BSE
Food Safety Assessment Report

Canada

Last Update: 2 August 2024

Science & Risk Assessment Branch

Food Standards Australia New Zealand

Executive summary

Food Standards Australia New Zealand (FSANZ) is the regulatory body responsible for conducting Bovine Spongiform Encephalopathy (BSE) food safety assessments of countries that seek to export beef or beef products to Australia. FSANZ analyses information submitted by the applicant country and supplementary information, and draws an evidence based conclusion on the BSE food safety status of the applicant country. Countries seeking market access for fresh beef products are subject to an additional assessment of animal biosecurity risks conducted by the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF). The requirements detailed in the *Australian Questionnaire to Assess BSE Risk* are based on Chapter 1.8 of the World Organisation for Animal Health (WOAH) Terrestrial Animal Health Code (2009). Canada made a submission in 2023 to be assessed under the current Australian BSE policy.

Since the late 1980's, 19 classical BSE cases have been detected in Canada; the last of which was in 2015. WOAH upgraded Canada to negligible BSE risk status on 27 May 2021.

FSANZ's assessment involved a desk top review and in-country verification of Canada's system. FSANZ completed an assessment of legislative measures for the prevention and control of BSE in Canada, and with the support of DAFF, conducted in-country verification activities to confirm the effectiveness of BSE preventative measures implemented in Canada.

For this assessment of Canada, five main control areas were examined:

(1) **Import controls** to prevent the release of the BSE agent through imports of animals or animal-derived products.
(2) **Feed ban controls** to prevent contamination of the animal feed supply with the BSE agent.
(3) **Food safety controls** to prevent contamination of the human food supply with the BSE agent.
(4) **Traceability and animal identification systems** to ensure animals and animal-derived products can be effectively identified and recalled if required.
(5) **Surveillance programs** to ensure that BSE-affected animals are identified and removed from the feed and food production systems.

In country-verification focused on knowledge and implementation of traceability and animal identification requirements by three primary production sectors: a beef breeding farm, dairy farm and a beef finishing premises. The focus on these aspects of the control system reflects WOAH's 2023 revised BSE standards indicating minimal risk of BSE worldwide. WOAH's updated requirements enables a risk-proportionate assessment of Canada's application to export beef and beef products to Australia. FSANZ consulted with DAFF during this assessment.

FSANZ acknowledges advice from DAFF which has previously completed in-country verification of some aspects of Canada's animal health control measures. This provides further confidence in the official control systems for bovines in Canada.

The assessment concluded that Canada has robust legislative controls and systems to prevent the introduction and amplification of the BSE agent within the Canadian cattle population and prevent contamination of the human food supply with the BSE agent.

The risk of the BSE agent being released into the Canadian cattle population through imports of meat-and-bone meal (MBM), live cattle, or bovine products is effectively controlled by appropriate regulations. Importation of MBM or other rendered products is by permit only,

and each shipment must be accompanied by a zoosanitary export certificate issued by the Competent Authority. Rendering plants of origin are subject to annual inspection, and the importer must complete a Canadian Food Inspection Agency (CFIA) facility questionnaire annually. For non-negligible BSE-risk countries, the facility of origin must not handle ruminant-derived materials of any kind. MBM imports of bovine origin in the years 2012 to 2019 were limited to imports from New Zealand.

Cattle imported into Canada must be accompanied by an import permit issued by CFIA and/or accompanied by a zoosanitary certificate signed by an official veterinarian stating that the animal meets Canadian import requirements. Cattle are imported into Canada only from the USA, and the majority are destined for preslaughter feedlots, from which they cannot enter the national herd, or are sent direct to slaughter. Cattle destined for breeding herds are marked with a Canadian ear tag and are entered into the Canadian Cattle Identification Agency database. Canada's policy concerning meat and meat products corresponds to the recommendations of WOAH's Terrestrial Code with regard to meat and meat products from negligible BSE-risk countries, and from controlled BSE-risk countries. The importation of meat and meat products is only permitted from CFIA-approved establishments. Shipments of imported beef are subject to approval by the National Import Service Centre (NISC) and the CFIA. Appropriate regulations are in place for other products of bovine origin that may be imported into Canada.

A ban on feeding mammalian proteins (other than dairy proteins) to ruminants has been in effect since 1997. This ban was reinforced in 2007 to exclude specified risk material (SRM) from all terrestrial and aquatic feed chains (including pet foods) and to also exclude SRM from fertilizer. The CFIA administers legislative instruments covering manufacture, import, distribution, retail and feeding of animal proteins and animal feeds. Feed mills must retain records of production and distribution of feed for at least 10 years and must have effective recall procedures in place. The CFIA carries out regular inspection of feed mills, and also transportation and delivery of feeds, labelling of feeds, retail of feeds, and use of feeds by livestock producers.

Cattle are subject to preslaughter inspection and there are procedures in place to ensure that abnormal animals are excluded from the human food supply. Slaughter methods minimise the risk of dispersal of potentially infected brain tissue. SRM are removed during processing. Facilities involved in the processing, transportation and receipt of SRM require permits issued by CFIA. SRM must be stained prior to transportation. Most SRM are buried in landfill or incinerated.

The removal of SRM from the food supply has been a legal requirement in Canada since 2003. Canadian legislation, standards and regulatory requirements, together with verification inspection processes are adequate to prevent SRM contamination in Canadian cattle slaughtering and beef processing establishments. These also ensure beef and beef products produced in Canada for human consumption are safe. Canada has well established food traceability and food recall systems.

Revision of legislation related to the importation of cattle and products derived from cattle illustrate that Canada monitors the BSE status of other countries and developments in scientific knowledge concerning BSE.

CFIA staff are trained in BSE surveillance and controls. BSE subject matter experts are employed to present information concerning BSE to industry associations, producer groups, veterinarians, and other stakeholders. Each province cooperates with CFIA to maintain BSE awareness, and support surveillance and control measures. Detailed examples of activities targeting stakeholder groups were provided by Canada.

BSE has been a reportable disease under Canada's *Health of Animals Act* since 1990. This makes it compulsory to notify the federal government of suspect BSE cases; failure to report can result in prosecution, with significant fines or a prison term. Brain material from suspect animals is sent to a CFIA laboratory for testing. Appropriate procedures are in place to trace and destroy all cattle that may have consumed the same feed as the BSE-infected animal during its first year of life. Carcasses and all potentially contaminated feed are incinerated or disposed of by deep burial. Compensation covering the market value of the destroyed cattle is available to owners, with further payments available to assist with veterinary and disposal costs.

The National BSE Reference Laboratory is in Lethbridge, Alberta and there are also five laboratories within the National TSE Laboratory Network, which are all approved by CFIA to conduct BSE testing. The diagnostic protocols and methods prescribed in WOAH's *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* are used. A quality assurance program is applied to the network.

Comprehensive cattle identification measures, through ear-tags embedded with Radio Frequency Identification Devices, and databases for tracing cattle, are in place. The CFIA provides full regulatory enforcement for animal identification. The Responsible Administrator for beef cattle in Canada, with the exception of Quebec, is the Canadian Cattle Identification Agency (CCIA). The CCIA wholly owns and manages the Canadian Livestock Tracking System (CLTS) database. On October 5, 2020 CCIA ceased to be the responsible administrator for dairy cattle identification, and responsibility shifted to the DairyTrace program for provinces other than Quebec. For Quebec, the livestock data required under Canada's Health of Animals Regulations are provided to the CFIA via Quebec's provincial administrator, Attestra. The provincial regulations of Quebec for livestock identification which align with, if not exceed, the Federal regulations.

Canada provided information and data supporting that Canada has carried out active BSE surveillance since 2004, reaching the required Type A surveillance points target in 2005. The surveillance points accumulated over a period of 7 years since 2010 have always exceeded the Type A surveillance point target described in Article 11.4.22 of the WOAH Terrestrial Animal Health Code (2009).

In conclusion, Canada has comprehensive and well established controls to prevent the introduction and amplification of the BSE agent within the cattle population and to prevent contamination of the human food supply with the BSE agent. This BSE food safety risk assessment concludes that imported beef and beef products sourced from Canada are safe for human consumption and recommends **Category 1** status for Canada.

Acronyms

AIRS	automated import reference system
ANAC	animal nutrition association of Canada
BSE	bovine spongiform encephalopathy
CANSESAP	Canada and Alberta BSE surveillance program
CBSA	Canada border services agency
CCIA	Canadian cattle identification agency
CCVB	Canadian centre for veterinary biologics
CFIA	Canadian Food Inspection Agency
CLTS	Canadian livestock tracking system
CVO	chief veterinary officer
CVS	compliance verification system
DAFF	Australian Government Department of Agriculture, Fisheries and Forestry
FSANZ	Food Standards Australia New Zealand
FSIS	Food Safety Inspection Service of the United States Department of Agriculture
HACCP	hazard analysis and critical control point
HSP	hazard specific plan
ICTS	import control tracking system
IHC	Immunohistochemistry
ISO/IEC	International Organization for Standardization / International Electrotechnical Commission
MBM	meat-and-bone meal
NISC	national import service centre
OFSR	office of food safety and recall
OTM	over 30 months
PCP	Preventive Control Plan
PHAC	Public Health Agency of Canada
PID	premises identification

PPR	provincial premises registry
RFID	radio frequency identification device
SCC	Standards Council of Canada
SFCR	Safe Food for Canadians Regulations
SOR	statutory orders and regulations
SRM	specified risk material
TC	technical committee
Terrestrial Code	WOAH Terrestrial Animal Health Code
TSE	transmissible spongiform encephalopathy
UK	United Kingdom
USA	United States of America
UTM	under 30 months
vCJD	variant Creutzfeldt–Jakob disease
WOAH	World Organisation for Animal Health (formerly, the OIE)

Glossary

Australian Questionnaire is the Australian Questionnaire to Assess BSE Risk which lists the data requirements for countries wishing to export beef or beef products to Australia and seeking to be assessed for BSE risk.

BSE agent is the infectious misfolded protein, or prion, that causes BSE.

Specified risk material (SRM) The Health of Animals Regulations (Consolidated Regulations of Canada, C.R.C. c. 296) define SRM as the skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord and dorsal root ganglia of cattle aged 30 months or older, and the distal ileum of cattle of all ages in Canada, but does not include material from a country of origin, or a part of a country of origin, that is designated as posing a negligible risk for Bovine Spongiform Encephalopathy by WOAH.

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Introduction

Food Standards Australia New Zealand (FSANZ) is the regulatory body responsible for assessing the BSE food safety risk of, and assigning a status to, countries that seek to export beef or beef products to Australia.

Under the Australian Government's BSE food safety policy introduced in October 2009, a country seeking to export beef or beef products to Australia must submit an application to FSANZ in accordance with the requirements set out in the Australian Questionnaire to Assess BSE Risk (the Australian Questionnaire). The application should provide sufficient data and information to describe the country's BSE risk and risk management measures implemented to prevent and control the BSE risk.

In general, data requirements in the Australian Questionnaire are based on those of Chapter 11.4 – Bovine Spongiform Encephalopathy of the WOAH Terrestrial Animal Health Code[a]. The Australian Questionnaire also seeks additional information on animal traceability and identification, and animal slaughtering and processing systems. Legislation and standards underpinning BSE controls in the applicant country are also examined as part of the food safety assessment.

Canada submitted an application to FSANZ for country categorisation of BSE food safety risk in February 2023. This report describes the BSE food safety risk assessment conducted by FSANZ to determine the risk that the BSE agent is present in beef and beef products imported from Canada.

