Attachment 5.

### 3. BSE Surveillance

#### 3.1. Bovine population structure

##### 3.1.1. Information on farming of cattle

Please provide information on the bovine population in your country by filling each cell below with the number of domestic cattle by sex, type of use and period.

		Number of heads for every age (1)				
		Male		Female		
Year		Beef (2)	Breeding (3)	Beef (4)	Dairy (5)	Breeding (6)
1986	Number	(9)	(9)	(9)	(9)	(9)
	Age* (7)	No data	No data	No data	No data	No data
1991	Number	(9)	(9)	(9)	(9)	(9)
	Age* (7)	No data	No data	No data	No data	No data
1996	Number	(9)	(9)	(9)	(9)	(9)
	Age* (7)	No data	No data	No data	No data	No data
2001	Number	5,823,000	591,000	12,007,000	2,176,000	15,224,000
	Age* (7)	No data	No data	No data	No data	No data
2006 (8)	Number	6,126,000	721,000	13,456,000	1,881,000	15,337,245
	Age* (7)	No data	No data	No data	No data	No data

Age\*: average age at slaughter

Double purpose cows are to be included in the dairy column. In addition, attach information on other types of bovine, such as working animals, as appropriate.

(1) Information for the table above comes from Dairy Australia, the Australian Meat and Livestock Association and the Australian Bureau of Statistics and is based on the nature of the records maintained for cattle in Australia. For this reason, the statistics provided may not align completely with the column headings specified for the table. Cattle in Australia are categorised as beef or dairy animals. Beef cattle are further categorised as animals less than 12 months of age, bulls, males other than bulls and females. Dairy cattle are divided into cows in milk and dry, and others (calves, bulls and heifers).

(2) Male beef cattle one year old and over, other than entire bulls; i.e. castrate males.

(3) For 2001, entire beef bulls one year and over. For 2006, beef bulls or bull calves used/intended for breeding.

(4) Beef cows and heifers one year and over.

(5) Dairy cows in milk and dry (generally over 14 months of age).

(6) Beef cows and heifers one year and over plus the number of dairy cows in milk and dry.

(7) Cattle slaughtered in Australia are categorised according to carcase weight and not age (see section II 1.2)

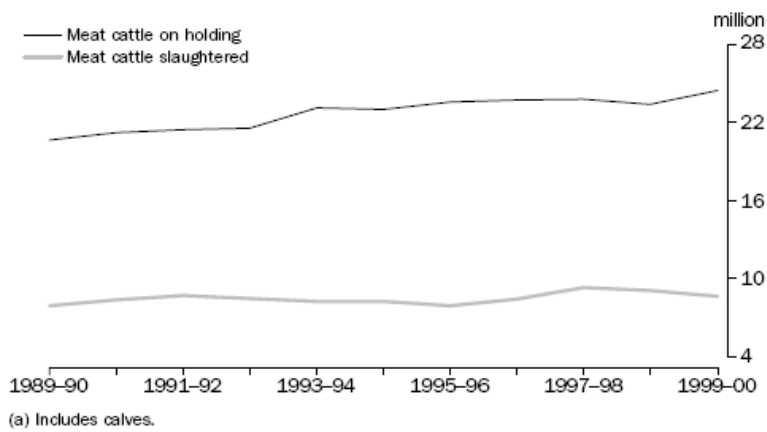
(8) Preliminary data only.

(9) Data not available but indicative beef and dairy herd sizes are shown in the following two graphs marked 8.2 and 8.4.

## 8.2 MILK CATTLE ON HOLDING



## 8.4 MEAT CATTLE ON HOLDING AND SLAUGHTERINGS(a)



Source: Agriculture 1999-2000, ABS.

### 3.2. BSE surveillance

*Question: Is BSE surveillance system established?*

YES (*Proceed to 3.2.1. immediately below.*)

#### 3.2.1. Surveillance system and legal basis

##### 3.2.1.1. Definition of animals included in surveillance and its scope

*(1) Definition and scope: Please describe the definition of animal categories such as 'routine slaughter,' 'fallen stock,' 'casualty slaughter,' 'clinical suspect' and others, if any, and the scope of application for the surveillance such as 'farm,' 'market channels' and 'slaughterhouse.'*

Australia's BSE surveillance system meets the recommendations of the OIE. The primary focus of BSE surveillance is on clinically consistent cattle (equivalent to the OIE category of clinical suspect) sampled on farm. At the time of sampling under the National Transmissible Spongiform Encephalopathy Surveillance Program (NTSESP), these cattle are not considered BSE suspects as defined within AUSVETPLAN, but rather as clinically consistent cattle i.e. an animal that is found with clinical signs considered consistent with BSE. Fallen and casualty slaughter cattle (as defined by the OIE) are also included in surveillance at livestock aggregation points including abattoirs. Routinely slaughtered cattle are not included in surveillance.

*(2) Estimated annual surveillance subpopulations by category:*

*Insert in each cell below, an estimated surveillance subpopulation by category in 2006.*

*(Number of heads in 2006)*

Category* (1)	
Routine slaughter	8,500,000
Fallen stock on farm	870,000 (estimated from a limited survey)
Fallen stock/casualty slaughter at abattoirs	8,000 (estimated from a limited survey)
Clinically consistent	Not known
Total	9,000,000 approximately

*\*Category: Category items listed in the table above are based on the OIE standard.*

*Please replace them with yours, if they are different in your classification.*

(1) Categories includes cattle of all ages, not just cattle over 30 months. Cattle slaughtered in Australia are categorised according to carcase weight and not age

*(3) Outline the basis or basic concept for the implementation of the surveillance program.*

Australia has a surveillance system in place for TSEs. Active surveillance for BSE commenced in 1990 and was modified in 1998 with the development of the National Transmissible Spongiform Encephalopathy Surveillance Program (NTSESP), which is a core activity of the TSE Freedom Assurance Program (TSEFAP). The primary purpose of the program is to support trade by maintaining a surveillance system for TSEs that is consistent with the OIE Terrestrial Animal Health Code and assures trading partners that Australian cattle, sheep and commodities remain free of these diseases.

The NTSESP is a targeted component of Australia's overall disease surveillance effort, which has the purpose of providing cost-effective information for assessing and managing risks associated with trade in animals and products, animal production efficiency and public health. The overall system comprises both general and targeted surveillance. General surveillance comprises a wide range of activities to maintain a continuous watch over the livestock disease profile so that unexpected changes can be recognised. Activities include pre- and post-slaughter inspection at meatworks, inspection of animals at sale yards and other points of aggregation, farm visits by private and government veterinarians and results from laboratory testing.

The NTSESP is complemented by general surveillance for neurological disease in all animal species with intensive follow-up investigations of cases involving unexplained neurological signs. Intensive follow-up has uncovered a number of rare neurological conditions where a TSE has been ruled out. These investigations have shown that some hereditary diseases, plant poisonings, infectious diseases and musculoskeletal conditions can result in signs that mimic those of TSEs. These types of conditions are of particular relevance to Australia because of their rarity, geographical remoteness and/or unusual circumstances of their occurrence. Resolving the causes of these conditions gives additional confidence that Australia's comprehensive approach to surveillance is detecting rare neurological diseases and ruling out TSEs.

The NTSESP has been a targeted surveillance program with an annual sampling intensity that was designed to be 99% confident of detecting BSE if it is present in at least one in a million adult cattle, consistent with Appendix 3.8.4 of the OIE Terrestrial Animal Health Code. This was achieved by the annual laboratory examination of a minimum of 400 cattle brains collected from animals showing clinical signs of a neurological disorder consistent with BSE, under the OIE Terrestrial Animal Health Code. The surveillance program was upgraded during 2007 to allocate points to samples collected as required by the latest edition of the Appendix 3.8.4 of the OIE Terrestrial Animal Health Code.

Pathology samples are submitted to laboratories around Australia for TSE testing and for differential diagnosis. Screening tests in state/territory laboratories are followed up with confirmatory testing at the Australian Animal Health Laboratory (AAHL) if required. A range of other diagnostic methods can be also be used to attempt to reach a diagnosis of neurological or other disease. Results are regularly uploaded to the NTSESP database with a summary publicly available on the Animal Health Australia website (<http://www.animalhealthaustralia.com.au>). Summary results are also reported via the *National Animal Health Information System* and the annual *Animal Health in Australia* report (I. Appendix 2.4.2 Attachment 2).

The program is managed by Animal Health Australia and is planned and implemented through TSEFAP. Technical details of the program, including resolution of “initially non-negative” results can be found in the *National Transmissible Spongiform Encephalopathy Surveillance Program - National Guidelines for Field Operations* (I. Appendix 3.2.1.1, Attachment 1). The guidelines are currently being revised in light of the NTSESP review



conducted in 2007 as mentioned above.

*(4) Give information on the control measures taken when a BSE-suspected or positive animal is detected.*

A BSE case has never been confirmed in Australia. If a case was suspected or confirmed, response guidelines to be followed are detailed in the AUSVETPLAN Summary Document and the AUSVETPLAN manual for BSE, provided at I. Appendix 2.4.2, Attachment 3 and Attachment 4.

