

NEW ZEALAND'S CASE TO THE OIE TO BE RECOGNISED AS A COUNTRY FREE FROM BOVINE SPONGIFORM ENCEPHALOPATHY

1 EXECUTIVE SUMMARY

1.1 Release assessment

During the last 18 years no animals have been imported into New Zealand from countries where BSE is known to be present. Thirteen animals were imported from England between 1985 and 1987, but by 1999 they had all died. None of those animals, their offspring or any animals that have been in contact with them have shown any clinical signs of BSE. Imports of live animals from England and other infected countries have been banned since 1988. Imported cattle from all countries are kept under surveillance by the New Zealand Ministry of Agriculture and Forestry and legislation exists requiring owners of imported animals to report movements, disease and deaths.

No meat and bone meal has been imported from any country other than Australia since 1962.

It is concluded that BSE has not been introduced into New Zealand.

1.2 Exposure assessment

New Zealand's ruminant production system is based on pasture and there has always been very limited use of concentrate feeding. An estimated 8,000 tonnes of meat and bone meal was fed annually to cattle up to 1995 but this was all produced in New Zealand from local raw materials. Since 1995 the feeding of meat and bone meal to ruminants has ceased. From 1995 to 2000 a ban on the feeding of animal protein to ruminants was implemented voluntarily by the feed milling and livestock industries in this country, and since 2000 a statutory ban has been in place.

No meat and bone meal has been imported from any country except Australia since 1962. Moreover, even though meat and bone meal from Australia comes from BSE-free cattle, it has always been used only for fertiliser and not as animal feed. Since the ruminant protein feed ban came into place, meat and bone meal produced in New Zealand is used for the production of feed for non-ruminant animals (poultry and pigs) or for fertiliser.

Given these conditions, the likelihood of amplifying BSE by feeding meat and bone meal to cattle in New Zealand is considered to be negligible.

1.3 Surveillance and awareness programmes

New Zealand has conducted surveillance for the presence of TSE diseases for more than 50 years. The system that is currently in place, and the data that is generated from it, is presented in this paper. The system provides a high level of confidence that BSE would have been detected if it were present, and it would be detected if it were to occur here in the future.

It is concluded that BSE has never occurred in New Zealand.

2 BACKGROUND

The evidence that New Zealand is free from bovine spongiform encephalopathy (BSE) is presented in this paper.

The paper is a risk assessment that closely follows the format specified in Article 2.3.13.2 of the 2004 OIE Terrestrial Animal Health Code (13th edition). The paper covers only the case for BSE and contains minimal reference to other TSE diseases. However, New Zealand is free from all TSE diseases and evidence of freedom from scrapie and chronic wasting disease of deer can be provided on request.

3 HAZARD IDENTIFICATION

The hazard that is addressed in this risk assessment is the causative agent of bovine spongiform encephalopathy (BSE).

4 RELEASE ASSESSMENT

4.1 Meat and bone meal (meat and bone meal), greaves and similar products containing ruminant protein

New Zealand is an isolated island country that is separated by more than 1,600 kilometers of ocean from any country other than small Pacific islands. Agriculture is heavily based on pasture feeding of ruminants and the feeding of concentrates is uncommon. The importation of animals and animal products is strictly regulated through a system of import permits and all air and seaports are controlled. There is no incentive to smuggle a low value, bulk product that is difficult to handle and transport and for which there is little demand. For these reasons, the New Zealand Ministry of Agriculture and Forestry is confident that no illegal importation of products containing ruminant protein has occurred. It also accepts that the records of the customs department from which information for this report has been drawn by the Dept of Statistics, accurately reflects the true situation regarding importation of meat and bone meal and similar products.

Since 1962 only heat-treated Australian meat and bone meal that is accompanied by a valid import permit has been allowed to be imported into New Zealand. Importations of products containing ruminant protein between 1988 and 2005 are summarised in Table 1. No meat and bone meal has been imported from any country since 2002.

Table 1. Importation of meat and bone meal and meat meal derived from ruminants, from 1990 to 2003.

Year	Meal type	Country of origin	Quantity (Kg)	VFD(\$NZ)
1990	Type 1	Australia	25,000	21,018
1991	Type 1	Australia	43,440	31,816
1992	Type 1	Australia	61,600	64,787
1993	Type 1	Australia	21,600	24,372
1994	Type 1	Australia	20,500	19,665
1995	Type 1	Australia	19,150	18,445
1996			0	nil
1997	Type 1	Australia	1,000	1,113
1998			0	nil
1999	Type 2	Australia	45,205	36,308
1999	Type 1	Australia	405	623
2000	Type 2	Australia	20,970	21,170
2001	Type 1	Australia	2,260	4,999
2002	Type 1	Australia	2,000	3,727
2003			0	nil
2004			0	nil
2005*			0	nil
Total			263,130	248,043

Source: Statistics New Zealand , Overseas Trade.

* Figures for 2005 are complete up to July

VFD = Value for duty

Type 1 = Meals, other than meat or liver meal; of meat offal, unfit for human consumption

Type 2 = Meat meal; unfit for human consumption

4.2 Importation of live animals

Over the past two decades there has been a steady move away from the importation of live production animals in favour of importation of their genetic material. Since BSE is not transmitted by semen or embryos⁽¹⁾, the importation of germplasm comprises a negligible risk of introduction of BSE, and no data on the importation of germplasm is presented in this risk assessment.

The systems used for the identification of animals in New Zealand are described in Appendix 1. All imported animals are required by law to be identified with 2 eartags and the importers are required to report on movements, change of ownership, disease and death of the animals⁽²⁾.

Table 2 shows the number of cattle that were imported into New Zealand since 1982. The figures in this table come from two sources: since 1997 MAF has maintained a computer

database of all imported animals, and prior to that the data is derived from MAF paper files.

Table 2: Cattle imported into New Zealand since 1982.

Year	Australia	Canada	USA	UK
1982				1
1983				1
1984				7
1985	9	1	1	0
1986	33	1	9	0
1987	42	0	0	4
1988	43	0	3	0
1989	20	0	36	0
1990	86	42	1	0
1991	43	23	1	0
1992	74	2	0	0
1993	56	5	4	0
1994	17	2	1	0
1995	54	0	0	0
1996	28	0	0	0
1997	14	0	0	0
1998	29	0	1	0
1999	16	16	0	0
2000	68	0	0	0
2001	9	0	0	0
2002	26	0	0	0
2003	14	0	0	0
2004	6	0	0	0
2005	0	0	0	0
Total				

Although permits have been issued in 2005 for importation of up to 5 cattle from Australia, to date no cattle have been imported from any country in 2005.