The *Australian BSE: Requirements for the importation of beef and beef products for human consumption* (2009) states that Australian officials may conduct an in-country inspection to collect evidence to assist in the completion of a risk assessment. When conducting this risk assessment, the Australian BSE Food Safety Assessment Committee noted that in May 2023, WOAH estimated classical BSE incidences to be extremely low (close to zero cases/year worldwide) due to the successful implementation of control measures that effectively eliminate the BSE agent from entering the livestock herd. Given the significant reduction in the global BSE risk, confidence in Canada's official animal health control systems from previous DAFF assessments, Canada's comprehensive submission and participation in virtual meetings, FSANZ targeted its in-country verification activities. Verification focused on knowledge and implementation of requirements (traceability and animal health) at a beef breeding farm, dairy farm and a beef finishing premises.

BSE History

As of 2022, the Canadian beef industry had approximately 12.29 million head of cattle and calves on 73,085 farms and ranches. The province of Alberta accounts for approximately 40 per cent of Canada's beef herd. The Canadian dairy herd comprises of approximately 1.39 million head, with 9,739 dairy farms. This data is based on information from the Government of Canada website.

Classical BSE is responsible for the large scale BSE epidemic believed to have started in the United Kingdom in the 1980s, and is regarded as the infectious agent causing variant

[a] Based on the 2009 version of Chapters 11.4 and 1.8 of the WOAH Terrestrial Animal Health Code (18th edition). The data requirements for BSE under the 2009 version of WOAH standards and the Australian Questionnaire remain substantially the same. The Australian Questionnaire was minimally revised in 2020. Note: both Chapters 11.4 and 1.8 of the WOAH Terrestrial Animal Health Code were amended in May 2023. This report does not take into consideration changes made to these two chapters post 2009.

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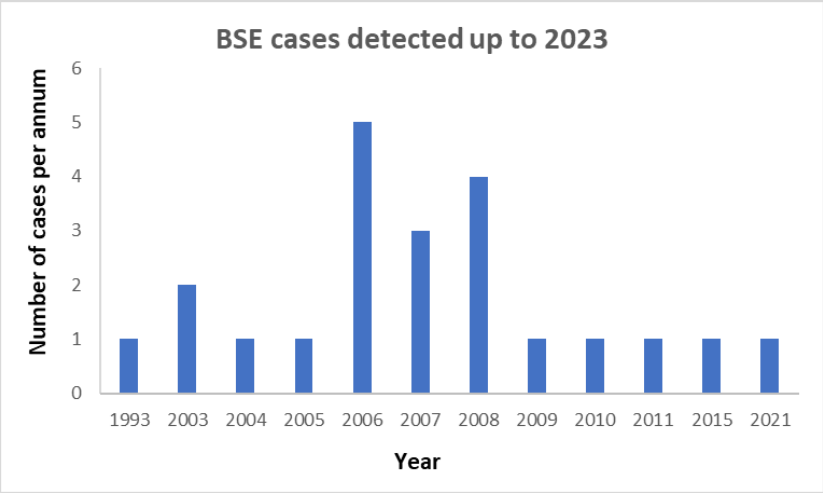
Creutzfeldt Jacob Disease (vCJD) in humans.

Atypical BSE occurs spontaneously, infrequently and randomly in cattle of old age worldwide. In contrast to classical BSE, the detection of atypical BSE cases in a country or region does not adversely affect the BSE risk status of that country or region.

Canada has reported 22 cases of BSE (Figure 1) of which, fifteen occurred in the province of Alberta which has approximately 2/3 of the Canadian cattle population. Of the 22 cases, three cases were diagnosed as atypical BSE and were detected in 2006, 2007 and 2021 respectively. Since the late 1980's, nineteen classical cases have been detected; the last of which was in 2015.

The first case of classical BSE was detected during 1993 in a cow imported from the UK in 1987. The last case of classical BSE was diagnosed in 2015. The investigations found that a common feature of the classical BSE cases was feed or ration cross-contaminated by SRM, either at feed mills or on farm. Canada introduced a feed ban to prevent SRM from being fed to cattle in 1997, and an enhanced feed ban was implemented in 2007.

Figure 1: BSE cases identified in Canada



Canada is a member of the WOAH. In May 2007, the WOAH recognised Canada as a Member Country with a **Controlled** risk status for BSE in accordance with Article 11.4.4 of the WOAH Terrestrial Animal Health Code (the Terrestrial Code). Canada's BSE status was upgraded to **Negligible** by the WOAH on 27 May 2021. A summary of the BSE related milestones for Canada is provided in Table 1.

Table 1. BSE milestones for Canada

Year	Milestones achieved
2021	Recognised by WOAH for **Negligible** status
2007	Enhanced feed ban; recognised by WOAH for **Controlled** status
2006	Cattle RFID mandated
2005	Achieved WOAH Type A surveillance points target
2003	SRM removal mandated
2001	Cattle ID mandated
1992	BSE surveillance program initiated
1990	BSE mandated as a notifiable disease

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Variant Creutzfeldt–Jakob disease (vCJD) in Canada

There have been two cases of vCJD diagnosed in Canada. However, no cases of vCJD have been linked to eating Canadian beef. The first case was likely to have been exposed to the prion while in UK. The second case has been predicted to have acquired the infection outside of Canada.

Potential for release of the BSE agent through imported materials

The importation of specific commodities is a possible avenue through which the BSE agent can be released into a country's cattle population. Commodities that could introduce the BSE agent, if contaminated, include: meat-and-bone meal (MBM), live cattle, and a range of products of bovine origin.

Section 1.1 of the Australian Questionnaire requests information on annual volumes of MBM that have been imported into a country during the last eight years. If applicable, countries are also required to provide evidence that rendering parameters are sufficient to inactivate the BSE agent should it be present.

Section 1.2 of the Australian Questionnaire requires details of live cattle that have been imported during the past seven years. Evidence of the origin of the cattle must be supplied, as well as the BSE risk status of the exporting countries. Similarly, Section 1.3 of the Australian Questionnaire requires data concerning the origin and annual volumes of products of bovine origin (beef and beef products) that have been imported during the past eight years.

This Chapter addresses the above requirements by describing the history of importation of MBM, live cattle, and beef products into Canada, as well as relevant legislation, certification and other controls that underpin the integrity of the system.

1 Importation of Animals or Animal-derived Products

1.1 Legislation

The *Health of Animals Act* (S.C.1990, c.21) and the *Health of Animals Regulations* (C.R.C., c. 296) confer legislative authority on the CFIA, and empower it to regulate the import of live animals (including bovine semen and embryos), animal products, animal foods and veterinary biologics.

Importation of live cattle is regulated under **Part II** *(Importation of live animals)* of the Health of Animals Regulations, and importation of animal-derived products is regulated under **Part IV** *(Importation of Animal By-Products, Animal Pathogens and Other Things).*

For import purposes, Canada accepts the categorization of countries by WOAH. Part II Article 7 of the *Health of Animals Regulations* confers on the CFIA the authority to assess the veterinary service of the exporting country to confirm its equivalence with Canada.

Canada's *Bovine Spongiform Encephalopathy Import Policy for Bovine Animals and Their Products and By-Products* is consistent with recommendations in Chapter 11.4 of WOAH's *Terrestrial Code.*

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2 Importation of MBM or greaves

2.1 Overview

Importation of animal protein sourced from ruminants poses a food safety risk as it is the primary route through which cattle are exposed to BSE infectivity.

2.2 Legislation

Specific BSE-related import conditions are detailed in CFIA documents *Animal Health Import Requirements for Raw Inedible Products and Rendered Products*; and *Automated Import Reference System (AIRS)*.

Regulations specific to the importation of MBM and other rendered products are as follows:

- require importers to have a permit to import any product of a rendering plant (s.166);
- require disease-free conditions for MBM, bone meal, blood meal, tankage, feather meal, fish meal and other products of rendering plants (s.46);
- allow CFIA to make exceptions to the animal health requirements of Health of Animals Regulations Part IV if properly documented treatment has taken place, or in accordance with an import permit (s.52);
- control the importation or sale of rendered products (s.166);
- require importers of products of rendering plants to establish and maintain written procedures to facilitate a recall of the product (s.167.1 (2));
- require importers to keep records, including the name and address of any place to which the imported rendered product is sold or distributed for 10 years after importation (s.166(1) and (2)); and
- require that import records be made available for inspection by CFIA upon request (s.166(1) and (2)).

An import permit is required for all the products of a rendering plant before they enter Canada. The application process is described in the *Procedure for Issuance of a CFIA Import Permit.* A CFIA veterinarian verifies that:

- the rendering facility inspection has been conducted within 12 months of applying for a permit;
- a CFIA BSE facility questionnaire has been completed and signed by an official veterinarian of the exporting country;
- rendered products originate from countries approved to export to Canada;
- the product is accurately classified according to the presence or absence of prohibited material as defined in the *Health of Animals Regulations, s. 162 (1)* and the end use of the product;
- importers have been informed of their obligations in terms of classification of the product.

At least once a year, following inspection by the competent authority of the exporting country, the importer must complete a CFIA facility questionnaire (*CFIA Facility Questionnaire for Export of Rendered Product to Canada*) for every rendering plant intending to export to Canada. The questionnaire emphasizes the handling and segregation of ruminant materials, the avoidance of cross-contamination and keeping appropriate records.

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Shipments of imported rendered products are accompanied by a zoosanitary export certificate issued by the Competent Authority. This certificate certifies compliance with the conditions in the import permit. The certificate must clearly describe the product and specify the country of origin.

For non-negligible BSE-risk countries, the certificate must also attest that:

- The producing/exporting facility (or facilities) does not receive, store or process any ruminants and things derived from ruminants and that the product has been prepared, processed, stored and otherwise handled in a manner to avoid contamination with any ruminant tissues or things derived from ruminants; and
- The raw materials used to produce the meal were reduced to a maximum particle size of 50 mm before being heated under saturated steam conditions to a temperature of not less than 133 °C for a minimum of 20 minutes at an absolute pressure of 3 bar.

The regulations concerning rendered products also apply to mixed feeds for livestock, and to pet foods. The import requirements for processed (heat-treated, shelf-stable and ready-to-eat) pet food and treats are specified in the *Import Policy for Pet Food and Treats Containing Animal Products and By-Products*, with specific conditions by country of origin in the *Automated Import Reference System (AIRS).*

Pet food that contains meat-and-bone meal that is exported from countries with controlled or undetermined BSE-risk status is assessed on a case-by-case basis. The manufacturing facilities need to be CFIA-approved to ensure that any MBM used in pet food is sourced only from Australia or New Zealand.

2.3 Details of MBM imports

Data on MBM imports were provided by Canada, covering the years 2012 to 2019. Imports of MBM came from only four countries: Australia, France, New Zealand and the United States of America. Imports of MBM of bovine origin came only from New Zealand, which has *Negligible BSE risk* status with the WOAH, and were limited to 2.98 tonnes in 2014.

3 Importation of live cattle

3.1 Overview

Importation of live cattle represents a potential food safety risk if imported cattle are sourced from countries that do not have adequate control programs in place to minimise the risk of BSE exposure.

3.2 Legislation

Importation of live cattle is regulated under Part II (*Importation of live animals)* of the *Health of Animals Regulations.* Regulated animals may be imported into Canada in accordance with an import permit issued by CFIA and/or accompanied by a zoosanitary certificate signed by an official veterinarian stating that the animal meets Canadian import requirements.