### **3.2.1.2. Legal Basis for Surveillance System**

*Please attach a copy of the relevant regulations on BSE surveillance to this questionnaire.*

*(1) Legal regulations implemented or amended (in chronological order)*

Date of Implementation	Control measures implemented or amended
1989	BSE has always been exotic to Australia and there has been a requirement to notify animal health authorities of any suspect cases from the time BSE was first identified as a clinical entity in the United Kingdom.
1990	Passive BSE surveillance commences.
1998	Active surveillance for BSE within the National Transmissible Spongiform Encephalopathy Surveillance Program commences in accordance with OIE guidelines as detailed in the <i>National Transmissible Spongiform Encephalopathy Surveillance Program - National Guidelines for Field Operations</i> ( <u>I. Appendix 3.2.1.1, Attachment 1</u> ).

*(2) Punitive clauses*

Examples for Tasmania, South Australia and Victoria of powers and penalties in regard to notifiable animal disease are contained in I. Appendix 3.2.1.2, Attachment 1. Other jurisdictions have similar provisions and these can be provided if required. Powers of AQIS officers for the purposes of inspecting animals and meat are provided at I. Appendix 3.2.1.2, Attachment 2.

### **3.2.1.3. Competent authorities responsible for the surveillance**

State and territory governments.  
AQIS at slaughterhouses where AQIS provides meat inspection services.

### 3.2.2. Results of surveillance

#### 3.2.2.1. Number of samples

(1) Provide the number of heads sampled, by category and year and, if possible, passive/active surveillance.

(Number of heads sampled)

Year	Category*	Routine Slaughter	Fallen Stock	Casualty Slaughter	Clinically consistent	Total (1)
1986		0	0	0	0	0
1987		0	0	0	0	0
1988		0	0	0	0	0
1989		0	0	0	0	0
1990-1997	Passive	0	0	0	3319	3319
1998	Active	0	0	0	337	337
1999	Active	0	0	0	458	458
2000	Active	0	0	0	560	560
2001	Active	802	438	81	502	1823
2002	Active	0	0	0	439	439
2003	Active	0	150	0	460	610
2004	Active	0	201	220	445	866
2005	Active	0	718	1587	482	2787
2006	Active	0	641	760	497	1898
2007	(part year only) Active	0	232	0	263	485

\*Category: Category items listed in the table above are based on the OIE standard.

Please replace them with yours, if they are different in your classification.

(2) Provide the number of heads sampled, by birth year and, if possible, by passive/active surveillance.

(Number of heads sampled)

Category* Year	Routine Slaughter	Fallen Stock	Casualty Slaughter	Clinically consistent	Total
1986					
.....					
2007					

\*Category: Category items listed in the table above are based on the OIE standard. Please replace them with yours, if they are different in your classification.

Year of birth of cattle is not recorded for samples collected within the NTSESP. The estimated age of the animal is recorded. The average age data for the different surveillance categories since 1997 is shown below.

Age	Fallen stock	Casualty slaughter	Clinically consistent
<2 Years	0%	0%	0%
2=<Years<4	10%	6%	31%
4=<Years<7	41%	19%	43%
7=<Years<9	38.5%	58%	25.8%
9=<Years	5.5%	12%	0.2%
Unknown	5%	4%	0%

### 3.2.2.2. Topographically aggregated samples

Insert in each cell below the number of heads sampled in 2006 or in the latest year, by category and topographically divided zone in your country.

(Number of heads sampled)

Topographically divided zone**	Administrative units included in the division; e.g. states, provinces, etc.	Category* (2006)				
		Routine Slaughter	Fallen Stock	Casualty Slaughter	Clinically consistent	Total
Not applicable	1. New South Wales	0	85	148	91	324
	2. Northern Territory	0	3	14	22	39
	3. Queensland	0	56	245	209	510
	4. South Australia	0	21	12	24	57
	5. Tasmania	0	17	73	10	100
	6. Victoria	0	405	103	103	611
	7. Western Australia	0	20	68	38	126
	8. Unknown	0	34	97	0	131
Total			641	760	497	1898

\*Category: Category items listed in the table above are based on the OIE standard. Please replace them with yours, if they are different in your classification.

\*\* Specify several zones roughly divided in the light of topography of your country for geographical surveillance aggregation purpose; e.g. Northeast, Southwest, central, islands, etc.

### **3.2.3. Age determination method**

*Provide information on the methods used to determine the age of sampled animals and the percentage of individual methods used, such as animal identification, dentition and other specified methods.*

Dentition and, for cattle sampled on-farm, farm records are used to estimate the age of cattle sampled and to ensure that they are over 30 months of age as required.

### **3.2.4. Testing methods**

#### **3.2.4.1. Sample collection**

*Describe the method used to collect samples for testing and on the qualification of sample collectors, and attach a copy of the relevant guidelines.*

Samples collected from clinically consistent cattle include the whole brain and brain stem. Procedures are written in I. Appendix 3.2.1.1, Attachment 1 and a video is available on the CD at I. Appendix 3.3.3.

The sample collected from fallen and casualty slaughter cattle is the brain stem, collected using a “spoon”. A video is available on the CD at I. Appendix 3.3.3 and procedures are written in I. Appendix 3.2.4.1, Attachment 1.

#### **3.2.4.2. Testing workflow**

*Outline the workflow from the preliminary testing to the confirmed diagnosis.*

The workflow is detailed in I. Appendix 3.2.1.1, Attachment 1.

**3.2.4.3. Testing methods of preliminary and confirmation tests**

*Please attach a copy of the testing manuals. Give the period when the testing methods were adopted, and specify approved preliminary and confirmation testing kits, if any.*

All Australian government veterinary laboratories must be accredited to international standards. The National Association of Testing Authorities (NATA) administers this process to ISO/IEC 17025:2005 standards (*General Requirements for the Competence of Testing and Calibration Laboratories*) for veterinary laboratories. NATA sponsors a Veterinary Testing Accreditation Advisory Committee to guide its implementation of the standard. In turn, NATA is part of the International Laboratory Accreditation Cooperation, and is bound by agreements of that body.

The Sub-Committee on Animal Health Laboratory Standards (SCAHLs) maintains a comprehensive series of Australian and New Zealand Standard Diagnostic Procedures (ANZSDPs), including one for BSE (I. Appendix 3.2.4.3, Attachment 1). The organisation publishes revisions and new titles as required, in line with OIE recommended procedures. The ANZSDP for BSE is currently being updated to include rapid testing.

Whole fixed brain and unfixed cervical spinal cord samples are collected from clinically consistent cattle, as well as other tissue samples to assist reaching a definitive diagnosis of the presenting neurological condition. Screen testing is by histopathology.

Unfixed cervical spinal cord samples are collected from fallen and casualty slaughter cattle. Screen testing is by Biorad TeSeE or Prionics Western blot.

Confirmatory testing, if required, is conducted at the Australian Animal Health Laboratory primarily using immunohistochemistry, but if required other methods are available: Prionics Western blot, electron microscopy, and isolation of the BSE agent by intracerebral inoculation into mice.

**3.2.4.4. Number of accredited test facilities/laboratories**

Number of preliminary test facilities	12
Number of confirmation test facilities	1

#### 3.2.4.5. Scheme for the determination of confirmation tests

*Give the number and qualification/expertise of individual experts involved in the determination of the confirmation tests.*

<p>Staff member 1:</p> <ul style="list-style-type: none"><li>• Batchelor of Applied Science (Med Lab)</li><li>• Member of Australian Institute of Medical Laboratory Technologists</li><li>• Member of Histology Group of Victoria</li><li>• Additional training in:<ul style="list-style-type: none"><li>○ Internal auditing</li><li>○ Processing of frozen and fixed specimens for histological assay</li><li>○ Special staining techniques and interpretation of results</li><li>○ Immunohistochemistry techniques/interpretation</li><li>○ Detection of Prions by Immunological Methods (Immunohistochemistry)</li><li>○ Western Blot (all phases of testing)</li><li>○ UKNEQAS proficiency testing for cellular pathology techniques</li></ul></li></ul>
<p>Staff member 2:</p> <ul style="list-style-type: none"><li>• Certificate Of Applied Science (Science Laboratory)</li><li>• Additional training in:<ul style="list-style-type: none"><li>○ Processing fixed specimens for Histological assay</li><li>○ Immunohistochemistry (techniques)</li><li>○ Detection of Prions by Immunological Methods (Immunohistochemistry)</li><li>○ Detection of prion proteins by ELISA</li></ul></li></ul>
<p>Staff member 3:</p> <ul style="list-style-type: none"><li>• Associate Diploma of Applied Science (Lab. Management)</li><li>• Additional training in:<ul style="list-style-type: none"><li>○ Performing Prionics-Check BSE test</li><li>○ Detection of prion proteins by immunological methods (including ELISA, western Blots)</li><li>○ Detection of prion protein by bioassay</li><li>○ Enzyme linked immunosorbent assays</li></ul></li></ul>
<p>Staff member 4:</p> <ul style="list-style-type: none"><li>• Batchelor of Veterinary Science (University of Sydney)</li><li>• Diploma of Veterinary Clinical Studies (University of Sydney)</li><li>• Master of Veterinary Science (University of Sydney)</li><li>• PhD (University of Sydney)</li><li>• Member of the Royal College of Veterinary Surgeons</li><li>• Member of the Australian Veterinary Association</li><li>• Member of the Australian Society for Veterinary Pathology; Specialist in Veterinary Pathology (Royal College of Veterinary Surgeons 1991-2002)</li><li>• Specialist in Veterinary Pathobiology: General Pathology, Anatomic Pathology, Clinical Pathology (Veterinary Board of Victoria 1994 to present)</li><li>• Additional training in:<ul style="list-style-type: none"><li>○ Histological identification of prion disease lesions</li></ul></li></ul>