Legislation is in place requiring owners of imported cattle to have the animals permanently identified and to report all movements of the animals to MAF⁽²⁾. MAF is responsible for keeping records of movements and changes of ownership of these animals, and in addition, an annual visit is made to check on the fate of each animal as long as it remains alive.

Only thirteen animals were imported from the UK between 1982 and 1987 and since then no further imports have occurred. These thirteen animals are now dead. They were kept

under surveillance and none of them or any of their offspring or any animals in contact with them showed any sign suggestive of BSE.

After 1988, the only countries from which cattle were permitted to be imported were Australia, Canada, New Caledonia and the USA; no Import Health Standards existed for any other countries.

No cattle have been imported from New Caledonia. The single animal imported from the USA in 1998 is now dead. Sixteen female Dexter cattle were imported from Canada in 1999. They ranged in age from 5 months to 11 years and were imported by 5 owners. Four of the animals have since died and the remaining 12 animals are still under surveillance. None of the animals from Canada or the USA or any of their offspring or any animals in the herds in which they have resided have ever shown any signs suggestive of BSE. Canada and the USA remained free from BSE until 2003 when single cases of BSE were found in each country. The animals with BSE that occurred in Canada and the USA were not Dexters and therefore were not related to or associated with the animals imported into New Zealand. All the animals imported from Australia that are alive are still under surveillance.

4.3 Products of animal origin for human consumption

Imports of beef since 1996 are shown in Appendix 2.

Since 1996, the only form of beef that has been imported is prepared cuts; no whole or half carcasses of beef have been imported since that time.

Between January 1997 and the July 2005, 31,490 tonnes of processed cuts of beef were imported. Of this 31,442.5 tonnes (99.85%) came from Australia, 18.6 tonnes (0.06%) came from the USA, 17.2 tonnes (0.05%) came from Canada and 11.7 tonnes (0.04%) came from Korea. No beef has been imported from Canada and the USA since 2001 and none from Korea since 2002. All the beef imported was in the form of trimmed cuts for human consumption.

Since there has been no importation of whole or half carcasses, no SRMs have been imported.

Since the meat was imported for distribution through the retail trade, it is extremely unlikely that scraps would have been processed by renderers. Therefore there is a negligible likelihood that any scraps of imported beef were rendered and included in cattle feed.

4.4 Release assessment summary

During the last 18 years no animals from known BSE infected countries have been introduced into New Zealand. All animals introduced from the UK up to 1987 are now dead and neither they nor their offspring or any animals that have been in contact with them have shown any signs of BSE. All living imported cattle are under surveillance and there is legislation that requires importers to report movements, disease or death of imported animals⁽²⁾.

No meat and bone meal has been imported from any country other than Australia since 1962.

The likelihood that BSE has been introduced into New Zealand is negligible for at least the previous 18 years. Since likelihood of release of the BSE agent is negligible, according to the risk analysis guidelines in the OIE Terrestrial Animal Health Code, Edition 13, 2004, Article 1.3.2.4, the risk is negligible, and if Article 2.3.13.2 of the Code were consistent with OIE risk analysis guidelines, there would be no need to carry out an exposure assessment.

5 EXPOSURE ASSESSMENT

Since no agent has been introduced into New Zealand the possibility of exposure of New Zealand cattle to BSE is clearly negligible. However, this section is given for completeness and for compliance with Article 2.3.13.2.

Since the likelihood of release of BSE into New Zealand is negligible, this exposure assessment is effectively the likelihood that BSE could become established in New Zealand if an infected animal or infected animal product such as meat and bone meal were introduced.

5.1 Epidemiological situation in New Zealand

New Zealand is free from all TSE diseases of animals including BSE, scrapie and chronic wasting disease of deer. This disease free status is backed by ongoing surveillance over many years.

Since BSE is a food-borne disease, it could only become established if the following chain of events should occur:

- A diseased animal or contaminated meat and bone meal is introduced into New Zealand.
- The disease is not detected and an infected animal is rendered to produce meat and bone meal.
- The contaminated meat and bone meal is fed to cattle.
- None of the above events are detected by MAF.

The probability that this chain of events could occur is discussed below.

5.2 *Animal husbandry and management*

New Zealand's agriculture is heavily based on the production of high quality pasture. Ruminant animal production is based on grass feeding and there is very little feeding of concentrate feedstuffs to ruminants. Concentrate rations are produced primarily for feeding poultry and pigs and both of these industries are very small. The small amount of concentrates fed to ruminants does not contain ruminant protein (see Section 5.3).

The ability to trace animals in New Zealand is highly developed. The methods used for the identification of animals are given in Appendix 1.

Reporting of suspected cases of notifiable diseases including BSE is a statutory obligation that is subject to severe penalties if ignored (Section 6.2).

5.3 *Production and use of meat and bone meal*

Currently there are 36 facilities registered under the Animal Products Act 1999 that render animal waste to meat and bone meals and tallow. Of these 27 (including one plant dedicated to poultry waste processing) are closely associated with the slaughter or cutting plant which they primarily serve, and from which they take all or most of their raw material. The remaining facilities do not have a single dedicated waste source, but collect material from slaughterhouses, further processors, butchers, tanners, pet food manufacturers or directly from farmers.

Of the 36 facilities, 31 may render ruminant tissues.

Approximately 1.1 million tonnes of raw material is processed each year to produce approximately 240,000 tonnes of meat and bone meal, meat meal, and blood and bone meal. Of this approximately 55% is exported: in the year to end June 2002, a total of 135,300 tonnes was exported; in the year to end June 2003, a total of 131,900 tonnes was exported.

The balance of product is used internally in New Zealand for the production of poultry and pig meals. A very small amount of meal is used as fertiliser for home garden use.

There are three rendering processes in general use: dry batch rendering, the centrimetal semi-continuous process and the continuous dry rendering process. Temperatures reached in these processes vary from 95°C to 135°C. In none of these processes is a temperature attained that would guarantee the destruction of BSE prions.

On average, 15,000 tonnes of meat and bone meal has been imported annually from Australia (see Section 4.1), however none has been imported for the last 3 years.

Although this meat and bone meal comes from a country that is free from BSE it is not used for stock feed, but as fertiliser.

MAF has published a model HACCP plan for rendering, to provide guidance to the industry for the determination of critical control points for rendering processes. The New Zealand Industry has developed a code of practice for the hygienic production of rendered products and the Meat Industry Research Institute of New Zealand has published a bulletin entitled *Rendering Hygiene: Avoiding Contamination of Meals*.