3.3 Details of live cattle imports

Cattle are only imported into Canada from the USA. Data on live cattle imported into Canada from the USA between the years 2012 to 2019 inclusive were provided with the submission. Annual imports ranged between 18,747 and 146,281 cattle per year, as shown in Table 2.

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The majority of cattle imported were destined for “feeding to slaughter” (i.e., feedlots) or direct to slaughter. The proportion of total imports that were dairy cattle destined for breeding ranged from 7% to 31%, and the proportion that were beef cattle destined for breeding ranged from approximately 2.2% to 9.0%.

Table 2. Imports of live cattle from the USA, 2012-2019

Purpose of importation	Year							
	2012	2013	2014	2015	2016	2017	2018	2019
Dairy breeding	11925	6332	2668	4242	6725	27975	18104	13731
Beef breeding	1583	1377	1102	1465	1946	2925	3206	3910
Preslaughter feeding	43885	37932	31722	11036	12315	84819	123197	75641
Direct to slaughter	91	2190	235	2004	484	1023	1774	2255
Annual totals	**57484**	**47831**	**35727**	**18747**	**21470**	**116742**	**146281**	**95537**

3.4 Monitoring and fate of imported cattle

All imported cattle are subject to inspection and review of the accompanying import permits and zoosanitary health certificates. Information on the cattle is entered into the CFIA’s Import Control Tracking System (ICTS). Cattle imported for immediate slaughter, and cattle imported for breeding, are inspected by CFIA veterinarians whereas cattle imported for fattening prior to slaughter (‘feeder cattle’) are inspected by officers of the Canada Border Services Agency (CBSA).

Cattle for immediate slaughter are inspected at the port of entry and then transported directly to a licenced slaughter establishment, where they are subject to another inspection prior to slaughter.

Canada has a Restricted Feeder Cattle program under which cattle may be imported for the purpose of fattening for slaughter. These cattle are transported to a feedlot and can only be moved from there to another feedlot or to the slaughter facility. They cannot go to a sales facility and cannot enter the national herd. They must have an electronic ear tag and the feedlot operator must maintain records to track the record of all cattle in the feedlot.

Cattle imported for breeding must have an electronic ear tag and a tattoo in the right ear. An approved Canadian ear tag must be applied prior to importation or immediately upon receipt of the cattle in Canada. The receipt of imported cattle must be reported to the Canadian Cattle Identification Agency within 30 days of arrival.

4 Importation of beef and beef products

4.1 Overview

Importation of beef and beef products represents a potential BSE food safety risk if they are sourced from countries or regions where adequate control measures to minimise the risk of BSE exposure have not been put in place.

4.2 Legislation

The *Health of Animals Regulations* Part IV establishes the rules for the importation of animal by-products, including meat and meat products for human consumption. SRM are defined in the *Health of Animals Regulations* Part I.1. The *Safe Food for Canadians Regulations* 125(1)e identifies meat products as edible only if they do not contain SRM, and the *Food and Drug Regulations* B.01.047.1(1) prohibits the sale or import of foods that contain SRM unless the country of origin is designated as free of BSE.

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Import conditions specific to BSE are set out in the *Bovine Spongiform Encephalopathy Import Policy for Bovine Animals and Their Products and By-Products*. The conditions are equivalent to the recommendations in Article 11.4.1 of the *Terrestrial Code* for deboned skeletal meat, Article 11.4.10 for meat and meat products from negligible BSE-risk countries, and Article 11.4.11 for meat and meat products from controlled BSE-risk countries.

The CFIA evaluates countries for equivalence of their food inspection and certification systems with those of Canada, and imports of meat and meat products is only permitted from CFIA-approved establishments.

4.3 Type of imported beef or beef products

4.3.1 Fresh or frozen beef

From 2011 to 2019 Canada imported beef from the following countries:

Negligible BSE-risk status countries and zones: Argentina, Australia, Austria, Brazil, Chile, China, Croatia, Denmark, Germany, Italy, Japan, Mexico, the Netherlands, New Zealand, Portugal, Spain, United Kingdom (only Northern Ireland), Uruguay and USA.

Controlled BSE-risk status countries and zones: France, Ireland and United Kingdom.

Volumes imported from 2011 to 2019 inclusive are presented in Table 3.

Table 3. Imports of fresh or frozen beef into Canada, 2011 to 2019

Country	Amount (tonnes)									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total (2011–2019)
Argentina	1 814.40	920.97	611.08	152.64	–	1.90	20.87	39.52	23.84	3 585.22
Australia	9 651.55	17 590.65	19 269.41	36 839.71	43 187.69	27 865.15	20 397.10	24 944.51	16 102.81	215 848.59
Austria	–	–	–	–	0.11	52.69	–	17.07	–	69.87
Brazil	2 195.16	2 710.02	2 420.29	3 429.02	1 450.31	3 726.25	2 230.76	5 066.79	1 717.40	24 946.01
Chile	25.79	–	–	24.25	1 257.98	596.00	1 013.76	1 789.65	1 124.16	5 831.57
China[a]	–	–	–	12.65	–	–	–	–	–	12.65
Croatia	–	–	2.65	–	–	–	–	–	–	2.65
Denmark	–	–	–	–	–	–	16.47	142.18	128.76	287.41
France	–	0.62	1.91	–	4.57	10.61	148.07	308.75	277.16	751.70
Germany	–	–	–	–	2.40	27.03	205.16	212.00	727.77	1 174.36
Ireland	–	–	–	–	–	411.98	440.75	692.80	772.10	2 317.63
Italy	–	2.41	2.06	–	5.28	83.12	750.14	160.70	567.63	1 571.33
Japan	–	2.04	7.51	8.80	19.53	17.46	23.56	29.81	27.72	136.42
Mexico	118.08	154.83	166.17	752.91	1 371.67	2 426.35	3 045.92	4 425.90	5 290.25	17 752.08
Netherlands	–	–	–	–	–	126.36	590.58	685.24	943.32	2 345.50
New Zealand	22 830.05	22 394.59	15 866.97	16 375.76	24 972.88	20 519.99	20 421.90	20 393.68	12 792.68	176 568.50
Portugal	–	–	–	–	0.28	–	3.98	0.18	–	4.44
Spain	0.06	0.42	0.65	–	2.53	2.52	14.95	56.20	190.16	267.49
UK	–	–	–	–	25.74	853.95	717.16	735.55	2 264.39	4 596.80
US	180 978.84	209 022.59	202 167.78	167 067.67	153 535.68	144 006.06	147 460.15	137 716.53	50 606.85	1 411 078.35
Uruguay	6 656.35	12 044.36	13 563.42	20 890.28	13 301.19	17 371.34	12 847.12	10 081.18	7 386.55	114 141.78
Total	220 252.19	264 843.49	254 079.89	245 553.69	239 137.85	218 098.76	210 348.39	207 498.24	100 943.55	1 983 290.35

Source: CFIA Import Control Tracking System (ICST).
Notes: Blue cells indicate negligible BSE-risk status in that year, red cells indicate controlled BSE-risk status in that year and green cells indicate undetermined BSE-risk status in that year.
[a]In a letter addressed to the Director General of the OIE bin November 2013, the Delegate of China designated the People's Republic of China, with the exclusion of Hong Kong and Macau Special Administrative Regions, to be a negligible BSE-risk zone.

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Prior to a shipment of imported beef being released, accompanying documentation is inspected by the National Import Service Centre (NISC). The NISC informs the CBSA of its decision whether to release or refuse the shipment. Shipments are then transported under seal to a Canadian establishment to be stored prior to final inspection and release by a CFIA inspector.

4.3.2 Other products of bovine origin

Regulations are in place to prevent the introduction of the BSE agent in other products of bovine origin that may be imported into Canada, including products used in the manufacture of veterinary biologics; pet chews from bovine bones; cell lines, culture media and laboratory reagents; blood or blood by products of bovine origin; and highly processed products of bovine origin (e.g. gelatin, collagen, etc.).

5 Summary: potential for release of the BSE agent through imported materials

The information provided by Canada supports a conclusion that the risk of the BSE agent being released into the Canadian cattle population through imports of live cattle, MBM, or bovine products is appropriately controlled.

Importation of live cattle is subject to regulation. Cattle must be imported into Canada in accordance with an import permit issued by CFIA and/or accompanied by a zoosanitary certificate signed by an official veterinarian stating that the animal meets Canadian import requirements. Cattle are imported into Canada only from the USA. The majority of imported cattle are destined for feedlots prior to slaughter, or direct to slaughter. Cattle imported for preslaughter fattening in feedlots cannot go to a sales facility and cannot enter the national herd. A minority of imported cattle are destined for dairy breeding herds or, less often, to beef breeding herds. These cattle are marked with a Canadian eartag and are entered into the Canadian Cattle Identification Agency database.

Importation of MBM or other rendered products is controlled by regulations. Importers must have a permit to import such materials, and must keep records of sale or distribution of the materials. The rendering plant of origin must be located in a country approved to export to Canada, and must have been inspected by the competent authority within the preceding 12 months. The importer of rendered products must complete annually a CFIA facility questionnaire that particularly emphasizes the handling and segregation of ruminant materials, the avoidance of cross-contamination and keeping appropriate records. Each shipment of rendered product must be accompanied by a zoosanitary export certificate issued by the Competent Authority. For non-negligible BSE-risk countries, the certificate must attest that the facility of origin does not handle ruminant-derived materials of any kind, and that the material was processed under conditions known to destroy the BSE agent. MBM imports of bovine origin in the years 2012 to 2019 were limited to imports from New Zealand, which has Negligible BSE risk status with the WOAH.

Beef and other bovine products are identified as fit for human consumption only if they do not contain SRM. There is a policy, specific to BSE, which corresponds to the recommendations of WOAH's *Terrestrial Code* with regard to meat and meat products from negligible BSE-risk countries, and from controlled BSE-risk countries. The CFIA evaluates the food inspection and certification systems of beef-exporting countries, and importations of meat and meat products are only permitted from CFIA-approved establishments in the exporting country. Canada permits beef imports from a range of negligible BSE-risk countries and a limited number of controlled BSE-risk countries. Shipments of imported beef are subject to approval by the National Import Service Centre (NISC) and the CFIA.

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Exposure control

The exposure of cattle to BSE infectivity and amplification within the feed system is controlled by preventing the feeding of ruminant-derived protein to ruminants. Depending on the BSE status of a country (such as whether a case of BSE has occurred and/or risk factors for BSE exist), prevention is achieved through regulations in three key areas across the beef production system:

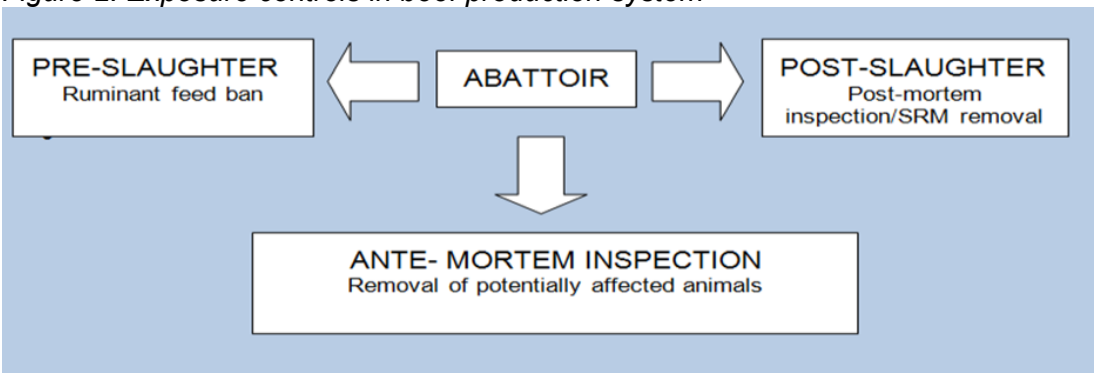
- ***Pre-slaughter*** controls which prevent the feeding of ruminant protein to ruminants
- ***At slaughter*** controls which cover animal inspection procedures to ensure potentially affected animals are removed from the animal feed and food production systems
- ***Post-slaughter*** controls which ensure that potentially infected tissues are removed and do not enter the animal feed and food production systems

Feed ban regulations and procedures to prevent cross-contamination of ingredients used for cattle feed are critical control measures for preventing the recycling and amplification of BSE.