<ul style="list-style-type: none"> <li>○ Detection of prion proteins by immunological methods (including ELISA, Western Blots, immunohistochemistry)</li> <li>○ Detection of prion protein by bioassay</li> <li>○ Anatomical Pathology</li> <li>○ Immunohistochemistry</li> <li>○ Histological interpretation</li> </ul>
<p>Staff member 5:</p> <ul style="list-style-type: none"> <li>● Batchelor of Veterinary Science (University of Zimbabwe)</li> <li>● Doctor of Philosophy (University of Zimbabwe)</li> <li>● Additional training in: <ul style="list-style-type: none"> <li>○ Histological identification of prion disease lesions</li> <li>○ Detection of prion proteins by immunological methods (including ELISA, Western Blots, immunohistochemistry)</li> <li>○ Detection of prion protein by bioassay</li> <li>○ Anatomical Pathology</li> <li>○ Immunohistochemistry</li> <li>○ Histological interpretation</li> </ul> </li> </ul>
<p>Staff member 5:</p> <ul style="list-style-type: none"> <li>● Batchelor of Agricultural Science Latrobe University</li> <li>● Post Graduate Diploma of Science Latrobe University</li> <li>● Trained Internal Auditor; Trained to perform Prionics-Check BSE test</li> <li>● Additional training in: <ul style="list-style-type: none"> <li>○ Detection of prion proteins by immunological methods (including ELISA, western Blots)</li> <li>○ Detection of prion protein by bioassay</li> <li>○ Enzyme linked immunosorbent assays</li> </ul> </li> </ul>

### 3.3. BSE awareness program

*Question: Does BSE awareness program exist in your country?*

- YES (Proceed to 3.3.1. immediately below.)

#### 3.3.1. Start time, sustainability and target area of BSE awareness program

*Give the period when the BSE awareness program was instituted and its continuous application and geographical coverage.*

Australia can demonstrate a comprehensive suite of educational and awareness programs about BSE for those involved at all levels of the livestock production chain from the farm to the abattoir. These programs are conducted by Commonwealth and State and Territory Governments, universities, agriculture and technical colleges, the Australian Veterinary Association, Animal Health Australia and livestock industry groups. They are conducted against a background of other educational and extension activities about reporting and other procedures within Australia's overall surveillance program for emergency animal diseases. Veterinarians, farmers and other individuals involved in transportation, marketing and slaughter of cattle are encouraged to report disease in cattle, sheep and goats that may involve the nervous system.

Australia has developed surveillance systems for investigation of unusual animal diseases and disease incidents. A high level of awareness at all levels of the livestock production chain helps to support Australia's animal disease monitoring and surveillance programs.

A surveillance program for BSE involving the examination of cattle brains was implemented in 1990. This program has been modified to reflect relevant international standards and expectations since this time. This additional surveillance complements information from routine monitoring of laboratory accessions by histopathological examination to exclude endemic and exotic diseases such as rabies that also cause neurological signs. There has been a high level of BSE awareness among the Australian veterinary profession since the late 1980s, especially as more scientific knowledge became available about the clinical signs associated with suspected cases of BSE. DAFF sent a number of government veterinarians to the UK on three-month rotation exchanges in the UK Ministry of Agriculture, Fisheries and Food to enable them to understand BSE. As a result of this, a brochure was published for distribution to government veterinarians in Australia in 1989 (copy at I. Appendix 3.3.1. Attachment 1). A study of the clinical signs associated with BSE is part of the curriculum at Australian veterinary faculties.

Numerous ongoing educational and training programs have been conducted by various groups including NTSESP, DAFF, State and Territory governments, AHA and peak livestock industry bodies. This high level of awareness and training is seen as a major component of Australia's efforts to meet relevant international criteria for a Negligible BSE risk country. Details of major awareness and training programs are provided below, and further details and some training materials are available at:

[http://www.animalhealthaustralia.com.au/aahc/programs/adsp/tsefap/tse\\_training.cfm](http://www.animalhealthaustralia.com.au/aahc/programs/adsp/tsefap/tse_training.cfm).



Australian veterinary pathologists have attended specialist training programs and have a high level of awareness of BSE and scrapie. Many Australian pathologists are members (admitted by examination) of the Pathobiology Chapter of the Australian College of Veterinary Scientists, and several are US Board certified. Postgraduate training at universities and admission to specialist accreditation routinely includes examination of TSE sections. Many Australian scientists including those at the Australian Animal Health Laboratory (AAHL) have studied or worked overseas and have first hand experience in examination of tissues from animals affected by TSEs. AAHL has produced and distributed two videos. The first, *Bovine Spongiform Encephalopathy*, was produced in 1990; the second, *A tale of transmission (scrapie and bovine spongiform encephalopathy)*, was produced in 1992 and was accompanied by an information sheet.

Australian veterinary pathologists have considerable experience in the diagnosis of bovine central nervous system disorders due to the presence of several endemic bovine central nervous system diseases for which BSE is included in the differential diagnosis. These diseases include bacterial encephalitis (such as listeriosis), hepato-encephalopathy, polioencephalomalacia, perennial ryegrass staggers, *Swainsona* spp. (Darling pea) and other plant toxicities, lead poisoning and space occupying lesions.

Veterinary pathologists have a high level of awareness of scrapie and BSE and routinely include these diseases in the differential diagnosis of neurological syndromes. As part of the ongoing training program two pathologists visited the UK during September and October 1996 for advanced training in BSE and scrapie diagnosis. In November 1996, Dr G. Wells from the UK Central Veterinary Laboratory, Weybridge conducted workshops on these diseases for Australian and New Zealand veterinary pathologists. Where a second opinion is required, sections will be re-examined by other specialist trained pathologists. Pathologists and technicians from AAHL have been trained in Europe in rapid diagnostic techniques for the detection of animal TSEs. Training courses for laboratory veterinarians at AAHL include consideration of the clinical and laboratory diagnosis of animal TSEs.

There has been a high level of awareness regarding animal TSEs at all levels of government due to Australia's historical dependence on agricultural production. This has provided early and decisive actions regarding control measures to prevent the introduction of animal TSEs. A number of committees have been established to provide continual monitoring and assessment of international developments regarding animal TSEs. In addition, the Council of Australian Governments has actively reviewed whole of government arrangements for responding to major animal health emergencies, including FMD and BSE disease occurrences.

Training in the recognition and diagnosis of animal TSEs is an important part of veterinary education in Australia and competency in the diagnosis of the neurological disorders of animals is a requirement for registration as a veterinary surgeon. Veterinary surgeons are required to be registered in the state or territory in which they practise veterinary medicine and surgery. Training courses for field veterinarians are held every six months at AAHL and include clinical and laboratory diagnosis of animal TSEs.

Australian state and territory authorities conduct awareness programs on the clinical signs of TSEs in animals for those involved in the livestock industries. DAFF and state/territory authorities continue to provide awareness training on the identification of the clinical signs of TSEs for veterinarians who undertake ante mortem and post mortem inspection of animals slaughtered for human consumption. AHA coordinates the national approach to awareness activities through the NTSESP. Industry bodies conduct awareness programs to farmers and livestock workers through media outlets, information bulletins and websites. Brochures have been produced and widely distributed to producers to highlight the NTSESP.

Private veterinarians have been included in ongoing awareness training and regular features on animal TSEs are included in veterinary literature, including the *Australian Veterinary Journal*.

National awareness responsibilities are divided in the following manner:

- the Commonwealth Government provides awareness and training at export abattoirs
- state/territory authorities provide for awareness and training at domestic abattoirs
- peak industry bodies are responsible for advising members, where appropriate and;
- Animal Health Australia is responsible for coordinating general publicity material on BSE, where required, to ensure a consistent national approach ([http://www.animalhealthaustralia.com.au/programs/adsp/tsefap/tsefap\\_home.cfm](http://www.animalhealthaustralia.com.au/programs/adsp/tsefap/tsefap_home.cfm))
- information on BSE is also maintained on the Department of Agriculture, Fisheries and Forestry website (at <http://www.daff.gov.au/bse>).

DAFF has distributed information to AQIS veterinarians and technicians at export abattoirs on BSE. This has included guidelines on brain removal and clinical signs and has been followed up with direct one-on-one communication with staff. DAFF has also maintained liaison with state co-ordinators to address state issues.

DAFF has distributed training videos (*Brain Removal Techniques in Cattle and Sheep for TSE Surveillance* and *National TSE Surveillance Program*) to all AQIS staff at export abattoirs, and to AQIS regional offices. The video *Prionics Test Trial Program* has also been delivered to all establishments involved in this program. In addition, individual training was provided to all veterinarians involved in the Australian field trial of the Prionics check-test (*National TSE Surveillance Program*, *Brain Removal Techniques in Cattle and Sheep for TSE Surveillance* and *Prionics Test Trial Program*). A CD that consolidates previous training efforts has been widely distributed (I. Appendix 3.3.3 Attachment 1).