In May 1995, in consultation with the rendering and livestock industries, New Zealand introduced a voluntary ban on feeding ruminant protein to ruminants. The compliance success of the voluntary ban is evident in the debate that followed as to whether New Zealand needed to support the voluntary ban with legislation.

As a result of this debate it was not until November 1999 that the regulations pursuant to Section 165 of the Biosecurity Act of 1993 were promulgated by the Governor General. These regulations ban the feeding of ruminant protein to ruminants and came into effect from January 2000⁽³⁾. Under the regulations, manufacturers must be registered and are required to submit a programme that specifies:

- How the operator “will manage and minimise the risk of contamination of feed intended for ruminants, by ruminant protein”.
- The manner in which product must be labelled.

The year before the voluntary ban was implemented, approximately 12% of stock feed compounded in New Zealand was fed to ruminants (5% to calves and 7% to dairy cows and other ruminants). Some stock feeds contained ruminant protein. According to MAF’s estimate this may have amounted to about 8,000 tonnes of meat and bone meal, all of which was derived from New Zealand cattle. After the ban the ruminant protein was replaced with fishmeal, milk powder, soybean meal or other vegetable protein.

The quality programmes of the feed companies are audited by independent auditors (AgriQuality New Zealand). In 2003 and 2004, a survey of feed manufacturers was carried out, covering a wide range of formulated feeds and feed ingredients, aiming to take 300 feed samples (200 random and 100 targeted) over 15 rounds of 20 samples each. Feed samples were tested for contamination with ruminant protein using an ELISA test with a high sensitivity. Positive or suspicious samples were submitted to overseas reference laboratories for confirmatory testing by PCR or microscopic examination. Where positive samples were found, further targeted samples were taken from the same premises. In the first 10 rounds of sampling, 10 ruminant or general feeds were positive as were 17 non-ruminant feeds that were labelled as also being suitable for feeding to ruminants. However, on further investigation of these positive results, questions were raised about the reliability of sample identification and “chain of custody” between sample collection and laboratory testing, that could not be satisfactorily answered. It is therefore extremely pertinent to note that no positive samples were found in the last five sampling rounds comprising 96 samples.

The results of the survey are shown in Table 3.

Table 3. Results of testing samples for contamination with ruminant protein.

Sample Lot	Final results			Total
	Positive	Suspect	Negative	
1	0	1	19	20
2	1	1	18	20
3	2	3	15	20
4	2	0	18	20
5	0	0	20	20
6	0	1	19	20
7	3	0	17	20
8	3	1	16	20
9	5	1	14	20
10	2	1	17	20
11	0	0	20	20
12	0	0	20	20
13	0	0	20	20
14	0	0	20	20
15	0	0	16	16
Total	18	9	269	296

Following on from this initial survey, a further refined testing and audit programme has been planned and is now in progress. This programme is no longer an exploratory survey but is designed to enforce compliance by feed manufacturers. Companies will still be audited by third party auditors but New Zealand Food Safety Authority Verification Agency will also audit and demand compliance on the issue of ruminant protein manufacture and feed labelling. Given the severity of penalties that may be imposed in the event of non-compliance it is expected that many major manufacturers will now operate dedicated feed lines in order to avoid any risk of non-compliance. Initial validation of the test methods used to test samples has been undertaken by MAF and specifications for full implementation of the programme will shortly be finalised between MAF and the milling industry representatives.

5.4 Summary of exposure assessment

New Zealand's ruminant production system is based on pasture and there has always been very limited use of concentrate feeding. An estimated 8,000 tonnes of meat and bone meal was fed annually to cattle up to 1995 but this was all produced in New Zealand from local raw materials. Since 1995 the feeding of meat and bone meal to ruminants has ceased. From 1995 to 2000 a ban on the feeding of animal protein to ruminants was implemented voluntarily by the feed milling industries, and since 2000 a statutory ban has been in place.

No meat and bone meal has been imported from any country except Australia since 1962. Moreover, even though meat and bone meal from Australia comes from BSE-free cattle, it has always been used only for fertiliser and not as animal feed. Since the ruminant protein feed ban came into place, meat and bone meal produced in New Zealand is used for the production of feed for non-ruminant animals (poultry and pigs) or for fertiliser.

Given these conditions, the likelihood of amplifying BSE by feeding meat and bone meal to cattle in New Zealand is considered to be negligible.

6 SURVEILLANCE AND AWARENESS PROGRAMMES

6.1 Awareness programme

Programmes to stimulate awareness of the threat posed by BSE to the New Zealand economy overlap with those for other transmissible spongiform encephalopathies.

Written information in the form of circulars and “information kits” has been sent on a number of occasions to all registered veterinarians as well as to livestock industry organisations to increase their awareness of the clinical signs associated with the transmissible spongiform encephalopathies (TSEs) in cattle, deer, goats, sheep and domestic cats. In all such communications recipients are reminded of their obligation under the Biosecurity Act to notify the Ministry of Agriculture and Forestry should they suspect a case of one of the TSEs.

Publicity about BSE, scrapie and chronic wasting disease has appeared regularly in agricultural and veterinary publications such as *The New Zealand Veterinary Journal*, *Vetscript*, *Surveillance*, *The Deer Farmer*, *The New Zealand Farmer*, *Straight Furrow*, *Vet Cervus*, Animal Health Laboratory newsletters and *Biosecurity*. Collectively these publications have a wide circulation amongst veterinarians, farmers and livestock industry groups.

There are approximately 1,990 veterinarians registered in New Zealand, of whom 230 are employed in the state sector (MAF and AgriQuality) and 970 are in clinical practice. The Ministry of Agriculture and Forestry periodically holds consultative forums with representatives of the livestock industry organisations and the veterinary profession to discuss matters such as importation policies, disease surveillance and exotic disease preparedness. BSE has been on the agenda at every one of these meetings.

Even before the Ministry of Agriculture initiated its BSE awareness program in 1990, the New Zealand Veterinary Association’s Sheep and Beef Cattle Society (290 members) had promoted awareness of scrapie amongst its members at three of its annual conferences (1977, 1985 and 1989). The New Zealand Veterinary Association’s *New Zealand Veterinary Journal* published extensive correspondence on scrapie during the late 1970s following the abortive attempt to import sheep from the United Kingdom.

Veterinary undergraduates at the Massey University veterinary school receive a number of lectures and tutorials on TSEs as part of their curriculum. The standard New Zealand sheep medicine text for veterinary undergraduates, *The Sheep: Health, Disease and Production* (Bruere, AN, West, DM, 1993), has extensive coverage of scrapie and related diseases.