Measures to prevent non-ambulatory (downer) cattle from entering the animal feed and human food chain should also be adopted. For countries where BSE has occurred or risk factors exist, controls should also extend to exclusion of potentially infectious tissue (specified risk material; SRM) from animal feed including pet food and human food products.

Controls throughout the beef production chain to prevent exposure to BSE are in Figure 2.

Figure 2: Exposure controls in beef production system



This Chapter describes the control measures that are in place in Canada that prevent the contamination and recycling of the BSE agent in cattle feed as well as assuring that food for human consumption is free of the BSE agent.

6 Pre-slaughter controls: ruminant feed ban

6.1 Overview

Under the Australian BSE Questionnaire, countries must demonstrate that an effective ruminant feed ban has been effectively implemented. Evidence is required to support that ruminant-derived MBM has not been fed to cattle for the last 8 years.

6.2 Legislation

Canada first introduced a ban on feeding ruminant proteins, other than dairy proteins, to ruminants in 1997. Exclusions included gelatin derived exclusively from hides or skins, and rendered fats containing no more than 0.15% insoluble impurities. Until 2007, ruminant

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tissues, including SRM, could be fed to other species. In 2007, the legislation was changed to exclude SRM from all terrestrial and aquatic feed chains, including pet foods, and to also exclude SRM from fertilizer. SRM are separated at slaughterhouses and rendering facilities, and directed for disposal or destruction under annual permits issued by CFIA.

The legislative authority for the feed ban is provided by the *Health of Animals Act* and *Health of Animals Regulations Part I.1 (Specified Risk Material)* and *Part XIV (Food for Ruminants, Livestock and Poultry, Rendering Plants, Fertilizers and Fertilizer Supplements)*. These legislative instruments are administered by the CFIA. They cover manufacture, import, distribution, retail and feeding of animal proteins and animal feeds, and empower federal inspectors to administer comprehensive inspection programs and enforcement activities.

There are measures in place to prevent cross-contamination of animal feeds with the BSE agent in rendering facilities, feed mills, feed retail premises and in livestock production.

6.3 Measures to prevent cross-contamination of ruminant and non-ruminant protein

Feed mills are subject to the regulations related to the feed ban, and are regularly inspected by CFIA. Each inspection involves on-site assessment of a number of tasks related to the feed ban, depending on whether the mill handles prohibited and/or non-prohibited material and makes ruminant feed. The majority (> 90%) of mills that make ruminant feed do not also handle materials prohibited in ruminant feed.

The Animal Nutrition Association of Canada (ANAC) is the national trade association for the commercial livestock and poultry feed industry. ANAC members are responsible for approximately 90% of the total commercial livestock and poultry feed manufactured in Canada. In 1999, ANAC developed the FeedAssure program, a customized HACCP-based program for the commercial feed industry. Under this program a third-party auditor, SGS Canada, certifies that facilities meet FeedAssure standards. These standards incorporate the regulatory requirements of the feed ban to verify that controls are in place to ensure that ruminant feed does not contain or is not contaminated with prohibited material. Mills certified under the FeedAssure program produce approximately 70% of the commercial complete feed available in Canada.

Use of animal-based protein in ruminant feeds is limited in Canada, due to their high cost and the ready availability of plant-derived alternatives. The animal-based proteins include those from milk and blood, which are primarily used in milk replacements, and proteins sourced from poultry, fish and pigs. Feather meal is the most commonly used animal-based protein and is used in dairy cow rations and some feedlot rations. The majority (>70%) of beef cattle operations do not buy in feed, but use crops grown on the farm.

Inspections of feed mills also address transportation and delivery of feeds. Feed mills must keep records of production and distribution of feeds, and must retain records for at least 10 years. Records include the formula for each feed, the date of manufacture, the content of every batch, the names and addresses of purchasers, the quantities sold and the lot numbers. The feed mill must have effective recall procedures in place.

Canada provided copies of the procedural manual and documentation forms used by the CFIA during inspections of feed mills. When non-compliance with regulations applicable to feed mills is identified, CFIA seeks voluntary compliance in the first instance, but has the power to seize and detain products.

In addition to inspecting feed mills, feed inspectors periodically visit feed retail outlets, delivery vehicles contracted by feed manufacturers and retailers, and livestock producers.

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7 Ante-mortem slaughter controls

7.1 Overview

Older cattle that are non-ambulatory (downer cattle, fallen stock) and/or showing signs of neurological disease consistent with an established BSE case definition present the highest risk of infection with the BSE agent. Such animals should be targeted and prevented from entering the ruminant feed and human food chains.

7.2 Legislation

Until January 2019, federal slaughter and processing establishments were subject to the requirements of the *Meat Inspection Act* and regulations, and the *Meat Hygiene Manual of Procedures*. As of January 15, 2019, the *Meat Inspection Act* and regulations were superseded by the *Safe Food for Canadians Act* and the *Safe Food for Canadians Regulations* (SFCR).

Federal slaughter and processing establishments must be licenced with the CFIA. CFIA inspectors directly oversee all slaughter operations to ensure compliance with all regulatory requirements. Establishments that export meat and meat products must be licenced with the CFIA.

7.3 Ante-mortem procedures

A Veterinarian in Charge (VIC) is assigned to every slaughterhouse that holds a federal licence for slaughter activities. VICs are present on site during all slaughter operations and are responsible for supervision of all ante-mortem and post-mortem inspections.

Division 7 (Meat Products and Food Animals) Sub-division E (Ante-mortem Examination and Inspection) of the SFCR prescribes that ante-mortem inspection of cattle must be carried out within 24 hours prior to slaughter, and in accordance with the document *Ante-mortem Examination and Presentation Procedures for Food Animals* prepared by the CFIA. If an animal shows a deviation from normal behaviour, physiology or appearance, it must be referred for detailed veterinary inspection. With the approval of the VIC at the facility, trivial anomalies such as supernumerary teats may be disregarded.

Animals must be inspected at rest and in motion, from both sides, and from in front and behind. The following are classes of abnormalities that indicate a need to segregate the animal and hold it for veterinary inspection:

- abnormalities in breathing;
- abnormalities in behaviour;
- abnormalities in gait;
- abnormalities in posture;
- abnormal discharges or extrusions from body openings;
- abnormal colour;
- abnormalities in appearance; and
- abnormal odour.

Of these, abnormalities in behaviour, gait, and posture are particularly relevant to BSE.

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An animal identified as showing deviations on ante-mortem must be marked and placed in a designated (suspect) pen or area for veterinary inspection or instructions.

If determined by a CFIA veterinarian that the animal is a BSE suspect, the animal is condemned and is not permitted to proceed to the slaughter floor or to other areas of the establishment where edible product is processed. The animal is isolated and properly euthanized. For sampling purposes, the animal cannot be removed from the premises without CFIA authorization. The carcass is held until reception of the test result. The carcass and associated parts from a BSE positive animal must be disposed of by burial at an approved site or destroyed by incineration, or by any method approved by the CFIA for destruction of prions.

If the veterinarian condemns the animal for a reason other than being a BSE suspect, the animal will be humanely euthanized and will be subject to surveillance sampling.

If the veterinarian deems an animal held at ante-mortem fit for slaughter, the carcass and parts must be identified for CFIA post-mortem veterinary inspection.

All animals held at ante-mortem inspection must be properly identified throughout the slaughter process, i.e., from the yards or live animal receiving room to the final post-mortem inspection station. Synchronization and correlation between the carcass, harvested blood, head and other carcass parts must be maintained until completion of inspection. The carcass and parts must be identified for CFIA post-mortem veterinary inspection (using CFIA's specific Tag – MOVEMENT RESTRICTED as ordered by inspector, or alternative as per the license holder's Preventive Control Plan (PCP)). These procedures shall assure that the identity of the carcass and all its parts is maintained until their final disposition is known. This must be documented in the license holder's PCP.

Adequate cleaning and disinfection are required in all cases where the slaughter of a suspect animal may have caused contamination of the facility and equipment.

Records must be kept of ante-mortem inspections and of the fate of animals identified as abnormal at ante-mortem inspection. In addition to regular ante-mortem information, full details (animal identification and permanent ID where applicable, owner's name and address, reason for condemnation), should be entered on the CFIA/ACIA 1438 Ante-Mortem Veterinary Inspection Report Ante-Mortem Screening Record or equivalent in-house record.

7.4 Slaughtering methods

Division 7 (Meat Products and Food Animals) Sub-division F (Slaughtering and Dressing) of the SFCR prescribes the requirements for slaughter methods. Most cattle are stunned with a captive bolt. Penetrating stunning devices that inject compressed air or gas into the cranial cavity are prohibited, and so is pithing.

In the case of cattle aged 30 months or older, the area around the shot hole is scraped or vacuumed to remove any visible contamination. The shot hole is plugged with a plastic plug, tampon or tallow plug before the animal's throat is cut. These measures are carried out to prevent any brain material from dropping into the blood collection pit or contaminating the hide of the head.

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8 Post-slaughter controls: post-mortem inspection, SRM removal, and rendering procedures

8.1 Overview

Post-slaughtering controls are necessary to ensure products from diseased animals and tissues potentially containing BSE infective material do not enter the human food or animal feed supply chains.

8.2 Legislation

Slaughterhouse procedures related to SRM removal and disposal are mandated under SFCR clause 125 and the *Health of Animals Regulations* Part I.1 (Specified Risk Material). SRM are defined under the *Health of Animals Regulations* as:

- Skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord and dorsal root ganglia of cattle aged 30 months or older; and
- Distal ileum of cattle of all ages.

8.3 Post-mortem procedures

Slaughterhouses represent the site of most SRM generation. SRM from slaughterhouses includes SRM from cattle processed after slaughter, as well as from cattle that have died during transport, cattle condemned as a result of ante-mortem inspection, and carcasses condemned after slaughter.

SRM are often not removed individually. For example, for cattle 30 months and older, after the cheek muscles and rostral tongue have been harvested, the rest of the head, including skull, brain, trigeminal ganglia, eyes, and tonsils, is disposed of as SRM.

Because the spinal cord and dorsal root ganglia are SRM, the SFCR mandate that the vertebral column (excluding the vertebrae of the tail, the transverse processes of the thoracic and lumbar vertebrae, and the wings of the sacrum) is disposed of as SRM.

At points during the process at which there is risk of SRM contaminating the floor waste, for example at the carcass-splitting station where there is a risk that fragments of spinal cord may drop to the floor, all the floor waste is treated as SRM.