Peak industry bodies have advised their members of TSE and NTSESP issues where appropriate. This has included regular updates on program results via relevant publications and, as required, requests to state member groups to raise awareness amongst producers. Meat and Livestock Australia also has information on its website (at <http://www.mla.com.au>). Major education campaigns on the ruminant feed ban have been run by government/industry including distribution of brochures outlining the legal requirements of the ban.

Animal Health Australia has allocated funds in its NTSESP business plan for ongoing extension activities. This has included:

- development of the NTSESP section within Animal Health Australia's TSEFAP website ([http://www.animalhealthaustralia.com.au/aahc/programs/adsp/tsefap/tse\\_ntsesp.cfm](http://www.animalhealthaustralia.com.au/aahc/programs/adsp/tsefap/tse_ntsesp.cfm))
- quarterly results published in the Animal Health Surveillance Quarterly
- quarterly data provided to the National Animal Health Information System
- inclusion of NTSESP information in Animal Health Australia fact sheets
- inclusion of NTSESP information in the *Animal Health in Australia* annual report.

The Australian Veterinary Association has provided ongoing information to its members in relation to animal TSEs including:

- talks at Australian Veterinary Association regional meetings and conferences
- presentations at Australian Veterinary Association general conferences
- updates in the *Australian Veterinary Journal*
- participation in national and regional workshops and seminars on animal TSEs.

The Australian Animal Health Laboratory conducts training and awareness programs for laboratory technicians from state laboratories in the diagnosis of animal TSEs.

All state and territory agricultural departments have implemented awareness activities and have produced numerous examples of printed extension activities. Examples of activities implemented in particular states and territories can be provided if required.

### **3.3.2. Participants in BSE awareness program**

*Give the specific number and occupation of persons who have participated in the awareness program (veterinarians, producers, workers at auctions, slaughterhouse etc.)*

Please see section 3.3.1 above. It is not possible to provide numbers of participants or people reached through these extensive activities.

### **3.3.3. Training for participants**

*Please describe whether training programs are in place; if any, give information on when and where the class started and type of materials used in awareness program (e.g. manuals, supporting documents, or other teaching materials).*

A significant amount of training material has been developed for BSE clinical signs and

sample submission since 1989 as described in section 3.3.1 above. Examples of this material have since been consolidated on a CD that has been also widely distributed – Clinical signs, symptoms and methods for TSE testing in Australia (I. Appendix 3.3.3, Attachment 1). Some of this material is also available at

[http://www.animalhealthaustralia.com.au/aahc/programs/adsp/tsefap/tse\\_training.cfm](http://www.animalhealthaustralia.com.au/aahc/programs/adsp/tsefap/tse_training.cfm)

#### **3.3.4. Reaction to BSE cases**

*Describe the reaction to follow in case where a BSE-case is confirmed.*

A BSE case has never been confirmed in Australia. If a case was to be confirmed, guidelines to be followed are detailed in the Australian Veterinary Emergency Plan (AUSVETPLAN) and the AUSVETPLAN manual for BSE are provided at I. Appendix 2.4.2, Attachment 3 and Attachment 4. Further information on Australia's emergency animal disease response arrangements is provided in section 2.4.2 above.

### **3.4. Investigation and Mandatory notification of all BSE-suspected Bovines**

#### **3.4.1. Date since BSE was officially defined as a notifiable disease**

BSE is listed as a disease that is compulsorily notifiable in all Australian states and territories. BSE has always been exotic to Australia and there has been a requirement to notify animal health authorities of any suspect cases from the time BSE was first identified as a clinical entity in the United Kingdom. Notification is a legislative requirement on the owner or person in charge of animals, veterinarians and laboratory personnel, which requires these parties to inform government authorities if such a disease is diagnosed or suspected. Australian State and Territory authorities conduct awareness programs on the clinical signs of TSEs in animals for those involved in the livestock industries.

#### **3.4.2. Criteria for a notifiable BSE-suspect**

*Describe the criteria for a notifiable BSE-suspect including their development over time.*

Surveillance focusing on BSE “clinically consistent” cattle (equivalent to the OIE category of clinical suspect) is detailed in section 3.2.1.1 above and in I. Appendix 3.2.1.1, Attachment 1.

Criteria for a BSE suspect animal are contained in the AUSVETPLAN manual for BSE: “An animal of the genus *Bos* (cattle) or genus *Bubalus* (buffalo) with history, clinical signs and histological changes consistent with BSE as described in Section 1.4, until an alternative diagnosis is substantiated.

OR

An animal with a positive result from a sensitive and specific screening test, such as the Prionics test.”

#### **3.4.3. Measures for ensuring notification and punitive clauses**

*Describe the measures taken to ensure/enforce notification and outline the punitive clauses applicable to those failing in notifying a BSE-case as well as the development over time.*

See section 3.2.1.2 above.

**3.4.4. Procedures for investigation of BSE-suspect cases and for follow-up**

*Describe the manual of procedure for investigation of suspected animal and follow-up of the positive findings.*

See section 3.3.4 above.

**3.4.5. Compensation for cases**

*Provide information on incentives, if any, for reporting suitable surveillance candidates as well as their start period and amount paid.*

To support the NTSESP, financial incentives have been provided to farmers and veterinarians. Farmers who notify suitable animals to be sampled are paid \$150 and veterinarians who collect samples are paid \$200. The payment to farmers will be increased to \$300 in the near future and the payment to veterinarians is currently being reviewed with a view to increasing it. Further details on how these payments are administered are contained in the *NTSESP national Guidelines for Field Operations (I. Appendix 3.2.1.1 Attachment 1)*.

## II. Information Needed for the Risk Assessment of Beef and Beef Offal

### 1. Slaughtered Bovines

#### 1.1. Traceability

##### 1.1.1. Cattle identification control and legal basis

*Please provide information on any BSE-related control measures in the tables below, and attach a copy of applicable legal regulations to this questionnaire.*

*(1) Control measures implemented or amended (in chronological order)*

Date of Implementation	Control measures implemented or amended
1960s	<p>For decades, systems administered by Australian state and territory governments have identified and traced cattle based on property (farm) registration. More recently these systems have been complemented by industry based schemes such as on-farm quality assurance programs and the voluntary National Vendor Declaration (NVD) system that was launched during 1996. Further details of these systems are provided in <a href="#">II Appendix 1.1.1 Attachment 1</a>.</p> <p>Cattle identification was further enhanced with the introduction in 1999 of the voluntary National Livestock Identification Scheme (NLIS), which became mandatory in July 2005. All Australian states and territories have separate legislation relating to property registration and animal identification. All farms in Australia that run cattle must be registered with the relevant State or Territory department of agriculture and each farm is assigned a property identification code (PIC).</p> <p><b>Tail-tags</b></p> <p>Until recently tail-tags were mandatory in all Australia states and territories. They were an important part of movement controls, linked to property registration. Tail-tags facilitated trace-back to the property of last residence for diseased animals or animals with residues of agricultural or veterinary chemicals. The tail-tag system was introduced in the late 1960s during the final stages of the campaign to eradicate bovine pleuropneumonia in WA. Tail-tags were subsequently introduced during the 1960s and 1970s into all states and territories during the bovine brucellosis and tuberculosis eradication campaign. The effectiveness of the Australian tail-tag system was demonstrated by successful eradication of these diseases from Australia.</p> <p>Cattle owners must obtain a registered property identification code from the state/territory Registrar of Brands. Tail-tags had to be affixed to all cattle, just above the tail brush, before they left their property of origin.</p> <p>Tail-tags were cheap, easy to use and are designed to stay on the cattle</p>

	<p>when they are transported for sale or slaughter. The tail-tag number consists of eight characters (the PIC), consisting of a State/Territory identification number, a check number, a code for the local government area (shire, region, or district) of origin code, and four digits representing the property of origin number. In most cases data, including that held by the National Animal Health Information System (NAHIS), are aggregated to the regional level. The reporting regions used by NAHIS are local government areas or their equivalents. Because of the importance of defining disease distributions, disease reporting includes spatial components.</p>
1999-2003	<p><b>National Livestock Identification System</b></p> <p>Australian governments decided in 2003 to phase in a mandatory system of permanent uniform national identification for the red meat sector. International and domestic markets for red meat products, particularly beef, had been destabilised by a range of disease management, veterinary public health, chemical residue and food safety concerns. To address these concerns, Australian governments decided to mandate a National Livestock Identification Scheme (NLIS), which built on and extended the requirements of the property registration/tail-tag system operating in each State and Territory. The system is a collaboration of the Commonwealth Government, State/Territory governments, and the livestock industry and extended a voluntary scheme introduced in 1999 which had already been made mandatory in some states.</p>
1 July 2005	<p>NLIS became mandatory from 1 July 2005. State governments underpin NLIS with legislation governing the use of NLIS devices and penalties for misuse. Now that all jurisdictions have mandated NLIS, tail-tags are being gradually phased out. This has already occurred in Victoria, South Australia, New South Wales and Queensland.</p> <p>NLIS is a permanent, 'whole-of-life' identification system for cattle using radio frequency induction device (RFID) technology that enables unique identification of each animal and its property of birth. The system is based on the unique PIC and unique individual animal identification number. The identification number is applied in the form of an ear identification tag or rumen bolus/ear identification tag combination prior to the cattle leaving the property of birth. The tags are attached to the animal's right ear only once, most conveniently when the animals are being marked or weaned.</p> <p>Cattle movements between different farms, at saleyards, feedlots and at</p>