Videos produced in the UK and Australia on the clinical aspects of BSE and scrapie have been used extensively by the Ministry of Agriculture and Forestry in training exercises with their own staff, final year veterinary students and veterinary practitioners. The Ministry of Agriculture and Forestry has provided copies of videos on scrapie and BSE to farmers' organisations. In 1999 a video magazine containing an item on BSE was sent to every dairy farmer in New Zealand.

During 2004 and 2005 publication of articles in suitable periodicals, and direct mailings to farmers and veterinarians continued as summarised in Table 4. In mid 2005 there was an intensive effort to get veterinarians to increase submissions of brains from cattle with nervous symptoms. As part of this campaign a free CD, that demonstrated the removal of the brain, was given to veterinarians.

A summary of awareness material that has been distributed is given in Table 4. This programme of information dissemination has been designed to ensure that New Zealand farmers, veterinarians and other members of the cattle and related industries are well informed about BSE.

Table 4. Material used by MAF to stimulate awareness of the threat posed by TSE diseases.

Date	Title	Publication
Vol 16 No. 1 1989	Scrapie and BSE	Surveillance
Vol 16 No. 3 1989	A new scrapie-like disease of cattle	Surveillance
Vol 16 No. 4 1989	Suspected case of BSE	Surveillance
Vol 16 No. 4 1989	Observations on BSE and scrapie	Surveillance
Vol 17 No. 2 1990	Chronic wasting disease, BSE and the threat of scrapie	Surveillance
Vol 18 No. 1 1991	BSE stocktaking	Surveillance
Vol 18 No. 1 1991	Surveillance in deer	Surveillance
Vol 18 No. 5 1991	Monitoring for BSE	Surveillance
Vol 19 No. 1 1992	Revisited: or are there such things as infectious proteins?	Surveillance
Vol 19 No. 4 1992	BSE: a situation report	Surveillance
Vol 20 No. 2 1993	Hepatic encephalopathy and BSE	Surveillance
Vol 21 No. 1 1994	Enhanced BSE surveillance	Surveillance
Vol 23 No. 4 1996	Is BSE a food-borne disease?	Surveillance
Vol 25 No. 2 1998	Suspected scrapie investigation	Surveillance
Vol 23 ED Issue 1996	Transmissible spongiform encephalopathy	Surveillance
Vol 18 ED Issue 1991	Bovine spongiform encephalopathy	Surveillance
Vol 18 ED Issue 1992	Scrapie	Surveillance

Vol 15 ED Issue 1988	Scrapie	Surveillance
22-25 May 1990	BSE: the spread of scrapie from sheep to cattle?	Proceedings 1
August 1990	Bovine spongiform encephalopathy	NZMS
24-28 August 1997	Surveillance for TSE's	Proceedings 2
Sept 1994	Bovine spongiform encephalopathy	Vetscript
May 1996	Bovine spongiform encephalopathy	Vetscript
July 1997	The roles of the laboratory network and practitioner in TSE surveillance	Vetscript
July 1998	New developments in laboratory diagnosis in scrapie and BSE	Vetscript
June 1999	Obtaining brains for surveillance the easy way	Vetscript
1991	Prion Diseases and frame shifting hypotheses	NZVJ
1994	BSE and related diseases: an epidemiological overview	NZVJ
Issue No. 3 1999	Mad cow disease	Country Practice
June 2001	Reminder to Farmers Re: Ruminant Protein Regulations	Mail out
June 2001	Circular on TSEs	Mail out
November 2001	Notice to All Garden Centres/Agricultural Supply merchants Re: Ruminant Protein Regulations	Mail out
May 2001	Notice to Livestock Owners	Mail out
July 2002	Circular to Registered Veterinarians Re: CWD	Mail out
October 2002	Circular to Registered Veterinarians Re: Scrapie and the possibility of BSE in sheep	Mail out
October 2002	Circular to Registered Veterinarians Re: Increased TSE surveillance incentives	Mail out
January 2003	Circular to Registered Veterinarians Re: BSE	Mail out
July 2003	Reminder to farmers about BSE from NZFSA	Mail out
September 2003	Summary for Farmers. Feeding ruminant protein to ruminants is banned	Mail out
May 2004	Cows brains urgently needed for BSE surveillance	Dairy Insight
July 2005	Increased BSE Surveillance incentives. To veterinarians	Mail out
August 2005	BSE Surveillance – How can you help	Farmer publications
August 2005	Brain removal CD – free issue to veterinarians	Mail out
August 2005	SL TSE Scheme	Country-Wide
August 2005	Collective effort needed to increase brain surveillance	Vetscript
September 2005	Boning up on bovine brain removal	NZ Agribusiness

ED = Exotic Disease issue.

NZMS = New Zealand Microbiological Society newsletter.

Proceedings 1 = Proceedings of the Dairy Cattle Society of New Zealand. 7th annual seminar.

Proceedings 2 = Proceedings of the OIE/FAO epidemiology program 10th Federation of Asian Veterinary Association Congress

6.2 Compulsory notification and investigation

BSE is a notifiable disease under the Biosecurity Act⁽⁴⁾. The obligations to report notifiable diseases under the Biosecurity Act are set out in Appendix 3. The penalties for failing to comply with Section 46 of the Biosecurity Act 1993 are a fine not exceeding \$100,000 or 5 years in jail for an individual, and for a corporation a fine not exceeding \$200,000.

6.3 Surveillance for TSE diseases

The Ministry of Agriculture and Forestry funds an exotic animal disease surveillance program, a significant part of which is the TSE monitoring program.

The major focus of TSE surveillance has always been the laboratory investigation of material from all cases having a clinical history consistent with TSEs submitted to diagnostic laboratories. The MAF standard for the organisation and administration of the system is available on the internet⁽⁵⁾. The standard for the interpretation of histological results is shared with Australia and is available on the internet⁽⁶⁾.

MAF has also supplied large numbers of cattle brains to overseas laboratories as negative controls for the validation of various new TSE tests.

MAF also keeps all imported cattle under close surveillance throughout their lives.

In addition, over the period 2000 – mid 2005, the New Zealand meat industry funded an enhanced TSE surveillance program focused on Western Blot (Prionics) testing of specific classes of cattle submitted to slaughter houses or rendering plants. The classes of cattle tested under this program were as follows:

- Cattle dead on arrival.
- Cattle found dead in the yards
- Cattle condemned in the yards that fit the “case definition” for BSE, including “downer” cattle
- Imported cattle regardless of age
- Some cattle sent to rendering plants for pet food

In this paper this testing is collectively referred to as “slaughterhouse surveillance”.