If any abnormalities are identified post-mortem during dressing of a carcass, the carcass or part must be presented for inspection and assessment by a veterinary inspector. This inspection is not relevant to BSE, for which the lesions are microscopic rather than grossly apparent.

8.4 Handling of suspect diseased cattle

For fallen stock and cattle condemned as unfit for human consumption, the entire head may be removed and disposed of as SRM; the entire unsplit vertebral column may be disposed of as SRM; and the entire small intestine, or the entire intestinal tract, may be disposed of as SRM. If SRM are not removed, the entire carcass is disposed of as SRM.

8.5 Rendering processes

Facilities that process SRM operate under a SRM permit issued by CFIA, with the resulting material incinerated or disposed of in landfill. Where separation of SRM is impractical, such as fallen stock or condemned animals, the entire animal is treated as SRM. Some animal

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health laboratories use alkaline hydrolysis to dispose of SRM. One thermal hydrolysis facility in the province of Alberta processes approximately 15,000 fallen stock and 3,000 tonnes of SRM waste per year.

Composting and rendering are not considered to be final disposal methods, but intermediate steps in the disposal process, to reduce the volume of material handled before disposal in landfill, destruction by incineration or, in the case of composting, through non-agricultural uses such as a soil enricher in a forestry operation.

Rendering facilities that handle SRM are either dedicated to processing only SRM, or have a dedicated production line within the plant, with complete segregation of all incoming waste and outgoing materials.

Transportation of SRM requires a permit and the SRM must be stained with an indelible stain. For small abattoirs segregating and staining SRM may be impractical. In this case, all inedible material on the premises is treated as SRM and remains on-site for burial or composting. Likewise, cattle that die on-farm do not need to have SRM separated and stained if they are disposed of on-farm. Cattle that die on farms, during transport, or at saleyards may be collected by deadstock collectors (salvagers) for transport to a landfill or salvaging facility. These collectors, and the facilities to which they deliver the dead cattle, require permits.

9 Summary: exposure control

Canada has in place comprehensive measures to prevent exposure of susceptible species, including cattle and humans, to the BSE agent. A ban on feeding mammalian proteins, other than dairy proteins, to ruminants has been in place since 1997, and this ban was reinforced in 2007 to ensure exclusion of SRM from all terrestrial and aquatic feed chains, including pet foods, and to also exclude SRM from fertilizer. Legislative instruments administered by the CFIA cover manufacture, import, distribution, retail and feeding of animal proteins and animal feeds, and empower federal inspectors to administer comprehensive inspection programs and enforcement activities. Feed mills must keep records of production and distribution of feeds, and must retain records for at least 10 years and must have effective recall procedures in place. Feed mills are regularly inspected by CFIA. Transportation and delivery of feeds, labelling of feeds, retail of feeds, and use of feeds by livestock producers are also subject to periodic inspection.

Cattle are subject to preslaughter inspection and there are procedures in place to ensure that abnormal animals are excluded from the human food supply. Slaughter methods minimise the risk of dispersal of potentially infected brain tissue. SRM are removed during processing, and when it is impractical to excise them, the surrounding tissue or the entire carcass is treated as SRM.

Facilities that process SRM operate under a SRM permit issued by CFIA. Deadstock collectors, and the facilities to which they deliver the dead cattle, require permits. Transportation of SRM requires a permit and the SRM must be stained. The most common methods of disposal of SRM are burial in landfills, or incineration.

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BSE food safety controls

The Australian Questionnaire requires applicant countries to have in place effective controls during the slaughtering process so that beef for human consumption is prevented from becoming contaminated with SRM. It also requires a country to demonstrate effective and timely systems for the accurate identification, traceability and recall of beef and beef products in the event of a food safety issue. This Chapter addresses these requirements within Canada.

10 Beef production systems

10.1 Hygiene practices to minimise cross-contamination

Regulatory requirements in Canada for businesses involved in meat production, processing, packing, labelling, storing or handling a meat product (meat business) are prescribed under the Safe Food for Canadians Regulations (SOR/2018-108)(SFCR).

Preventive Control Plan

Prescribed under SFCR, a meat business in Canada must develop a written PCP and have the PCP implemented. The PCP must describe:

- SRM as a biological hazard;
- the control measures to prevent the contamination of beef or beef products from SRM;
- the critical control points of the related control measures with evidence that the control measures are effective;
- the procedures for monitoring the critical control points;
- the corrective action procedures for each critical control point;
- the procedure for verifying that the implementation of the PCP results in compliance with the provisions prescribed under the SFCR; and
- documents that substantiate that the PCP has been implemented.

The documents that substantiate that the PCP has been implemented must be kept for two years after the day on which it is prepared.

Under the SFCR, a meat business as described in the above and a business involved in transporting beef or beef product from one province to another or in importing or exporting beef or beef products must be licensed by CFIA.

SRM and SRM control

In Canada, the removal of SRM came into effect on 24 July 2003 and enhanced on 12 July 2007. The 2007 enhancements were introduced to mainly protect health of animals, whereas the 2003 SRM control requirements were introduced strictly to protect public health.

Health of Animals Regulations (C.R.C., c. 296) specify that:

- every person who slaughters, cuts up or debones cattle for human consumption as food shall ensure that SRM has been removed from the cattle;
- every person who slaughters, cuts up or debones cattle for human consumption as food shall ensure that, immediately after removal of the SRM, the SRM is stained with a conspicuous and indelible dye and collected in a dedicated container that is marked

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with a statement in both official languages (Specified Risk Material / Matériel à risque spécifié" or "SRM / MRS") indicating that the contents are SRM;

- the record for each day on which SRM is removed, stained or received to be kept for a period of 10 years inclusive the person's name and address and the date of the removal, staining, collection or reception; the combined weight of the SRM; the name of the dye used to identify the SRM or the carcasses; and
- unless in accordance with a permit or a licence issued by the Minister, no person shall receive, remove from any premises, use, transport out of any premises, treat, store, export, sell, distribute, confine or destroy SRM in any form, whether or not incorporated into another thing, if the SRM was removed from cattle slaughtered in Canada.

Inedible beef or beef products

Division 7 (Meat Products and Food Animals) Subdivision H (Inedible Meat Products) of the SFCR prescribes that the licence holder of a slaughter establishment must keep a meat product that is a SRM, contains a SRM or is derived from a SRM, in the inedible products area and must handle and destroy it in accordance with the requirement specified under the *Health of Animals Regulations* (C.R.C., c. 296).

Edible beef or beef products

Clause 125 of the SFCR prescribes that a licence holder may identify a beef or beef product as edible only if

- the cattle from which the beef or beef product is derived, or a sample from the shipment that the cattle is part of, is subjected to an ante-mortem examination under section 138, and an ante-mortem inspection under section 139 of the SFCR;
- the carcass of the cattle from which the beef or beef product is derived is dressed or partially dressed;
- the carcass, its parts and the blood of the cattle from which the beef or beef product is derived are subjected to a post-mortem inspection under subsection 149(1) or a post-mortem examination under subsection 150(1) of the SFCR; and
- the beef or beef product is edible and is not contaminated, including that it does not contain any SRM.

SRM Permits

CFIA publication of Specified Risk Material - Requirements for Transporting Cattle Carcasses specifies that a CFIA permit is required for the transportation of:

- cattle deadstock containing SRM;
- raw, rendered or composted SRM; and
- edible beef carcasses which still contain SRM.

10.2 Evaluation of slaughter hygiene practices for minimisation of cross-contamination

Guidance on PCP control program preparation

The Guidance on Specified Risk Material published by CFIA prescribes that the licence holder is responsible for the development, implementation, and maintenance of PCP that

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contain control programs to address all components of this SRM guidance. These PCP programs are to be reviewed and approved by the CFIA and their implementation must demonstrate ongoing and effective controls of SRM including SRM removal, segregation, staining, shipping / transportation, record keeping, over 30-months (OTM) carcass identification and marking, and OTM carcass segregation.

Guidance on OTM cattle slaughter and dressing

The Guidance on Specified Risk Material requires slaughter establishment licence holders that slaughter cattle that are under 30 months of age (UTM) and OTM, to ensure that OTM animals are slaughtered as a definable group. The slaughter of the OTM group(s) should proceed at the end of the production day, in order to facilitate operational control and verification of SRM removal. Licence holders of all federally inspected slaughter establishments will visibly group the carcasses of OTM cattle in the cooler and schedule the cutting/deboning of such carcasses at the end of the production day. If a licence holder chooses to slaughter and segregate OTM cattle using alternative methodology, a written control program, that is able to achieve the same outcome, must be prepared and be submitted to the CFIA for examination.

Licence holders of slaughter establishments will track the number of OTM cattle slaughtered in the establishment. The number of OTM cattle will be recorded after CFIA examination of the head is complete and before the carcasses have left the kill floor. The total number of OTM carcasses identified on the kill floor must reconcile with the number of carcasses found in the carcass cooler and the number of carcasses entering the cutting/deboning room or shipped from the establishment.

Other than for domestic market, licence holders of cutting/deboning establishments that receive sides and/or quarters of OTM cattle must develop and implement a PCP program to maintain the identity of these products until the vertebral column is removed and disposed of as SRM. The procedures include:

- recording of the number of OTM carcasses/sides/quarters received and reconciliation of this number with the number of OTM carcasses deboned and cut-up; and
- cutting/deboning of such carcasses/sides/quarters at the end of the production day.

Specific guidance on SRM control at slaughtering establishments

The Guidance on Specified Risk Material includes the following guidance:

- license holders to have dedicated tools (for example, knives) identified by colour-coding or another visual system, for all procedures involving the incision and direct or indirect handling of the tissues designated as SRM.
- During routine slaughter, the use of a penetrating percussion device for stunning which injects air into the cranial cavity or the use of pithing rods is not permitted.
- Brain tissue that has fallen on the floor must be discarded as SRM.
- As soon as the inspection of the head is completed and the tongue and cheek meat have been harvested, the remainder of the head shall be placed without delay into a SRM leak proof container to ensure separation of the head and the removal of skull, brain, trigeminal ganglia, eyes and tonsils.

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- Palatine tonsils are removed from the head of all cattle during the preparation of the head for inspection. Palatine tonsils are considered inedible material for cattle of all ages, and SRM for OTM cattle.
- The removal of the tongue, cheek meat and other edible portions must be achieved without contamination of the carcass and other edible meat products with SRM.
- The carcass splitting saw should separate the vertebral column in the midline to facilitate removal of the spinal cord. The water-exhaust effluent should be adequately trapped. The trap should be emptied, cleaned and renewed as and when necessary. All residues should be treated as SRM and emptied into a SRM container. The licence holder shall immediately identify any incorrectly split carcasses and ensure that the spinal cord is properly removed in the evisceration area. Incorrectly split carcasses will not be approved by CFIA until the spinal cord is properly removed. The spinal cord of UTM cattle is not designated as SRM, but is recommended to have it removed. When any spinal cord remnant is discovered, the carcass must be retained for immediate rework by the licence holder.
- It is the licence holder's responsibility to ensure SRM is not incorporated into any edible meat products.
- The dorsal root ganglia from OTM carcasses must be removed and disposed of as SRM.
- The vertebral column of OTM cattle must not be used as raw material in the preparation of mechanically separated meat or finely textured meat.
- The licence holder must verify the complete removal of all SRM.
- Care must be taken to avoid contamination of edible and inedible products and the establishment environment by SRM.
- SRM containers shall be appropriately cleaned.
- The licence holder and all staff directly involved should have demonstrable knowledge of the establishment's SRM control programs.
- The licence holder's SRM control programs must be auditable and verifiable.