	<p>slaughter are required to be recorded, by law, in the central NLIS Database. It also records lost or stolen stock and, where appropriate, residue and disease data that can be retrieved at certain points through the supply chain so they can be dealt with accordingly. Sales yards and processors can check the NLIS Database to establish whether cattle are eligible to be marketed, their chemical residue status and other information required for export markets.</p> <p>Once animal movement information is recorded in the system the location of individual animals and their cohorts can be retrieved by the appropriate authorities in hours or even minutes depending on the number of animals involved.</p> <p>This allows the authorities to accurately trace the affected cattle in the field, identify animals which have been in contact with them, investigate the feed and stock management practices in the properties where the animals have been held and limit the prospects of the diseases spreading. Once the affected animals have been isolated, the situation can be managed through the established emergency disease plan.</p> <p>The NLIS Database is administered by Meat and Livestock Australia on behalf of government and industry. There are currently over 184,000 farms registered using NLIS approved devices on the database, and all saleyards, feedlots and processing facilities interact with the database. The database receives on average 7,000 interactions each day. The database has recorded up to 96,000 cattle movements in a single day and processes 98% of interactions in well under 1 hour.</p>
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*(2) Punitive clauses*

An example of relevant state/territory legislation from Victoria is provided at [II. Appendix 1.1.1 Attachment 2](#). The operation of NLIS in this State is further described in a brochure (*Code for the Operation of the NLIS in Victoria*) at [II. Appendix 1.1.1 Attachment 3](#). Equivalent legislation exists in all other states and territories and can be provided if required.

**1.1.2. Registration data for cattle identification**

*Give relevant information such as name of firm, birth date, number on ear tag, movement information, feeding history, etc.*

Key information contained in the NLIS database includes:

- Property Identification Code (PIC)
- transaction type
- NLIS tag number and date tag issued.



**1.1.3. Competent authorities responsible for cattle identification and compliance monitoring**

*Please give the name of the competent authorities and outline compliance deviations/breaches, if any, along with the reactions of the authorities.*

*(1) Competent Authorities:*

State and territory authorities.

*(2) Percentage of bovines to all the reared cattle population, for which age can be determined through the identification system:*

Nil.

*(3) Methods of compliance verification:*

State and Territory authorities monitor operation of the system and conduct system reviews.

*(4) Result of verification (Provide information on violations, if any, along with the reactions of the authorities.)*

The outcomes mainly relate to education, warnings and some prosecutions where farmers have not tagged animals, some movements not notified.

**1.1.4. Age determination methods other than the cattle identification system**

*(1) Methods of cattle age determination:*

Cattle slaughtered in Australia are categorised according to carcase weight and not age. Ageing of cattle by dentition is used for BSE surveillance purposes as described in section I 3.2.3. The dentition method (II. Appendix 1.1.4 Attachment 1) allows the age of all animals to be determined within the bounds of the sensitivity of this method.

*(2) Percentage of bovines to all the reared cattle population, for which age can be determined by means of each method:*

See above.

## 1.2. Number of slaughtered bovin animals

*Insert in each cell below, the number of slaughtered animals by age and category.*

Year	BSE-suspected animals (1)	Healthy slaughtered animal over 12 months (2)	Others (healthy slaughtered animal under 12 months) (2)	Total (3)
1986	0	7094700	788300	7883000
1987	0	7243200	804800	8048000
1988	0	6950700	772300	7723000
1989	0	7058700	784300	7843000
1990	0	7427700	825300	8253000
1991	0	7584300	842700	8427000
1992	0	7857900	873100	8731000
1993	0	7508700	834300	8343000
1994	0	7529400	836600	8366000
1995	0	7142400	793600	7936000
1996	0	7187400	798600	7986000
1997	0	8233200	914800	9148000
1998	0	8377200	930800	9308000
1999	0	7880400	875600	8756000
2000	0	7860600	873400	8734000
2001	0	7887600	876400	8764000
2002	0	8145000	905000	9050000
2003	0	8042400	893600	8936000
2004	0	7922700	880300	8803000
2005	0	7619400	846600	8466000
2006	0	7968600	885400	8854000

(1) Criteria for a BSE suspect animal are contained in the AUSVETPLAN manual for BSE: “An animal of the genus *Bos* (cattle) or genus *Bubalus* (buffalo) with history, clinical signs and histological changes consistent with BSE as described in Section 1.4, until an alternative diagnosis is substantiated OR an animal with a positive result from a sensitive and specific screening test, such as the Prionics test.”

(2) Cattle slaughtered in Australia are categorised according to carcase weight and not age and therefore the requested categories using 30 months of age are not possible to provide. This is reflected in the table above which, for reasons of accuracy, is restricted to animals above and below 12 months of age. A carcase weight of 120 kg or less corresponds reasonably to animals younger than 12 months old. On average, 10% of cattle slaughtered are under 120kgs carcase weight and this percentage has been applied to annual slaughter figures for the requested years (source: Australian Bureau of Statistics publications 7215.0 “Livestock Products Australia” (a quarterly) and 7218.0.55.001 “Livestock and Meat, Australia” (a monthly)).

(3) Source: *Australian Commodity Statistics 2007*.

## 2. Slaughterhouses

(Note information provided for sections II 2.1 to II 4.2 only relates to meat establishments where AQIS provides meat inspection services).

### 2.1. Information on slaughterhouses

#### 2.1.1. Legal basis for slaughterhouses

Please provide information on any BSE-related control measures in the tables below, and attach a copy of applicable legal regulations to this questionnaire.

(1) Control measures implemented or amended (in chronological order)

Date of Implementation	Control measures implemented or amended
1989	AQIS staff made aware of the new disease BSE and BSE became a notifiable disease ( <a href="#">I. Appendix 3.3.1 Attachment 1</a> ).
19 March, 1998	<b>AQIS Meat Notice (AMN) 1998/09</b> – effective from 19 March 1998 an AMN was released called “Surveillance and Monitoring Program for Transmissible Spongiform Encephalopathies (TSE) in Cattle and Sheep.” This meat notice detailed a program for surveillance of both BSE and scrapie, covering collection of brain samples from cattle and sheep on ante-mortem inspection showing clinical signs of neurological disorders. Under this program states and territory authorities collected samples from the field and AQIS collected samples at export abattoirs.
2004	<b>AMN 2004/09</b> – “Notification of Sampling for BSE-Exclusion Testing” – to advise AQIS staff and establishment management on the need for carcasses sampled for BSE-exclusion testing to be withheld from the human food chain pending the outcome of the BSE-exclusion testing.
2004	<b>AMN 2004/10</b> – “R&D Surveillance Program (TSEs)” - the purpose of the project is to ensure that Australia has the capability to quickly deploy surveillance methods requiring post-mortem sampling. It also explains the procedure for the sample collection of brain stem from cattle and sheep.
2006	<b>AMN 2006/12</b> – “Control of slaughter of “at risk” Cattle, Imported Animals and Animals Fed Restricted Animal Material”. The purpose was to outline the requirements preventing or controlling material from “at risk” cattle entering the human food and animal feed chains.
	<b>Surveillance, sampling and monitoring</b> <i>Export Control (Meat and Meat Products) Orders 2005 Schedule 2, Part 2, 8.1</i> (see <a href="#">II. Appendix 2.1.1 Attachment 1</a> ) 8.1 Establishments engaged in the preparation of meat and meat products must comply with the requirements for surveillance, sampling and monitoring specified in the <i>Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption</i> (Australian Meat Standard) (see below).

	<p><b>Australian Meat Standard Clauses 3.12 and 3.13</b> (see <u>II. Appendix 2.1.1 Attachment 2</u>)</p> <p>3.12 The meat business complies with surveillance (targeted) sampling, monitoring and testing programs applying to the business that:</p> <p>(a) are endorsed by the relevant Council of Commonwealth, State or Territory Ministers; or</p> <p>(b) have programs that the controlling authority requires the meat business to comply with for the purposes of this provision.</p> <p>3.13 The meat business records the surveillance (targeted), sampling, monitoring and testing performed under programs referred to in clause 3.12 and the available results of surveillance, sampling, monitoring and testing.</p>
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*(2) Punitive clauses*

<p><i>Export Control Act (ECA) 1982</i> (see <u>II. Appendix 2.1.1 Attachment 3</u>)</p> <p><i>Export Control (Prescribed Goods General) Orders 2005 (ECPGGOs)</i> (see <u>II. Appendix 2.1.1 Attachment 4</u>)</p> <p><i>Export Control (Meat and Meat Products) Orders 2005 (ECMMPOs)</i> (see <u>II. Appendix 2.1.1 Attachment 1</u>)</p>
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**2.1.2. Competent authorities responsible for the control of slaughterhouses and compliance monitoring**

*Please give the name of the competent authorities and outline compliance deviations/breaches, if any, along with the reactions of the authorities.*

Australian Quarantine and Inspection Service (AQIS).
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**2.1.3. Number of slaughterhouses by capacity**

*(As of 2007)*

	Total number (1)	Capacity (Number of slaughtered bovines per day)			Number of shifts per day		
		≤100	101-500	501 or more	1	2	3 or more
Number of slaughterhouses	53 (2)	2	21	24	33	14	N/A
Number of slaughtered bovines Per year	7,387,509	101	6,556	22,349	16,502	12,504	N/A

(1) Establishments where AQIS provides meat inspection services

(2) Note that six establishments are temporarily closed, no figures available for these establishments.