The Western Blot (Prionics) testing is carried out at MAF’s Investigation and Diagnostic Centre - Wallaceville (formerly known as the National Centre for Disease Investigation)

Summaries of the overall surveillance system for TSEs have been published annually from 2002-2005 in the MAF publication *Surveillance*⁽⁷⁾⁽⁸⁾⁽⁹⁾.

Results of MAF exotic disease investigations including TSE investigations are published annually in *Surveillance*.

The data generated from the surveillance investigations described above has been included in Sections 6.9 and 6.10.

6.4 *Approved laboratories*

Six veterinary diagnostic laboratories approved by the Ministry of Agriculture and Forestry⁽¹⁰⁾, take part in a comprehensive screening program for TSE diseases described in the MAF standard for the diagnosis of TSE diseases⁽⁵⁾. These laboratories all operate Quality Assurance programmes and are regularly audited. The laboratories undertake the following functions:

- Screening by laboratory veterinarians, of the case histories of all submissions to identify any submissions that should be examined for TSE diseases.
- Examination by a veterinary histopathologist, of all brains from adult animals with a clinical history of nervous disease
- Investigation (including the collection of samples for laboratory examination), by Ministry of Agriculture and Forestry veterinarians of cases where veterinary practitioners suspect a TSE on the basis of clinical signs. This category also includes cases for which, on the basis of the clinical history, the laboratory pathologist includes a TSE in the differential diagnosis.
- Histopathological examination of samples submitted from meat works.

There is an attractive financial incentive scheme to encourage practitioners to submit specimens from all cases showing signs of nervous diseases.

Prionics testing is carried out at the Investigation and Diagnostic Centre - Wallaceville. This laboratory is under direct MAF control and operates under an externally audited Quality Assurance Programme. The methods used are specified in procedures and methods manuals. Numbers tested are given in Section 6.9.

6.5 *Standard diagnostic methods*

The laboratories use standard diagnostic techniques in screening tissues from animals suspected of being affected by one of the TSEs. The procedures are outlined in OIE's *Manual of Standards for Diagnostic Tests and Vaccines*. A MAF standard for the diagnosis of TSEs of animals, was introduced in 1997 to ensure uniformity in the methods of handling, examination, reporting and recording of nervous disease cases⁽⁵⁾.

The laboratories employ a number of pathologists who are diplomates of the American College of Veterinary Pathologists. In 1990 Dr William Hadlow, recognised as a leader in the field of scrapie research and an internationally respected pathologist, provided tuition on scrapie histopathology to Ministry of Agriculture's pathologists. A pathologist also received tuition on BSE and scrapie at the Central Veterinary Laboratory, Weybridge, United Kingdom. In 1996 three pathologists were tutored in the diagnosis of spongiform encephalopathies by Dr Gerald Wells at a workshop in Australia. Reference histological slides from British BSE and scrapie cases are used for training purposes and are held in the Ministry of Agriculture's National Pathology Registry. A scientist and a veterinarian specialised in molecular virology have received training in Switzerland, Germany, Australia and England (Weybridge) on the molecular methods for diagnosis of BSE, with particular emphasis on the prionics method.

Methods of interpretation of histological findings are specified in a standard used jointly by Australia and New Zealand⁽⁶⁾.

6.6 Surveillance prior to 1990

A computerised laboratory information system was set up in 1973. Between the setting up of this computerised system and 1989, the Animal Health Laboratories received submissions from 7,271 cases of neurological disease in cattle. Specific diagnoses were made in 2,690 (37%). The most commonly diagnosed causes of central nervous disease were metabolic disease (38.5% of cases), poisoning (18.5%), bacterial disease (8.5%), polioencephalomalacia (8.5%) and hepatic encephalopathy (7.5%). Other miscellaneous diagnoses were made in a further 18.9% of cases. No cases of spongiform encephalopathy were identified.

6.7 Retrospective study

In October 1988 a retrospective study of fixed, adult (over the age of 18 months) bovine brain sections held in Ministry of Agriculture and Massey University collections was undertaken. A total of 50 brains were re-examined and no lesions suggestive of BSE were found.

6.8 Submissions to veterinary laboratories of cases with a history of nervous disease

From January 1990 to March 2003 laboratory veterinarians screened 6,891 cases presenting clinical signs of nervous disease in cattle (Table 5). Cases were submitted for a variety of reasons, but TSEs were never explicitly suspected by any submitter. Nevertheless, as part of the surveillance program, in all cases, the pathologists excluded the diagnosis of an infectious TSE on the basis of clinical history and/or laboratory tests.

6.9 Submissions in which brains were examined by histopathology and Prionics immunoblot testing

Table 5 shows the total number of New Zealand cattle tested for BSE since 1997. Three categories of cattle are shown: animals that had clinical signs that could be consistent with BSE (column 3), clinically normal cattle whose brains were screened by histopathology prior to sending these brains to the European Union for use as negative controls in validation of new BSE tests (column 4), and the slaughterhouse surveillance cases, which were animals over 2 years old tested by the Prionics western blot test as discussed in section 6.3 (column 5).

In view of the increasing international intensity of BSE surveillance, in early 2005 MAF set up the BSE Surveillance advisory group, an on-going forum comprising MAF and key stakeholders from various sectors of the cattle industry. The aim of the group is to ensure that the OIE guidelines for BSE surveillance are met. The role of industry representatives on the group is to communicate information about the BSE surveillance to their members, and in particular to increase the awareness of farmers of the need to meet the OIE surveillance targets.

In mid 2005 MAF substantially increased the financial incentives payable to veterinary practitioners for submission of suspect cattle brains and broadened the case definition for a BSE suspect to bring it in line with the case definition in the 2005 OIE surveillance guidelines. The new case definition is as follows;

- Cattle which might be considered as having a metabolic disorder which fails to respond to treatment.
- ‘Downer’ cattle which have no obvious injury.
- Dairy cattle which have previously behaved reasonably in the milking shed, but which are now at the point of being culled for behavioural reasons.
- Cattle showing any signs which might be considered to be of neurological origin (e.g. persistent ear-twitching), and which do not respond to treatment.
- Cattle showing abnormalities of gait or stance which are not obviously associated with musculo-skeletal pathology.
- Wasting cattle without signs of diarrhoea.

Just prior to the 2005 calving season, traditionally the time of highest submission of suspect cases, MAF sent a letter to all registered veterinary practitioners outlining the higher incentives payable to practitioners for submission of suitable samples and the new case definition– the full text of that letter is included in Appendix 4. At the same time, MAF’s contracted pathologists carried out a series of workshops for veterinarians in the North and South Islands of New Zealand on a simplified practical method for brain removal. A ‘powerpoint’ CD on the method was also posted to all registered large animal veterinarians.