Verification inspection

Verification inspection plays a pivotal role in ensuring beef and beef products produced in Canada are free from contamination by SRM. CFIA publication of Operational procedure: Meat Compliance Verification System (CVS) provides comprehensive guidance to the inspection of meat businesses. It specifies the roles and responsibilities of meat CVS for operators, CFIA inspectors, supervisors of the meat businesses, regional veterinary officers, area CVS coordinator and regional CVS contacts, area food safety enhancement program (FSEP) coordinator and regional FSEP contacts, area/regional operational specialists, national program specialists, and others in meat CVS.

The above operational procedure describes the organisation of meat verification inspection tasks including the frequency and schedule of the verification tasks and corrective actions followed, the preparation of a verification inspection, information collection regarding compliance, assigning compliance levels, communication of verification inspection outcome, and action plans and follow ups regarding the verification inspection.

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Data presented regarding verification inspections conducted

Canada submitted a comprehensive dossier containing information on inspection activities.

The dossier describes the number of federally inspected slaughter plants (2012 to 2019) and the percentage of cattle slaughtered in federally inspected plants (2019) by province/region in Canada. In 2019, 86.4% of the cattle slaughtered in federally inspected slaughter plants occurred in Alberta.

Canada provided a sample application lodged to CFIA in May 2020 for a permit to remove, transport, use, treat, store, sell, confine feed or destroy SRM. A sample application lodged to CFIA in May 2020 was also provided for a permit to remove and transport SRM.

Canada provided a description of the types of permits issued to facilities or operators and the permitted activities associated with SRM. The types include the purpose for transportation of SRM; time sensitive (i.e., emergency) transportation of SRM; harvesting SRM; salvaging non-SRM; dead stock collection; taxidermy of SRM; storage of SRM; rendering SRM to extract tallow; composting SRM; incineration of SRM; and others. Each type of permit described above is associated with a unique hazard specific plan (HSP) number assigned by CFIA.

Statistics of the type and number of SRM permits issued by CFIA between 2012 and 2022 were provided in the dossier. The transportation permit type accounts for approximately 60% of the permits issued each year.

A copy of the on-site Verification Inspection worksheet under the CVS for four (4) SRM control tasks to be verified during the on-site inspections by CFIA personnel was provided for review.

- Task 1.3.01 verifies SRM control program at slaughter establishments with or without on-site boning activities where the frequency of inspection is at least once per day;
- Task 1.3.02 verifies SRM control program regarding the record review at slaughter establishments with or without on-site boning activities where the frequency of inspection is at least once per month;
- Task 1.3.20 verifies SRM control program for stand-alone boning establishment where the frequency of inspection is at least once per week; and
- Task 1.3.21 verifies SRM control program regarding record review for stand-alone boning establishment where the frequency of inspection is at least once per month.

Comprehensive instructions on the verification inspection are described in the CFIA's worksheet. For example, for Task 1.3.01, the CFIA officer is instructed to review and verify records of age determination, identification and marking of carcasses, SRM removal, waste and inedible disposal, equipment, good manufacturing and hygiene practices, and receivals against the operator/licence holder's written PCP program regarding SRM removal and control and against CFIA's standards for identifying a meat product as edible, standards for the management of condemned and inedible food animals and meat products, and SRM controls at federally inspected meat establishments.

With each item listed above, comprehensive instructions were laid out in the Verification Inspection worksheet. For example, for SRM removal, it instructs the officer to review and verify: 1) the removal of entire spinal cord prior to stamping of carcass sides with Meat Inspection Legend, and 2) the vertebral column from OTM carcasses (dorsal root ganglia intact) are removed and disposed of as SRM (if the slaughter establishment conducts cutting

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and boning activities). The inspection outcome is recorded on the worksheet.

Statistics for the monitoring and enforcement of the SRM permitting system in Canada for the period of 2012 to 2022 were provided. These describe the combined number of SRM permits issued by CFIA against the number of permits inspected on a yearly basis. On average, each SRM permit issued was inspected twice each year. Every facility or operator issued with a SRM permit was inspected once or more than once each year by CFIA. The number of infractions involving potential cross contamination of food or feed ranged from 0 to 17 infractions per year. It reported enforcement actions taken on the infractions which ranged from issuing a letter of non-compliance, to requiring revising the relevant control response plan, to treating the contaminated products as SRM, to permit cancellation, and to impose an administrative monetary penalty.

Canada also provided details of infractions of potential cross-contamination of SRM detected through verification inspections conducted by CFIA between 2012 and 2019. Details of the infractions included, the ID of the facility or operator; the province where the facility or operator was detected; the nature of the infraction; the method of product disposal; and the resolution imposed on the facility or operator. The resolutions included increased frequency of inspection, a letter of non-compliance, mandated amendments to the control response plan, permit cancellation, and administrative monetary penalties.

The following observation described in a verification inspections report[b] conducted by the Food Safety Inspection Service of the United States Department of Agriculture (FSIS) concurs the above conclusion. 'The FSIS auditors verified that establishments slaughtering cattle implemented control systems to determine the age of cattle and ensured all specified risk materials (SRM) were identified for removal as appropriate. The CFIA requires verifiable records documenting the age of cattle or the use of dentition to determine cattle age. CFIA ensures adequate removal of SRMs in beef slaughter operations through visual inspections of each carcass and verification of establishment marking systems for removal of SRMs during the deboning process. SRMs are removed and identified as such and are handled, controlled, and disposed of appropriately. The FSIS auditors also verified that CFIA ensures the control of all other condemned materials and animals as part of their routine verification procedures of identification and marking control systems at each certified establishment.

Relevant legislation, standards and guidelines, together with information and data reviewed as summarized in the above indicate that the Canadian legislation, standards and regulatory requirements, and verification inspection process are adequate to prevent SRM contamination in Canadian cattle slaughtering and/or beef processing establishments. This ensures that beef and beef products produced in Canada for human consumption are safe.

11 Traceability systems for beef and beef products

In the event of a BSE case, traceability systems in the country should be able to achieve timely and effective identification, tracing and recall of concerned beef and beef products from all BSE affected animals. The system should be able to identify and trace beef and beef products from the point of retail sale back to the point of manufacturing and where applicable, to the point of slaughter. The system should integrate with cattle identification and traceability measures such that the contaminated beef or beef products can be traced back to any animals of interest if required.

[b] FSIS (2023) Final Report of an Audit Conducted of Canada – October 31 to November 23, 2022

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11.1 Legislation

Prescribed under clause 90 of the SFCR, a meat business as described in section 10.1 and a business involved in transporting beef or beef product from one province to another or importing or exporting beef or beef products or sell beef or beef product at retail other than a restaurant or other similar enterprise that sells beef or beef products as a meal or snack, must prepare and keep the following information to identify and trace beef and beef products, if they provide beef or beef products to another person:

- Identify the beef or beef product with the common name, a lot code, and the name and principal place of business of the person by or for whom the beef or beef product was manufactured, prepared, produced, stored, packaged or labelled;
- the date on which the beef or beef product was provided and the name and address of the person to whom it was provided, except if beef or beef product was provided to another person at retail sale;
- if they were provided the beef or beef product by another person, the name and address of that person and the date on which it was provided.

The above information and associated documents must be kept for two years after the day on which the beef or beef product was provided to another person or sold at retail in Canada. The information must be accessible, and must be provided to the competent authority in a timely manner to assist recall or investigation.

Clause 281 of the SFCR prescribes labelling requirements for edible meat products. The label of an edible beef or beef product must contain the common name of the beef or beef product, and the name and principal place of business of the person by or for whom the beef or beef products was manufactured, prepared, produced, stored, packaged or labelled.

Clause 84(1) and 85 of the SFCR prescribes requirements for food recalls. A meat business as described under 10.1 or a beef import business must prepare, keep and maintain a recall procedure document that enables the effective recall of beef or beef products.

The recall procedure document must contain:

- the name of a contact person who is responsible for the recall procedure and the name of a contact person who is responsible for conducting the recall;
- the requirement to conduct a recall simulation once every 12 months based on the recall procedure, and prepare a document that sets out the details of how the recall simulation was conducted and the results of the simulation. That document must be kept for two years after the day on which the recall simulation was completed;
- the requirement that the business must notify CFIA if a beef recall is required, and must immediately implement a recall if a beef or beef product is the subject of a recall because it presents a risk of injury to human health. A document that sets out the details of the recall, including any information that substantiates its effectiveness, must also be prepared.

Similar traceability requirements have been prescribed under the Canadian Meat Inspection Act Meat Inspection Regulations, 1990 (SOR/90-288) and Meat Hygiene Manual of Procedures. These were repealed on 15 January 2019 when the Safe Food for Canadians Act and Regulation came into force.

11.2 Evaluation of traceability systems

Labelling requirements

Labelling requirements for meat and poultry products published by CFIA apply to beef and

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beef products produced domestically or imported. The requirements are legislated by provisions under Safe Food for Canadians Act, SFCR, Food and Drugs Act (R.S.C., 1985, c. F-27) and Food and Drug Regulations (C.R.C., c. 870). The labelling requirements comprehensively capture the details of common name, ingredients, name and principal place of business, country of origin, date making, storage conditions, nutrition labelling, inspection legend, lot code and others for the labelling of beef or beef products in Canada. These labelling requirements enable beef or beef product to be traced to the producer in the case of a food recall. Coupled with the Canadian cattle identification and traceability system, the beef or beef product can be traced to the origin of the cattle and cattle farm.

Food traceability and recall

Defined by CFIA, a food recall is the removal of a food from further sale or use, or the correction of its label, at any point in the supply chain as an action to minimise food safety risk to consumers. In Canada, industry are responsible for effectively removing the recalled food from the marketplace. CFIA informs the public, oversees the implementation of the recall and verifies that industry has effectively removed recalled food from the marketplace.

A well-designed, practical and reliable process involving the competent authority and food businesses to respond to food incidents, where food recall and traceability is a component, is vital to the protection of consumer health in a nation. The following infrastructure and information demonstrate that Canada has an effective system in place to manage food safety incidents.

The Canadian Food incident response process provides comprehensive coverage of CFIA's process, roles and responsibilities of specific CFIA functional area and personnel regarding the management of a food safety incident. In Canada, CFIA's responsibilities relating to food incident and response, including food recalls, are exercised by CFIA's Area senior directors and directors of Operations and the director of the Office of Food Safety and Recall (OFSR) of CFIA's Operations Branch. The OFSR is the national contact point with internal and external partners in respect of food safety incident investigations and recalls. OFSR is also Canada's emergency contact point for the International Food Safety Authorities Network.

Figure 3: CFIA incident response process

The above figure 3 describes the steps under the CFIA's food incident response process. Food recall is a component under step 5 – mitigate the risk, and traceability investigation is a component of step 1, step 2 and step 3.

The Recall procedure: A guide for food businesses describes the components of a Canadian food business' food recall system.

- Assemble business's recall management team;
- Notify the CFIA;
- Identify all food to be recalled;
- Hold and segregate food included in the recall that is still in business' control;

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- Review the relevant information in the CFIA public warning (when applicable);
- Prepare the distribution list;
- Prepare and send the notice of recall;
- Verify and document the effectiveness of the recall;
- Control the recalled food;
- Decide what to do with the recalled food;
- Choose a corrective and preventive measure; and
- Conduct a post recall review.