## 2.2. Slaughtering procedure

### 2.2.1. Diagram of slaughtering procedure in slaughterhouses

Please provide a typical diagram of work flow.

Please see [II. Appendix 2.2.1 Attachment 1](#) for a flow diagram of a beef slaughter floor.

### 2.2.2. Official meat inspectors and veterinarians

(1) Number of official meat inspectors and veterinarians

(As of 2007)

Number of official meat inspectors (slaughterhouses and fabrication plants)	363 permanent 149 contract
Number of official veterinarians (slaughterhouses and fabrication plants)	80 permanent 55 contract

(2) Qualification of official meat inspectors and veterinarians

*Official meat inspectors:*

Meat Inspectors are required to complete the Certificate IV in Meat Processing (Meat Safety) through the National Meat Industry Training Advisory Council Limited (MINTRAC).

*Official veterinarians: Specify required qualification apart from veterinary certificate.*

- Bachelor of Veterinary Science (5 year degree).
- veterinary accreditation under the *Export Control Act 1982*.
- AQIS On-Plant Veterinarian mentoring program
- AQIS On-Plant Veterinarian Induction Program consisting of 22 modules that are assessed and must be passed.

(3) Roles and authorities of official meat inspectors and veterinarians

*Official meat inspectors:*

Are authorised to inspect meat and meat products for compliance with prescribed requirements and ensure that specified quality, trade description, packaging and handling criteria are applied. Other duties include documentation of inspection results as required and assisting in the ongoing monitoring of company quality assurance arrangements.

*Official veterinarians:*

As authorized officers, official veterinarians inspect, monitor and verify meat and meat products wholesomeness; processing, chilling, freezing and packing procedures for compliance to the Australian Meat Standard (see [II. Appendix 2.1.1 Attachment 2](#)) and overseas countries requirements. Authorised officers also monitor and audit the Approved Arrangements of the slaughterhouses (establishments).

On plant veterinarians (OPVs) are a part of the Food Inspection Services Group and work as field staff within the Export Meat Program. OPV duties focus on the inspection and certification of meat as a primary product.

The specific functions and duties of OPVs are to:

- maintain AQIS inspection standards on-plant
- monitor production activities to ensure that operational standards meet overseas country requirements
- maintain a disease control preparedness plan and implement disease and residue surveillance programs, including reporting notifiable animal diseases.

#### **Powers of investigation and enforcement**

The following legislation describes the powers of investigation and enforcement given to AQIS:

- Part 3 10A – 10F of the *Export Control Act (ECA)1982* (see [II. Appendix 2.1.1 Attachment 3](#))

More details relating to the powers of investigation and enforcement including the suspension and revocation of Approved Arrangements and export registration are found in *Orders* under the *ECA 1982* including:

- Division 4.7 – 4.9 and Part 6 of the *Export Control (Prescribed Goods - General) Orders 2005* (see [II. Appendix 2.1.1 Attachment 4](#))
- Part 8 of the *Export Control (Meat and Meat Products Orders) 2005* (see [II. Appendix 2.1.1 Attachment 1](#))

#### **Enforcement Powers**

The following legislation gives the powers of enforcement and sanctions in the event of non compliance with existing rules and regulations and the power of AQIS to require data or information:

- Part 3 of the *Export Control Act 1982* (see [II. Appendix 2.1.1 Attachment 3](#))
- Division 4.7 – 4.9 and Part 6 of the *Export Control (Prescribed Goods - General) Orders 2005* (see [II. Appendix 2.1.1 Attachment 4](#))
- Parts 3, 4, 8 and Schedule 1 Part 3 of the *Export Control (Meat and Meat Products Orders) 2005* (see [II. Appendix 2.1.1 Attachment 1](#))

*(4) Provide outlined information on inspection implemented in slaughterhouses and actual assignment of official meat inspectors and veterinarians at each step of slaughtering process.*

Inspection procedures are implemented at slaughter establishments as per the Australian Meat Standard (see II. Appendix 2.1.1 Attachment 2).

Clause 8 Ante – mortem Inspection and Disposition  
Schedule 2 Procedures for Post Mortem Inspection

Specific overseas country requirements are also complied with.

AQIS Meat Inspectors and On Plant Veterinarians are assigned to Australian Export Registered Establishments through the use of the Meat Inspection Staffing Standard (MISS). The Standard enables AQIS to maintain a nationally consistent and highly effective level of staffing at all establishments, at all times.

The Standard takes into consideration a wide range of factors including specific overseas country requirements, objectively determined work loads, throughput, species, floor design and chain speed to accurately assign AQIS personnel to specific establishments for defined production conditions.

*(5) Instruction and training system for official meat inspectors and veterinarians  
Please specify BSE-related programs and training schedules.*

*Official meat inspectors:*

MINTRAC provides the majority of training for AQIS meat inspectors. Meat inspectors are required to complete the Certificate IV in Meat Processing (Meat Safety) for inspection in all export listed establishments. The delivery of training is audited by the State Training Authority at an interval not less than every year.

BSE related information and further updates passed on in the form of AQIS Meat Notices from AQIS Central Office Canberra and discussed by On Plant Veterinarian with Meat Inspection staff and later monitored and verified.

*Official veterinarians:*

Training for veterinarians includes:

- Bachelor of Veterinary Science (5 year degree).
- AQIS On Plant Veterinarian mentoring program.
- AQIS On Plant Veterinarian Induction Program consisting of 22 modules that are all assessed and must be passed.
- BSE training/information and updates passed on through the NTSESP, AQIS Meat Notices and discussed by the Area Technical Managers.
- Two training seminar weekends conducted every year for various technical issues including BSE. Various presentations covering different areas delivered by Field Operations Managers, Area Technical Managers and expert presenters.

## 2.3. Antemortem inspection

### 2.3.1. Outline of antemortem inspection

(1) *Make a list of the documents related to antemortem inspection and attach a copy of relevant documents.*

***Export Control (Meat and Meat Products) Orders 2005*** (see II. Appendix 2.1.1 Attachment 1)

Order 32, Division II Export standards

Occupier must comply with Australian Meat Standard (including Ante-mortem Inspection and Animal Welfare) – see II. Appendix 2.1.1 Attachment 2)

***Australian Standard for the Hygienic Production of Meat and Meat Products for Human Consumption*** – Part 3, Section 8 - Ante-mortem Inspection and Disposition (see II. Appendix 2.1.1 Attachment 2)

**AQIS Meat Notice: 98/17**

Revised Ante-Mortem Inspection Arrangements

**On Plant Veterinarian, Induction, Stage 2, Module 5 Animal Welfare Ante Mortem** (see II. Appendix 2.3.1 Attachment 1)

(2) *Definition of high-risk bovines and diagnostic criteria for antemortem.*

*Please describe the definition and attach related documents.*

Samples collected in slaughterhouses are tested at approved off-site laboratories as described in section I 3.2. The same eligibility criteria for cattle apply whether samples are collected at slaughterhouses, from farms or from other sites. Generally only healthy cattle are presented for slaughter at abattoirs and therefore the number of cattle sampled for BSE at abattoirs is minimal.



## 2.4. BSE testing in slaughterhouses

*Question: Is BSE testing carried out in slaughterhouses?*

- NO (Samples collected at slaughterhouses are tested off-site at approved laboratories.)

### 2.4.1. BSE testing procedures

*Please provide information on how test samples are collected in slaughterhouses.*

Sample collection is the same as described in section 3.2.3.

### 2.4.2. Determination of age

*Please explain how you determine the age of animals in slaughterhouses and attach related documents, if any.*

Age determination is the same as described in section I 3.2.4.1.

*Question: Is the BSE testing method used in slaughterhouses identical to the one used in surveillance?*

- YES - the testing methods used for samples collected at slaughterhouses are identical to those used for samples collected from farms and other sites.

### 2.4.3. Method of test

*Describe the method used in slaughterhouses for the preliminary and confirmation tests respectively, as well as approved test kits, if any, and attach related documents.*

Samples collected in slaughterhouses are tested at approved off-site laboratories as described in section I 3.2.

*Method of the confirmation test*

Samples collected in slaughterhouses are tested at approved off-site laboratories as described in section I 3.2.

#### 2.4.4. Result of test

Fill in each cell with the number of test carried out in slaughterhouses by year and category since 1986.