As can be seen from Table 5, the combined effect of these initiatives has been that the number of brains submitted from animals with clinical signs that fit the new broader case definition of BSE has increased dramatically in 2005.

Table 5. Laboratory examinations for BSE (figures to 24 September 2005)

Year	Total	Clinical signs, Histology and/or western blot*	Normal animals, histology and western blot [☼]	Slaughter house surveillance [♣]
1997	108	108	0	0
1998	1,087	78	[♣] 1,009	0
1999	97	97	0	0
2000	310	46	0	264
2001	384	99	0	285
2002	2,937	84	0	2,853
2003	2,059	89	514	1,456
2004	2,918	118	396	2,404
2005	1,524	836	30	658
Total	11,424	1,555	1,949	7,920

* Cases meeting clinical criteria, where brain samples were tested by histopathology and/or western blot.

☼ Brains collected as negative controls for the European Commission.

♣ Tested by Prionics immunoblot test.

♠ 966 of these were tested negative by histopathology, and 43 were tested negative by western blot, all at CVL Weybridge

All tests shown in Table 5 were negative for BSE.

The 836 cattle showing clinical signs consistent with the new case definition of BSE that were tested by histology so far in 2005 (see column 3 of table 5) can be further categorised by their age, as shown in Table 6.

Table 6. Age distribution of cattle with clinical signs consistent with the new case definition of BSE tested in 2005 (excluding slaughter house surveillance)

	2-4 yrs	4-7 yrs	7-9 yrs	Over 9 yrs
Number of samples	225	386	146	79

6.10 Laboratory diagnoses in cases of nervous disease since 1990

In addition to the cattle shown in Table 5, some cases of general nervous disease are submitted to laboratories without brain samples. These are predominantly cases of metabolic disease and bacterial infections.

The diagnoses for these cases from 1990 to 2004 are given in Table 7. The diagnoses reported were made by an appropriate combination of laboratory tests and histopathology. All available tests were not always used in every case.

Table 7. Laboratory diagnoses for cattle 2 years of age and older that had a clinical history of nervous disease 1990 - 2004.

	1990-97	1998	1999	2000	2001	2002	2003	2004
Bacterial infection (excluding those listed)	38	4	1	3	13	4	10	10
Brain tumour		1	3	1	3		3	1
Enterotoxaemia/Focal symmetrical encephalomalacia				2			0	0
Hepatic encephalopathy	82	16	20	11	12	6	12	7
Listeriosis	44	18	12	7	23	35	27	36
Malignant catarrhal fever	40	4	4	2	9	14	12	12
Metabolic disease	494	68	37	58	42	82	71	55
Mineral toxicoses						3	3	0
Poisoning	41		2	2	2	1	2	1
Polioencephalomalacia	57	18	12	3	4	7	7	3
Spinal cord trauma		1						0
Other Diagnosis	37	5	1	3	4	2	1	0
No diagnosis made	1619	108	223	153	173	196	143	146
Totals	2452	243	315	245	285	350	291	271

6.11 Conclusions: Surveillance and awareness programmes

New Zealand has conducted extensive surveillance programmes for the detection of TSE diseases for many years. Data generated since 1990 is included in this case for BSE freedom. No case of BSE has ever been found.

An extensive awareness programme has been aimed at veterinarians, farmers and other people involved in the cattle and related industries. A high level of awareness of the potential economic effects that the disease could cause, has been established.

7 REFERENCES

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8 APPENDICES

8.1 Appendix 1.

System of identification and capacities for tracing animals

Until 1999 there was no legal compulsion to identify livestock. Nevertheless, ear-tagging, earmarking or hide marking were used almost universally for ownership identification and breeding purposes. This changed in July 1999 when new legislation required the identification of all cattle and farmed deer.

Since 1986 progeny in 96% of dairy cattle herds have been readily traceable by the Livestock Improvement Corporation (LIC). Extensive records are also held going back many years prior to 1986. Virtually all dairy animals and some dairy-breed beef animals are identified using this system and others could be traced using farm records and the LIC's extensive database of DNA profiles of semen donor bulls. The LIC identification system uses dual whole-of-life ear-tags that will be integrated with the new national identification programme for cattle and deer.

Cattle from many, but not all, beef-breed herds have been traceable through a range of animal recording databases maintained by artificial breeding companies, pedigree breed societies, animal performance recording schemes and records maintained at the farm business level. For example, approximately half of the beef-breed herds that use artificial insemination contribute to animal recording databases which can readily provide traceability.

Since 1 July 1999, all cattle and farmed deer born after that date must, after reaching 30 days of age, be officially identified before they are first moved from their herd of birth. Both a primary plastic ear-tag and a secondary device must be used and these must be maintained so that the animal remains identified during every subsequent movement over its lifetime. A primary tag carries an approved logo, a unique herd number and an animal number. A bar code containing both numbers will be read at the time of slaughter and the database of active identifiers will be updated by electronic means.

When cattle and deer are moved, each consignment is accompanied by a Tuberculosis Status Declaration Card, which is then retained by the purchaser. This is a long-standing requirement of New Zealand's tuberculosis control programme.

The *Biosecurity (Imported Animals, Embryos and Semen) Regulations 1999* ensure lifetime traceability of animals imported as embryos and the traceability of imported semen to identified recipient animals. In practice, the artificial breeding industry already records the distribution of all semen, imported and domestic.

New Zealand occasionally imports livestock from a limited range of countries for breeding purposes (see Section 2.1, Table 1). Live animals are identified as imports with dual official MAF ear-tags when being prepared for export to New Zealand. The lifetime movements of these animals are individually monitored by MAF.

8.2 Appendix 2.

Importation of processed beef cuts 1997- 2003.