CFIA recommends that other guidance developed by provincial governments, industry associations, international organizations or academic bodies may also be used as long as the recall procedure that is developed will achieve the outcome of an effective food recall.

CFIA publication of Regulatory requirements: Traceability provide guidance to food business regarding traceability and describes 1) the applicability of the traceability requirements, 2) documentation requirements, 3) traceability-specific labelling requirements. It requires Canadian food businesses to trace the concerned food product a step forward, i.e., identify the person or business the food has been supplied to, and a step backward, i.e., identify the person or business the concerned food was received from. The one step-forward and one step-backward traceability requirements must have information of the common name, lot code or other unique identifier, and name and principal place of business of the person by whom or for whom the food was manufactured, prepared, produced, stored, packaged or labelled and supplied to; the date on which the concerned food was provided or received.

The Canadian food traceability requirements apply to a broader scope of food businesses other than those being licensed by CFIA and subject to PCP requirements. For example, some of the traceability requirements apply to persons who sell food to consumers at retail as well as persons who send or transport food from one province or territory to another.

CFIA has published a range of guidelines to ensure food traceability requirements are complied with and verifiable. Examples include: Food preventive control and traceability inspection – Compliance verification system, Food regulatory response guidelines, and Integrated agency inspection model, Operational guidance: Assessing, monitoring and documenting the disposition of affected food products identified through food safety investigations, including recalled products, Operational procedure: Responding to food complaints, Standard incident response process, Standard inspection process, and Standard regulatory response process.

The evaluation of Canadian legislation, standards and guidelines as summarised in the above indicate Canada has a comprehensive food traceability system and an effective food recall system in place to minimize food safety risk and protect consumers.

12 Summary: BSE food safety controls

The food supply is protected through the removal of SRM from all cattle slaughtered for human consumption. The removal of SRM from the food supply has been a legal requirement in Canada since 2003. The Canadian legislation, standards and regulatory requirements, and verification inspection process are adequate to prevent SRM contamination occurring in Canadian cattle slaughtering and beef processing establishments and to ensure beef and beef products produced in Canada for human consumption are safe.

Canada has comprehensive food traceability and food recall systems in place to minimize food safety risk and protect consumers in case a beef or beef product were to be contaminated by substances presenting a food safety risk to consumers.

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BSE Control Programs and Technical Infrastructure

The following Chapter addresses the requirements in the Australian Questionnaire to have appropriate control programs that support a capability to adequately identify, notify and diagnose cattle that display signs meeting the case definition of BSE.

This assessment covers systems focused on the notification and disease investigation of clinical suspects, diagnostic methods to detect the presence of the BSE agent in infected tissues, and BSE awareness programs and education.

This Chapter also assesses Canada's cattle identification and traceability system which serves to underpin any BSE case investigation.

13 BSE Education and Awareness

The economic losses associated with the detection of the first case of BSE in Canada brought about a high level of awareness about BSE across the cattle industry, including federal agencies involved in agriculture, food safety, animal health and public health, as well as provincial ministries of agriculture and health, the transportation industry, cattle producers, veterinarians, slaughterhouses/abattoirs, packers/processors, feed mills and renderers.

CFIA staff, particularly veterinarians and inspection personnel are trained in BSE surveillance and controls through classroom sessions, online courses and webinars. Details of courses, the numbers attending/year and examples of training material were provided by Canada.

CFIA employs BSE subject matter experts who present information concerning BSE at meetings, workshops and conferences. These presentations are targeted at industry associations, producer groups, veterinarians and others. Topics include general information, surveillance, the feed ban, and control of SRM. The task of responding to media or public inquiries rests with CFIA's Communications and Public Affairs Branch.

Each province has information about BSE on their website, and cooperate with CFIA to maintain BSE awareness, and support surveillance and control measures. The provinces have developed a wide range of awareness tools targeted at industry members, producers and veterinarians. Methods of distribution of information concerning BSE include meetings and conferences, printed advertisements in producers magazines, veterinary clinics, newsletter publications, journal articles, and internet and social media posts.

Industry associations and producer groups play a significant role in promoting BSE awareness in Canada. Activities are directed at many different stakeholder groups including livestock owners, animal handlers, veterinarians, workers at livestock markets or auctions, and workers at slaughterhouses/abattoirs, feed mills, and rendering plants.

There are five veterinary schools in Canada, all of which include BSE and other TSEs in the curriculum. Students are educated in recognition of clinical cases, collection of samples for BSE testing, and the feed ban. Veterinarians working in large animal practice or mixed practice are kept informed about BSE through continuing education requirements.

The enhancement of the BSE surveillance program introduced in 2004, and the Enhanced Feed Ban in 2007, were accompanied by increased outreach activities, including presentations, workshops, and booths at fairs and exhibitions. Detailed examples of activities targeting stakeholder groups were provided by Canada.

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Operators and producers visited in-country demonstrated detailed knowledge about BSE, the impact of BSE on the cattle industry and the importance of the feed ban.

14 Disease notification and diagnoses

14.1 Overview

This Section focuses on procedures for notification and diagnoses of animals that are tested under the Canadian BSE surveillance and monitoring program.

14.2 Legislation

BSE has been a reportable disease under Canada's *Health of Animals Act* since 1990. This makes it compulsory to notify the federal government of suspect BSE cases. Failure to report suspect cases can result in prosecution, with significant fines or a prison term. Notification is made to a CFIA veterinary inspector. Compulsory notification applies to the owner of the animal, those with care of control of the animal (including workers at livestock markets and auctions, as well as workers at slaughterhouses and abattoirs), veterinarians, and laboratory employees or researchers who analyse specimens.

14.3 Identification and handling of BSE suspects

CFIA defines a clinical suspect as a bovine of 24 months of age or older, exhibiting at least 3 of the following clinical signs:

- nervous, aggressive or apprehensive behaviour;
- abnormal head carriage and/or abnormal posture;
- a lack of coordination (ataxia) or difficulty in turning or rising from a lying position;
- poor body condition and/or a decrease in milk production;
- hesitation at doors, gates or barriers;
- increased sensitivity to touch, sounds or visual stimuli; or
- muscle tremors or trembling.

When a BSE case is suspected, the CFIA official, usually a district veterinarian, will place the animal or carcass under precautionary quarantine. Because BSE can only be diagnosed using post-mortem samples, the animal is humanely euthanized and brain material is sent to a CFIA laboratory for testing. If the testing of brain material is negative for BSE, the precautionary quarantine is lifted and the carcass may be disposed of. If the testing confirms BSE, further investigation will be carried out to identify any animals that may have been exposed to the same source of contamination as the BSE-infected animal. Records will be scrutinized to identify the birth farm and other farms on which the infected animal lived; examine feeds the animal may have eaten during its first year of life; locate all cattle born 12 months before and after the birth of the BSE-infected animal on the birth farm; and locate all cattle that may have consumed the same feed as the BSE-infected animal during its first year of life. All cattle that may have been exposed to the same source of contamination as the BSE-infected animal will be placed under quarantine, and quarantine may also be applied to feed that is potentially contaminated with BSE. Quarantined herd-mates of the affected animal will be destroyed, but destruction may be delayed in certain cases (e.g. maintaining individuals for genetic purposes). If destruction is delayed, the animals must be specifically marked with an easily-visible, permanent identifier approved by the CFIA, and the owner must regularly examine them and report any changes in their health status to the CFIA.

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After cattle in the same cohort as the BSE case have been destroyed, the CFIA disposes of carcasses and all potentially contaminated feed by incineration or deep burial in an authorized landfill.

CFIA may compensate owners of cattle operations for animals ordered destroyed during disease response situations. Compensation awards are based on market value, up to the maximum amounts established by the regulations.

14.4 Diagnostic tests

Since 2005, the National BSE Reference Laboratory in Lethbridge, Alberta and all of the five laboratories within the National TSE Laboratory Network, which are all approved by CFIA to conduct BSE testing, have used the diagnostic protocols and methods prescribed in WOAH's *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals.*

The Bio-Rad TeSeE ELISA and Prionics-Check PrioStrip are used as screening tests in all network laboratories. Samples tested in any network laboratories that are not clearly negative are forwarded to the National BSE Reference Laboratory. This laboratory undertakes confirmatory and ancillary testing including histopathology (H&E stain), immunohistochemistry (IHC) with up to 20 anti-prion protein (PrP) antibodies on multiple detection systems, OIE Western Blot (SAF Immunoblot) and the Hybrid Western Blot.

14.5 Laboratory assurances and auditing

The National BSE Reference Laboratory implements a quality assurance program that applies to the network as a whole, and also evaluates rapid screening tests. All the laboratories in the network are accredited to the ISO/IEC 17025 Testing and Calibration Laboratories Standard by the Standards Council of Canada (SCC).

The National BSE Reference Laboratory is responsible for assembling and distributing proficiency test panels and control material; performing proficiency testing and training technical staff; and providing standard operating procedures and protocols.

14.6 Penalties and reporting incentives

Failure to report suspect BSE cases can result in fines up to CAD$250,000 or a prison term up to 2 years.

In addition to compensation for the market value of destroyed cattle, other financial compensations or incentives paid by the CFIA include an immediate payment of CAD$75 to assist with carcass disposal costs (whether on-farm or through a collector of dead stock), and up to CAD$100 to assist with the cost of consulting a veterinarian. Some provinces offer additional payments.

15 Cattle identification and traceability

15.1 Overview

Cattle traceability systems should enable effective and efficient identification, tracing and recall of beef and beef products from all BSE affected animals in the event that BSE has occurred. The system should be able to identify and trace beef and beef products from the point of retail sale back to the point of manufacturing and where applicable to the point of slaughter. The system should integrate with cattle identification and traceability measures such that the origin of contaminated beef or beef products can be traced back to any animals

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of interest if required. The system should ensure capability for effective and timely identification, tracing and removal of beef and beef products from markets and the distribution chain.

15.2 Current identification systems for cattle

Beef cattle

The CFIA provides full regulatory enforcement for animal identification, but the responsible administrator for beef cattle in Canada, with the exception of Quebec, is the Canadian Cattle Identification Agency (CCIA). The CCIA wholly owns and manages the Canadian Livestock Tracking System (CLTS) database. The CLTS database maintains the information associated with each unique tag. It enables livestock operators to record information.

Individual, unique identification numbers are allocated by the CCIA and approved tag manufacturers embed each approved Radio Frequency Identification number in a tag. Approved tags are distributed to livestock operators through CCIA-authorized retailers, in response to an order made by the livestock operator to the CCIA's toll-free order desk, or in response to an order placed by the livestock operator with the CCIA's online tag store. The livestock operator applies the approved tag prior to the animal leaving its farm of origin or the premises where it is located.

Livestock operators are able to record reportable data about the animal, including birth date, date of leaving a property, date of entering a property, importation, export, and retired animal events. Livestock operators and terminal sites must maintain the unique identification number for each animal to the point of export or the point of carcass inspection, as applicable, for traceability purposes. The database can be accessed by producers, feedlots, auction sites and abattoirs. The CLTS database can be accessed by logging in to a personal computer, or via a mobile phone app.

In an emergency situation, authorized CFIA personnel can access historical data in the CLTS database.

Generally, beef cattle must be identified with an approved tag before leaving the farm of origin, although if a producer does not have the required tagging equipment, they can transport the cattle to an approved tagging site. If a beef producer receives an animal that does not have an approved tag, they must apply an approved tag to it. The CLTS database must be informed of tag replacement events and additions of another tag. In the event of moving deadstock off a property, CLTS must be updated with a retire event.