Year	BSE-clinically consistent		Healthy slaughtered animal older than or equal to 30 months		Others (fallen or casualty slaughter)		Total (1)	
	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive
1986	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0
1998	91	0	0	0	0	0	91	0
1999	47	0	0	0	0	0	47	0
2000	42	0	0	0	0	0	42	0
2001	34	0	802	0	81	0	917	0
2002	16	0	0	0	0	0	16	0
2003	11	0	0	0	0	0	11	0
2004	4	0	0	0	197	0	201	0
2005	8	0	0	0	1693	0	1701	0
2006	2	0	0	0	989	0	991	0
2007	2	0	0	0	0	0	2	0

(1) These samples were collected at slaughterhouses but tested at approved off-site laboratories and these data are also included in the tables in section I 3.2 above. Generally only healthy cattle are presented for slaughter at abattoirs and therefore the number of cattle tested for BSE at abattoirs is minimal.

**2.5. Stunning method**

**2.5.1. Legal basis for stunning method**

*Please provide outlined information on control measures for stunning, and attach a copy of applicable legal regulations to this questionnaire.*

The goal of the legislation on stunning is to stun animals in a way that is both hygienic and humane. The following references are the legislative instruments for stunning.

***Export Control (Meat and Meat Products) Orders 2005*** (II. Appendix 2.1.1 Attachment 1)  
Order 32, Division II Export standards  
Occupier must comply with the Australian Meat Standard, including stunning and animal welfare provisions( II. Appendix 2.1.1 Attachment 2).

***The Australian Meat Standard*** (II. Appendix 2.1.1 Attachment 2)  
Part 3, Clauses 7.10 and 7.11.

**AQIS Notice Meat: 99/17** 1. Animal welfare explanatory notes; 2. Standard operating procedure - Animal care - Penetrating captive bolt stunning and sticking of cattle;  
3. Literature Review "Penetrating Captive bolt stunning and exsanguination"

**Operational Guidelines for the Welfare of Animals at Abattoirs and Slaughterhouses, 1995, 2<sup>nd</sup> Edition** (see II. Appendix 2.5.1 Attachment 1)

**National Animal Welfare Standards at Livestock Processing Establishments Preparing Meat for Human Consumption, August 2005** (see II. Appendix 2.5.1 Attachment 2)

**2.5.2. Competent authorities responsible for the control of stunning and compliance monitoring**

*Please give the name of the competent authorities and outline compliance deviations/breaches, if any, after enforced the regulations, along with the reactions of the authorities.*

AQIS is the authority responsible for the control of stunning and compliance monitoring. Breaches of stunning requirements are handled within standard corrective action procedures for each slaughterhouse and corrective action is verified by AQIS staff.

**2.5.3. Number and percentage of the slaughterhouses that use stun guns**

*For those using stun guns please provide additional information on whether or not the tip of the bolt penetrates bovines' cranial cavity.*

(As of 2007)

Number of slaughterhouses that use stun guns: <u>59 facilities</u> (100%)	Does the tip of the bolt penetrate the cranial cavity?	YES, approx <u>56 facilities</u> (95%)
		NO, approx <u>3 facilities</u> (5%)
Number of slaughterhouses that <i>do not</i> use stun guns: <u>0 facilities</u> (0%)		

**2.5.4. Number and percentage of the slaughterhouses that use compressed air/gas injection into bovines' cranial cavity (As of 2007)**

<i>Number of slaughterhouses that use compressed air/gas injection into bovines' cranial cavity</i>	0 facilities (0%)
<i>Number of slaughterhouses that do not use compressed air/gas injection into bovines' cranial cavity</i>	59 facilities (100%)

**2.5.5. Number and percentage of the slaughterhouses that use slaughter hammer (As of 2007)**

<i>Number and percentage of the slaughterhouses that use slaughter hammer</i>	0 facilities (0%)
<i>Number and percentage of the slaughterhouses that do not use slaughter hammer</i>	59 facilities (100%)

**2.6. Pithing**

**2.6.1. Legal basis for pithing**

*Please provide outlined information on control measures for pithing, and attach a copy of applicable legal regulations to this questionnaire.*

Pithing is not performed at Australian slaughterhouses.

**2.6.2. Competent authorities responsible for the control of pithing and compliance monitoring**

*Please give the name of the competent authorities and outline compliance deviations/breaches, if any, after enforced the regulations, along with the reactions of the authorities.*

Pithing is not performed at Australian slaughterhouses.

**2.6.3. Number and percentage of the slaughterhouses that conduct pithing (As of 2007)**

<i>Number and percentage of the slaughterhouses that conduct pithing</i>	0 facilities (0%)
<i>Number and percentage of the slaughterhouses that do not conduct pithing</i>	59 facilities(100%)

**2.7. Removal of head including tonsils (excluding tongue and cheek meat), the vertebral column (including dorsal root ganglia), the spinal cord and the distal ileum**

**2.7.1. Slaughtering process in slaughterhouses**

*Please answer to the following questions with providing information on typical methods used. If any legal control measures are put in place, provide also the outlined information and the situation of compliance, and attach a copy of legal regulations and relevant documents.*

*(1) While in split liner process, are the teeth of split saw rinsed off for collecting fragments of spinal cord tissue?*

Whilst the splitting saw is in operation, water sprays operate to rinse the saw blade during cutting and the saw is then washed in a chamber between each carcass.

*(2) How are the collected spinal cord tissues disposed of?*

Spinal cords are usually disposed of as condemned or inedible material as per the Australian Meat Standard, Clause 5 Cross Contamination (see [II. Appendix 2.1.1 Attachment 2](#)). Spinal cords may be rendered, buried or saved as petfood.

*(3) Is the split saw used for split liner washed every time prior to the next use?*

The splitting saw is routinely sterilised in between each carcass as per the Australian Meat Standard, Clause 4 Operational Hygiene (see [II. Appendix 2.1.1 Attachment 2](#)).

*(4) After split liner conducted, are spinal cord tissues removed from the vertebral column?  
If so, please describe the removal method used.*

Spinal cord tissues are removed as required by the AUSMEAT Standard carcass trim. The spinal cord is removed manually or by vacuum.

*(5) Are carcasses washed off with high-pressure water after spinal cord tissues removed?*

Most establishments do not wash off with high pressure water after the spinal cord is removed.

*(6) Is the absence of residual spinal cord tissues in carcasses inspected by official meat inspectors or veterinarians?*

The absence of residual spinal cord tissue in carcasses is inspected by official meat inspectors and veterinarians on a random basis if it is an importing country requirement. Otherwise the of residual spinal cord tissue is monitored by company quality assurance staff.

*(7) Are there slaughterhouses that use alternative slaughtering processes to split liner?  
If any, please provide their number and processes in use.*

No.

*(8) Is split liner suggested to be performed off the midline?*

No, the carcass is split along the midline.

*(9) Is suction method implemented to remove spinal cord prior to split liner?*

No, the suction method is not used to remove the spinal cord prior to the splitting operation.

**2.7.2. Disposal in slaughterhouses of head including tonsils (excluding tongue and cheek meat), the vertebral column (including dorsal root ganglia), the spinal cord and the distal ileum**

*Please answer to the following questions with providing information on typical methods in use. If any legal control measures are in place, provide also the outlined information and the situation of compliance, and attach a copy of legal regulations and relevant documents.*

*(1) Are these risk materials disposed of within slaughterhouses or other facilities?*

Section I 2.3.3.2 details the fate of these materials. Tonsils are classified as inedible and disposed of, usually by rendering. The other materials mentioned are usually disposed of by rendering, although small quantities of the other materials may be saved for human consumption depending on the requirements of specific markets i.e. by definition they are not deemed inedible unless this is an importing country requirement.

*(2) How are these risk materials disposed of?*

See above.

**2.8. Control based on Sanitary Standard Operation Procedure (SSOP) and Hazard Analysis**

**Critical Control Point (HACCP)**

**2.8.1. Control over SSOP and HACCP and legal basis**

AQIS has control of SSOPs and HACCP at all export establishments. The legal basis for SSOP and HACCP is the Australian Meat Standard (see [II. Appendix 2.1.1 Attachment 2](#)) and the *Export Control (Meat and Meat Products) Orders 2005* (see [II. Appendix 2.1.1 Attachment 1](#)).

*Export Control (Meat and Meat Products) Orders 2005* (see [II. Appendix 2.1.1 Attachment 1](#))  
Schedule 2, Part 2, 12.1, 12.2

**The Australian Meat Standard** (see [II. Appendix 2.1.1 Attachment 2](#))  
Part 2, Clause 3.1(e), 3.11

**2.8.2. Competent authorities responsible for SSOP and HACCP and compliance monitoring**

*Please give the name of the competent authorities and outline compliance deviations/breaches, if any, after enforced the regulations, along with the reactions of the authorities.*

The competent authority responsible for SSOP and HACCP monitoring is AQIS. Any deviations or breaches in compliance are dealt with under the Australian Meat Standard (see [II. Appendix 2.1.1 Attachment 2](#)), the Approved Arrangement and the *Export Control (Meat and Meat Products) Orders* (see [II. Appendix 2.1.1 Attachment 1](#)).

### 2.8.3. Typical SSOP and HACCP used in slaughter house

*Please specify their typical critical control points related to BSE control measures.*

The risk of BSE occurrence is considered in the HACCP risk analysis. The risk of BSE occurrence in Australia is considered to be negligible and therefore BSE control measures are not designated as a critical control point within the abattoir environment.