(Source Statistics New Zealand, Overseas Trade)

Period	HS6 Code and Description	Country of Origin	Quantity KG
1997 Calendar Year	0201.20 Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), fresh or chilled	Australia	1,854
1997 Calendar Year	0201.30 Meat; of bovine animals, boneless cuts, fresh or chilled	Australia	48,978
1997 Calendar Year	0202.20 Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), frozen	Australia	74,134
1997 Calendar Year	0202.30 Meat; of bovine animals, boneless cuts, frozen	Australia	2,037,354
1997 Calendar Year	0202.30 Meat; of bovine animals, boneless cuts, frozen	USA	17,469
1998 Calendar Year	0201.20 Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), fresh or chilled	Australia	112
1998 Calendar Year	0201.30 Meat; of bovine animals, boneless cuts, fresh or chilled	Australia	52,217
1998 Calendar Year	0202.20 Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), frozen	Australia	15,160
1998 Calendar Year	0202.30 Meat; of bovine animals, boneless cuts, frozen	Australia	1,776,958
1999 Calendar Year	0201.20 Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), fresh or chilled	Australia	768
1999 Calendar Year	0201.30 Meat; of bovine animals, boneless cuts, fresh or chilled	Australia	39,898
1999 Calendar Year	0202.20 Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), frozen	Australia	131
1999 Calendar Year	0202.30 Meat; of bovine animals, boneless cuts, frozen	Australia	1,624,657
2000 Calendar Year	0201.20 Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), fresh or chilled	Australia	13,193
2000 Calendar Year	0201.30 Meat; of bovine animals, boneless cuts, fresh or chilled	Australia	732,717
2000 Calendar Year	0202.20 Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), frozen	Australia	27,606
2000 Calendar Year	0202.30 Meat; of bovine animals, boneless cuts, frozen	Australia	3,235,781
2001 Calendar Year	0201.20 Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), fresh or chilled	Australia	55,682
2001 Calendar Year	0201.30 Meat; of bovine animals, boneless cuts, fresh or chilled	Australia	1,601,758

2001 Calendar Year	0202.20	Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), frozen	Australia	30,334
2001 Calendar Year	0202.20	Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), frozen	USA	932
2001 Calendar Year	0202.30	Meat; of bovine animals, boneless cuts, frozen	Australia	2,545,898
2001 Calendar Year	0202.30	Meat; of bovine animals, boneless cuts, frozen	Canada	17,181
2001 Calendar Year	0202.30	Meat; of bovine animals, boneless cuts, frozen	USA	175
2002 Calendar Year	0201.20	Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), fresh or chilled	Australia	39,471
2002 Calendar Year	0201.30	Meat; of bovine animals, boneless cuts, fresh or chilled	Australia	4,084,747
2002 Calendar Year	0202.20	Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), frozen	Australia	29,104
2002 Calendar Year	0202.20	Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), frozen	Korea	8,071
2002 Calendar Year	0202.30	Meat; of bovine animals, boneless cuts, frozen	Australia	4,861,988
2002 Calendar Year	0202.30	Meat; of bovine animals, boneless cuts, frozen	Korea	3,620
2003 Calendar Year	0201.20	Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), fresh or chilled	Australia	34,338
2003 Calendar Year	0201.30	Meat; of bovine animals, boneless cuts, fresh or chilled	Australia	2,697,857
2003 Calendar Year	0202.20	Meat; of bovine animals, cuts with bone in (excluding carcasses and half-carcasses), frozen	Australia	29,612
2003 Calendar Year	0202.30	Meat; of bovine animals, boneless cuts, frozen	Australia	2,077,170
TOTAL				27,816,925

PERIOD 2004-5.

YEAR	HS10 Code	Description	Country of Origin	Quantity
2004	0201.20.00.49	Meat; of bovine animals, beef cuts other than according to the NZ Meat Producers' Board definition, of cow, steer and heifer, with bone in, fresh or chilled (excluding carcasses, half-carcasses and quarters)	Australia	14,044
	0201.20.00.59	Meat; of bovine animals, quarters and cuts of veal (other than bobby), with bone in, fresh or chilled (excluding carcasses and half-carcasses)	Australia	1,323

0201.20.00.69	Meat; of bovine animals, cuts with bone in n.e.s. in item no. 0201.20, fresh or chilled	Australia	677
0201.30.00.01	Meat; of bovine animals, beef cuts according to the NZ Meat Producers' Board definition, of cow, steer and heifer, boneless, fresh or chilled	Australia	81,458
0201.30.00.09	Meat; of bovine animals, beef cuts other than according to the NZ Meat Producers' Board definition, of cow, steer and heifer, boneless, fresh or chilled	Australia	1,633,690
0201.30.00.29	Meat; of bovine animals, boneless cuts of veal (other than bobby), fresh or chilled	Australia	75,409
0202.20.00.41	Meat; of bovine animals, beef cuts according to the NZ Meat Producers' Board definition, of cow, steer and heifer, with bone in, frozen (excluding carcasses, half-carcasses and quarters)	Australia	99,426
0202.20.00.49	Meat; of bovine animals, beef cuts other than according to the NZ Meat Producers' Board definition, of cow, steer and heifer, with bone in, frozen (excluding carcasses, half-carcasses and quarters)	Australia	278
0202.20.00.59	Meat; of bovine animals, veal (other than bobby) quarters and cuts, with bone in, frozen (excluding carcasses and half-carcasses)	Australia	204
0202.30.00.01	Meat; of bovine animals, beef cuts according to the NZ Meat Producers' Board definition, of cow, steer and heifer, boneless, frozen	Australia	291,901
0202.30.00.09	Meat; of bovine animals, beef cuts other than according to the NZ Meat Producers' Board definition, of cow, steer and heifer, boneless, frozen	Australia	654,951
0202.30.00.29	Meat; of bovine animals, boneless cuts of veal (other than bobby), frozen	Australia	413,482
TOTAL			3,266,843

Jan-Jul2005

0201.20.00.59	Meat; of bovine animals, quarters and cuts of veal (other than bobby), with bone in, fresh or chilled (excluding carcasses and half-carcasses)	Australia	215
0201.20.00.69	Meat; of bovine animals, cuts with bone in n.e.s. in item no. 0201.20, fresh or chilled	Australia	657
0201.30.00.01	Meat; of bovine animals, beef cuts according to the NZ Meat Producers' Board definition, of cow, steer and heifer, boneless, fresh or chilled	Australia	13,629
0201.30.00.09	Meat; of bovine animals, beef cuts other than according to the NZ Meat Producers' Board definition, of cow, steer and heifer, boneless, fresh or chilled	Australia	299,307

0201.30.00.29	Meat; of bovine animals, boneless cuts of veal (other than bobby), fresh or chilled	Australia	26,390
0202.20.00.41	Meat; of bovine animals, beef cuts according to the NZ Meat Producers' Board definition, of cow, steer and heifer, with bone in, frozen (excluding carcasses, half-carcasses and quarters)	Australia	14,064
0202.20.00.49	Meat; of bovine animals, beef cuts other than according to the NZ Meat Producers' Board definition, of cow, steer and heifer, with bone in, frozen (excluding carcasses, half-carcasses and quarters)	Australia	113
0202.20.00.59	Meat; of bovine animals, veal (other than bobby) quarters and cuts, with bone in, frozen (excluding carcasses and half-carcasses)	Australia	102
0202.30.00.01	Meat; of bovine animals, beef cuts according to the NZ Meat Producers' Board definition, of cow, steer and heifer, boneless, frozen	Australia	208,229
0202.30.00.09	Meat; of bovine animals, beef cuts other than according to the NZ Meat Producers' Board definition, of cow, steer and heifer, boneless, frozen	Australia	156,976
0202.30.00.29	Meat; of bovine animals, boneless cuts of veal (other than bobby), frozen	Australia	40,974
TOTAL			406,179

8.3 *Appendix 3.*

Notifiable organisms Section of the Biosecurity Act 1993

45. Notifiable organisms

- (1) Repealed
- (2) The Governor-General may, by Order in Council, declare any organism to be a notifiable organism.
- (3) The Governor-General may, by Order in Council, made on the recommendation of the responsible Minister, declare any pest to which a regional pest management strategy relates to be an organism notifiable within the region, or within any specified part of the region, of the regional council or regional councils concerned.
- (4) The responsible Minister shall not recommend the making of an order under subsection (3) of this section, unless—
 - (a) The regional council or regional councils concerned have asked the Minister to do so; and
 - (b) The Minister is satisfied that it is in the public interest to do so.
- [5) The responsible Minister must not recommend the making of an order under subsection (2) in respect of any organism which has been approved for release in New Zealand by the Authority in accordance with the Hazardous Substances and New Organisms Act 1996 unless that Minister has first consulted with the Authority.]

46 Duty to report notifiable organisms

- (1) Every person who—
 - (a) At any time suspects the presence of an organism in any place in New Zealand; and
 - (b) Suspects that it is for the time being declared to be a notifiable organism under subsection (2) of section 45 of this Act; and
 - (c) Believes that it is not at the time established in that place; and
 - (d) Has no reasonable grounds for believing that the chief technical officer is aware of its presence or possible presence in that place at that time,—
shall without unreasonable delay report to the chief technical officer its presence or possible presence in that place at that time.
- (2) Every person who—
 - (a) At any time suspects the presence of an organism in a place in the region, or in any part of the region, of a regional council; and
 - (b) Suspects that it is for the time being declared to be an organism notifiable within the region or part under subsection (3) of section 45 of this Act; and
 - (c) Believes that it is not at that time established in that place; and
 - (d) Has no reasonable grounds for believing that the chief technical officer is aware of its presence or possible presence in that place at that time,—
shall without unreasonable delay report to the chief technical officer its presence or possible presence in that place at that time.

8.3 *Appendix 4*

Notice of altered surveillance and incentive scheme

Ref: AS40-020

3 July 2005

Dear Veterinarian,

Increased BSE Surveillance Incentives.

This is to notify you that, effective 1 July 2005; MAF Biosecurity New Zealand will be paying the following bovine spongiform encephalopathies (BSE) investigation incentives directly to farmers and veterinarians:

- \$300 to the farmer for each cattle case meeting the case definition (see below),
- \$300 to the veterinarian for submission of the brain and a submission form from an appropriate cattle case,
- If brain removal on site is not performed, the payment to the veterinarian is reduced by \$50, i.e. will be \$250. A submission form is still required to be eligible for this payment.

The case definition is as follows:

- Cattle which might be considered as having a metabolic disorder which fails to respond to treatment.
- 'Downer' cattle which have no obvious injury.
- Dairy cattle which have previously behaved reasonably in the milking shed, but which are now at the point of being culled for behavioural reasons.
- Cattle showing any signs which might be considered to be of neurological origin (e.g. persistent ear-twitching), and which do not respond to treatment.
- Cattle showing abnormalities of gait or stance which are not obviously associated with musculo-skeletal pathology.
- Wasting cattle without signs of diarrhoea.

To be eligible for surveillance, the animals must be at least 24 months of age. Of particular value to the surveillance programme are cattle between the ages of 4 and 7 years. **It is your decision if the case meets the criteria, if it does not, no payments to either party will be made by Biosecurity New Zealand.**

Also, there will be a delay in payment if an incomplete history is provided with the case. It is imperative for you to complete all sections of the submission and payment form.

This change to the amounts of payment for Biosecurity New Zealand's BSE Surveillance Programme has resulted from several factors, including:

The rate of submission of cattle brains to the laboratories, which on average has been 100 per annum,

The change to the OIE's BSE surveillance guidelines in May 2005. As a result New Zealand meat industry stakeholders have set themselves a target of testing at least 400 brains, from suitable field cases, every year.

Consultation with the Society of Dairy Cattle Veterinarians and Federated Farmers regarding the appropriate amounts for the incentive payments.

A copy of the submission form, with sampling and payment instructions, is attached. This information is also available through the Biosecurity New Zealand website at: <http://www.biosecurity.govt.nz/pests-diseases/animals/tse/surveillance-incentives.htm>, or may be obtained by contacting Suvi van Smit at the address given on the submission form.

In addition, Biosecurity New Zealand will shortly be sending to every large animal veterinarian, free of charge, a CD demonstrating bovine brain removal technique.

As with the previous incentive programme, MAF will also pay the laboratory for histopathological examination of the tissues, and removal of the brain (if required).

This revised programme supersedes all previous BSE surveillance incentive programmes. Regarding the other species, the programme remains the same, i.e.:

- \$100 for each deer case, \$50 for each sheep or goat case meeting the "sampling criteria" (see below),
- \$100 for each deer, \$50 for each sheep or goat to the veterinarian for submission of appropriate samples and a submission form,
- An additional payment of \$60 for each deer, \$30 for each sheep or goat to the veterinarian if he/she removes the brain on site.

With the sampling criteria being:

- Progressive, non-responsive, nervous disease, metabolic, cases in adult (i.e. greater than 2 years old) sheep, goats, and deer,
- Progressive non-responsive cases of ill thrift in adult (i.e. greater than 2 years old) deer,
- Acute or per acute pneumonia, or aspiration pneumonia in adult (i.e. greater than 2 years old) deer,

in each case, where no other cause of the disease can be definitely diagnosed at the time of necropsy.

Although livestock in New Zealand are not infected with the Transmissible Spongiform Encephalopathies (TSE) agents, any country that wants to trade as TSE-free must undertake an internationally acceptable on-going TSE surveillance and monitoring programme that has been designed along the guidelines provided by the OIE. I am optimistic that these revised incentive arrangements will enable us to meet these guidelines, and ensure the continued market access that is vital to New Zealand's economy.

Yours sincerely

Derek Belton
International Coordination Manager