### 2.8.4. Number and percentage of the slaughterhouses that implement SSOP and HACCP

*(As of 2007)*

Number of slaughterhouses:	SSOP	HACCP
That implement SSOP/HACCP	59 facilities (100%)	59 facilities (100%)
That <i>do not</i> implement SSOP/HACCP	0 facilities (0%)	0 facilities (0%)

### 3. Fabrication Plant

#### 3.1. Outline of fabrication plant

##### 3.1.1. Control over fabrication plants and legal basis

Please provide information on any BSE-related control measures in the tables below, and attach a copy of applicable legal regulations to this questionnaire.

(1) Control measures implemented or amended (in chronological order)

Date of Implementation	Control measures implemented or amended
Not applicable	Australia is a Negligible BSE Risk country and therefore BSE food safety measures are not required.

(2) Punitive clauses

Not applicable
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##### 3.1.2. Competent authorities responsible for the fabrication plant and compliance monitoring

Please give the name of the competent authorities and outline compliance deviations/breaches, if any, after enforced the regulations, along with the reactions of the authorities.

AQIS.
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##### 3.1.3. Number of fabrication plants by capacity

(As of 2007)

	Total number	Capacity (Number of slaughtered bovines per day)			Number of shifts per day		
		≤100	101-500	501 or more	1	2	3 or more
Number of facilities	19 (independent) 53 (1) (integrated)	N/A	N/A	N/A	19 (independent) 33 (integrated)	14 (integrated)	N/A
Number of slaughtered bovines	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) Note that six establishments are temporarily closed, no figures available for these establishments.



**3.2. Meat fabrication (boning) process**

**3.2.1. Diagram of meat fabrication processes in fabrication plants**

*Please provide a typical diagram of work flow.*

See II. Appendix 3.2.1 Attachment 1 for a flow diagram of the beef fabrication plant.

**3.2.2. Official meat inspectors and veterinarians**

*(1) Number of official meat inspectors and veterinarians*

*(As of 2007)*

<i>Number of official meat inspectors</i>	See section II 2.2.2 (1).
<i>Number of official veterinarians</i>	See section II 2.2.2 (1).

*(2) Qualification of official meat inspectors and veterinarians*

*Official meat inspectors:* See section II 2.2.2 (2).

*Official veterinarians:* Specify required qualification apart from veterinary certificate.  
See section II 2.2.2 (2).

*(3) Roles and authorities of official meat inspectors and veterinarians*

*Official meat inspectors:* See section II 2.2.2 (3).

*Official veterinarians:* See section II 2.2.2 (3).

*(4) Provide outlined information on inspection implemented in fabrication plants and actual assignment of official meat inspectors and veterinarians at each step of fabrication process.*

See section II 2.2.2 (4).

*(5) Instruction and training system for official meat inspectors and veterinarians*

*Please specify BSE-related programs and training schedules.*

*Official meat inspectors:* See section II 2.2.2 (5)

*Official veterinarians:* See section II 2.2.2 (5)

### 3.3. Handling of vertebral column

*Please provide information on each topic below by describing typical methods in use. If any legal control measures are put in place, provide also the outlined information and the situation of compliance, and attach a copy of legal regulations and relevant documents.*

#### 3.3.1. Removal method of vertebral column

The vertebral column is removed during boning unless the product is a bone-in product destined for a market that accepts such product.

#### 3.3.2. Disposal method of vertebral column

If removed during boning, vertebral columns are usually disposed of by rendering.

### 3.4. Control based on SSOP and HACCP

#### 3.4.1. Outline of control over SSOP and HACCP and legal basis

See section II 2.8.1.

#### 3.4.2. Competent authorities responsible for SSOP and HACCP and compliance monitoring

*Please give the name of the competent authorities and outline compliance deviations/breaches, if any, after enforced the regulations, along with the reactions of the authorities.*

See section II 2.8.2.

#### 3.4.3. Typical SSOP and HACCP used in fabrication plant

*Please specify their typical critical control points related to BSE control measures.*

See section II 2.8.3.

#### 3.4.4. Number and percentage of the fabrication plants that implement SSOP and HACCP

(As of 2007)

Number of plants:	SSOP	HACCP
That implement SSOP/HACCP	78 facilities (100%)	78 facilities (100%)
That <i>do not</i> implement SSOP/HACCP	0 facilities (0%)	0 facilities (0%)

## 4. Risk of Beef and Beef Offal

### 4.1. Beef and Mechanically Recovered Meat (MRM)

*Please answer to the following question and follow an appropriate step:*

*Question: Is there any control measures in place in compliance with legal regulations regarding beef and MRM?*

YES

#### 4.1.1. Control measures for beef and MRM (including Advanced Meat Recovery (AMR)) and legal basis

*Please provide information on any control measures for beef and MRM, and attach a copy of applicable legal regulations to this questionnaire.*

See section II 3.1.1.

#### 4.1.2. Competent authorities responsible for the control measures and compliance monitoring

*Please give the name of the competent authorities and outline compliance deviations/breaches, if any, after enforced the regulations, along with the reactions of the authorities.*

See section II 3.1.1.

#### 4.1.3. MRM production

*If MRM is produced domestically, provide information on the production method(s) and put the number of production facilities.*

MRM is produced using a range of commercially available equipment. Information on the number of production facilities is not available.

## 4.2. Beef offal

### 4.2.1. Control Measures for beef offal and legal basis

*Please provide information on each question below by describing typical methods in use. If any legal control measures are in place, provide also the outlined information and the situation of compliance, and attach a copy of legal regulations and relevant documents.*

*(1) When, where and how are the tonsils (palatine, pharyngeal and lingual tonsils) removed in slaughterhouses or fabrication plants?*

The tonsils are removed by company operators prior to head inspection by an official meat inspector in the slaughterhouse.

*(2) Is the absence of tonsils in heads inspected by an official meat inspector or veterinarian?*

Yes

*(3) When, where and how are the distal ilea removed in slaughterhouses or fabrication plants?*

If it is an importing country requirement, the distal ilea are manually removed in the ancillary processing area by company operators after post mortem inspection of the viscera by an official meat inspector.

*(4) Is the removal of distal ilea inspected by an official meat inspector or veterinarian?*

The removal of the distal ilea is inspected by an official meat inspector or veterinarian if it is an importing country requirement.

#### **4.2.2. Manuals/SSOP**

*Provide information on manuals or SSOP for handling beef offal, if any.*

The hygienic production and handling of beef offal is described in the establishment's SSOP and work instructions. If an importing country requires specific offal handling procedures, these are documented in the establishment's approved arrangement and approved by AQIS.

## 5. Others

### 5.1. Additional requirements for export

#### 5.1.1. Content of additional requirements and compliance

*If any other supplemental requirements exist for export to Japan in addition to those mentioned above, please outline the information and the situation of compliance for each topic, and attach a copy of applicable legal regulations to this questionnaire.*

- Export to Japan is allowed only for the export facilities meeting specific criteria.
- Implementation of HACCP and SSOPs are required for the export facilities.
- Informal requirements prevent beef and veal products containing vertebral column from being exported to Japan.

## Appendix: BSE Risk Countries

	Country name	GBR level			
		II	III	IV	
1	Andorra		III(12/2002)		
2	Albania		III(03/2001)		
3	Austria		III(05/2002)		BSE confirmed
4	Belarus		III(04/2003)		
5	Belgium		III(07/2000)		BSE confirmed
6	Bulgaria		III(06/2002)		
7	Canada		III(07/2004)		BSE confirmed
8	Chile		III(06/2005)		
9	Croatia		III(06/2002)		
10	Cyprus		III(04/2003)		
11	Czech Republic		III(03/2001)		BSE confirmed
12	Denmark		III(07/2000)		BSE confirmed
13	Estonia		III(04/2003)		
14	Finland		III(05/2002)		BSE confirmed
15	Former Yugoslavian Republic of Macedonia		III(04/2003)		
16	France		III(07/2000)		BSE confirmed
17	Germany		III(07/2000)		BSE confirmed
18	Greece		III(12/2002)		BSE confirmed
19	Hungary		III(03/2001)		
20	Ireland		III(07/2000)		BSE confirmed
21	Israel		III(09/2002)		BSE confirmed
22	Italy		III(07/2000)		BSE confirmed
23	Japan				BSE confirmed

24	Liechtenstein				BSE confirmed
25	Latvia		III(06/2002)		
26	Lithuania		III(04/2003)		
27	Luxembourg		III(07/2000)		BSE confirmed
28	Malta		III(09/2002)		
29	Mexico		III(07/2004)		
30	Netherlands		III(07/2000)		BSE confirmed
31	Poland		III(03/2001)		BSE confirmed
32	Portugal			IV(07/2000)	BSE confirmed
33	Republic of South Africa		III(07/2004)		
34	Romania		III(05/2001)		
35	San Marino		III(06/2002)		
36	Slovak Republic		III(03/2001)		BSE confirmed
37	Slovenia		III(09/2002)		BSE confirmed
38	Spain		III(07/2000)		BSE confirmed
39	Sweden	II (07/2004)			BSE confirmed
40	Switzerland		III(02/2001)		BSE confirmed
41	Turkey		III(06/2002)		
42	United Kingdom			IV(07/2000)	BSE confirmed
43	USA		III(07/2004)		BSE confirmed