Compliant animal identification, tracking and records were demonstrated during in-country visit to a beef breeding farm. A high level of knowledge about BSE, symptoms and controls were demonstrated by both primary producers and government officials.

Dairy cattle

It is mandatory for dairy producers to operate under the national quality assurance program for the Canadian dairy sector, proAction[c]. In 2020 administration for dairy cattle identification system shifted from CCIA to the DairyTrace program.

Mixed livestock operators

If operators submit data for dairy cattle (white tag data) to CLTS along with beef cattle tag data (yellow tag data), CLTS automatically transfers the data about dairy cattle to the

[c] http://www.dairyfarmers.ca/proaction

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DairyTrace program.

DairyTrace program

Anyone who owns or has the possession, care or control of dairy cattle must record and report animal identity, movement, location, and custodianship information to DairyTrace, the responsible national administrator for dairy cattle traceability. DairyTrace provides a free web portal and a mobile app to help with reporting traceability events electronically. The DairyTrace website also has a tag store that sells items including eartags, applicators, RFID readers. Traceability under the DairyTrace program is achieved through (i) premises identification, (ii) animal identification and recording and reporting.

Premises Identification (PID) is the assignment of a unique number to a location where agri-food activities occur. A premises is any location site on which animals are kept, moved through, or disposed of. Each site holds a seven-digit premises card that is georeferenced in the DairyTrace database. Each province in Canada has a Provincial Premises Registry (PPR) that issues PIDs. A PID is free, and exists for every site declared, including vehicles. The PID is required when ordering tags, and is used when reporting events to DairyTrace.

In addition to farms, farm buildings, and feedlots, premises that may require a PID include: transport trucks; abattoirs/assembly yards; auctions/livestock facilities; rendering plants; exhibitions / fairgrounds / competition facilities; veterinary hospitals; insemination centres; research facilities, and zoos/petting zoos.

The ultimate goal of DairyTrace is double tagging of all dairy animals with a unique individual number. Dual tag sets are comprised of an RFID electronic tag, ideally placed in the right ear of the animal, and a secondary panel tag placed in the left ear.

All newborn animals, regardless of sex, are recorded on-farm and then reported to the DairyTrace system by premises, eartag ID (15 digits) and date of birth. Calves are tagged and recorded on-farm within seven (7) days of birth or before the animal leaves the farm of origin, whichever comes first, and must be reported to DairyTrace within 45 days of the animal's birth, or before the animal leaves the farm of origin, whichever occurs first. Tagging for stillborn calves is not required if they are disposed of on-farm, but tagging is required if they are leaving the farm to go to a rendering facility, which will record and report the tag retirement.

Tag retirement due to on-farm death must be reported to DairyTrace within seven days of the event. If the tagged animals are disposed of off-farm the rendering facility will report the retirement.

When an animal loses their tag it must be replaced. If the same tag number can immediately be re-ordered, reporting is required once the tag is applied. The number may be recorded on a generic eartag until the re-issued tag is received and can be attached. Re-issues are free in all provinces except for animals originating from Quebec.

If an animal is re-tagged with a new number, recording and reporting is necessary within seven days and will be cross-referenced to the previous ID in the DairyTrace system.

Electronic dairy ear tags for animals born in the U.S. are acceptable forms of identification for animals imported from the United States into Canada, and do not need to be replaced with Canadian tags unless the animal loses its tag. If the animal is imported from the United States and loses its American tag, the lost US tag number must be cross-referenced with the Canadian tag number and both numbers must be reported to DairyTrace.

For pedigree calves that are registered with a breed association, ideally before 45 days old, the breed association can automatically activate the tag and report the animal for you as they

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record it into the Herdbook. If a registered animal is imported to Canada from the U.S., the owner can also ask the breed association to report the import and movement events and also transfer Herdbook data from the U.S. at the same time, to be able to register future progeny.

When a dairy animal arrives at a farm, the dairy producer must record and report the following details to DairyTrace: 15 digit number on the eartag, date of arrival, PID of the arrival and departure points, licence plate of the transporting vehicle. These details must be reported within seven days. Arrivals include returning from a show or from grazing on another property with a different PID. Affiliates (such as abattoirs, auction facilities, transporters, veterinarians) are encouraged to report all movements to DairyTrace within 30 days.

Compliance with proAction and Dairy Trace was demonstrated by the farm owner and operator during a visit to a dairy farm in the province of Ontario. Representatives of CFIA were able to confirm official control systems.For imported animals from another country, the producer requires the address from where the animal departed from and the vehicle/trailer license plate number, because imported animals will not have a recognized premises ID associated with the premises of origin in the other country.

When an animal leaves a farm within Canada, the new premises receiving the animal is required to report the animal move-in. This is currently specific to dairy producers but in the future is expected to also include affiliated premises such as auction houses, abattoirs, show grounds, community pastures, sorting centres, and veterinary clinics. It is recommended good practice that the departing premises make note of any move-out for their own internal records and report those events to DairyTrace.

When exporting an animal to a destination outside of Canada, the movement must be recorded and reported to DairyTrace. This includes the location/address where the animals were exported to and the vehicle/trailer license plate number.

When an animal with an activated tag dies and is disposed of on-farm, dairy farmers must record and report it to DairyTrace within seven days. If any deadstock is picked up by a renderer, the carcass needs to be tagged before it leaves the farm of origin (if not already done so) and death and disposal (tag retirement) is reported by the renderer within 30 days.

Cattle in Quebec

The province of Quebec has its own provincial regulations for livestock identification, which align with, and sometimes go beyond, the Federal regulations. All Quebec livestock data required under Canada's *Health of Animals Regulations* are provided to the CFIA via Quebec's provincial administrator, Attestra. All reporting related to bovine identification is made to Attestra.

Briefly, the following rules apply in Quebec:

Cattle born on farms in Quebec must be identified with two approved tags; one electronic and one visual, and may not be moved from the property until they have been tagged and their identification reported to Attestra. For dairy cattle and others born under close supervision, the calf must be tagged within seven days of birth. For beef cattle born out at pasture and therefore under less close supervision, the calf must be tagged within five months of birth.

If an animal loses its tag, the tag must be replaced appropriately and the replacement event must be reported within seven days following the identification of the animal or before its departure from the livestock operation, whichever comes first.

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Bovine movements to/from livestock operations must be reported to Attestra within seven days following the movement event. This includes movement from or to premises outside Quebec.

The death of an animal must be reported within seven days if the death happens at the livestock operation and the carcass was not salvaged. The disappearance of an animal must be reported within seven days of the date that its disappearance was noted.

If a tag is destroyed, lost, or an electronic tag ceases to function, it must be reported within 30 days following the date that it is noticed that the tag has been destroyed or lost, or has ceased to function.

15.3 Evaluation of BSE awareness and education, BSE notification and diagnosis, and cattle identification of traceability

Production Units (Farms)

During the in-country verification visit to Canada, compliance with animal identification and traceability systems, feed management, disposal protocols and knowledge of animal health and BSE surveillance practices were verified at two farms (one beef breeder and one dairy farm) and a finishing lot. BSE controls were demonstrated to be operating effectively with strong official government oversight by Canadian authorities at federal and provincial level. Producers/operators for the three primary production activities demonstrated strong understanding of and implementation of effective systems. Movement and tracking of animal on and off properties were in line with protocols.

16 Summary: BSE control programs and technical infrastructure

CFIA staff are trained in BSE surveillance and controls, and CFIA employs BSE subject matter experts who present information concerning BSE to industry associations, producer groups, veterinarians and others. Each province cooperates with CFIA to maintain BSE awareness, and support surveillance and control measures. Detailed examples of activities targeting stakeholder groups were provided by Canada.

BSE has been a reportable disease under Canada's *Health of Animals Act* since 1990. This makes it compulsory to notify the federal government of suspect BSE cases. Failure to report suspect cases can result in prosecution, with significant fines or a prison term. Brain material from suspect animals is sent to a CFIA laboratory for testing. Appropriate procedures are in place to trace and destroy all cattle that may have consumed the same feed as the BSE-infected animal during its first year of life. Carcasses and all potentially contaminated feed are incinerated or disposed of by deep burial. Compensation is available to owners of cattle destroyed, covering the market value of the cattle and with veterinary and disposal costs.

The National BSE Reference Laboratory is in Lethbridge, Alberta and there are also five laboratories within the National TSE Laboratory Network, which are all approved by CFIA to conduct BSE testing. The diagnostic protocols and methods prescribed in WOAH's *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* are used. A quality assurance program is applied to the network.

Comprehensive cattle identification measures, through ear-tags embedded with Radio Frequency Identification numbers, and databases for tracing cattle, are in place. The CFIA provides full regulatory enforcement for animal identification. The Responsible Administrator for beef cattle in Canada, with the exception of Quebec, is the Canadian Cattle Identification

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Agency (CCIA). The CCIA wholly owns and manages the Canadian Livestock Tracking System (CLTS) database. On October 5, 2020 CCIA ceased to be the responsible administrator for dairy cattle identification, and responsibility shifted to the DairyTrace program for provinces other than Quebec. In Quebec, identification of cattle is managed by Attestra, and their system links to the DairyTrace system for dairy cattle moved in or out of Quebec.

Owner/operators and staff of cattle farms, including a dairy farm, a beef breeding farm and a finishing unit, showed a high level of knowledge concerning BSE, including the importance of the feed ban. The identification systems for cattle are well-accepted by those who farm cattle. Appropriate procedures are in place for the diagnosis of cattle showing nervous signs, and for the disposal of cattle that die on-farm.

BSE Surveillance

Section 3 of the Australian Questionnaire requires applicant countries to provide evidence of the number of BSE-related samples collected for each cattle subpopulation, with data stratified by year and age group. Such data are then used to derive BSE surveillance points using the recommendations of Chapter 11.4 of the WOAH Terrestrial Animal Health Code[d]. The extent and quality of surveillance for BSE within the cattle population of a country, combined with other systems for BSE control, helps to determine the BSE risk status of the country.

BSE surveillance is not a food safety measure. The food supply is protected through the removal of SRM which is the tissue that harbours BSE, from all cattle slaughtered for human consumption in Canada.

Canada's BSE surveillance programme complies with the requirements described in Articles 11.4.20 to 11.4.22 of WOAH's Terrestrial Animal Health Code. The following sections present the details of Canada's BSE surveillance program, activities and historical data.

17 Canada's BSE surveillance program

The Canadian federal government made the compulsory notification and investigation of all BSE clinical suspects a legal requirement in November 1990. Canada implemented a national BSE surveillance program in 1992. At that time, BSE clinical suspects were targeted under the surveillance program. The testing program was supported by an education and awareness campaign targeting veterinarians, producers and workers in the cattle industry. For example, the Canada and Alberta BSE Surveillance Program (CANSESAP) Communication Plan 2014-2015, clearly identified stakeholders concerns with BSE surveillance, and clearly described the purpose, goals and strategies of communication to promote BSE surveillance to cattle farmers. The Communication plan had a budget with clearly identified deliverables, and described personnel responsible for the deliverables.

Following the 2003 confirmation of BSE detected in a Canadian-born cow, the objectives of Canadian BSE surveillance program were updated to 1) gain a more accurate picture of the extent of BSE in Canada; and 2) determine the effectiveness of the feed ban implemented in 1997. The Canadian BSE surveillance program was enhanced from 2003 by increasing the number and scope of cattle tested. In addition to testing clinical suspects, the following subpopulations aged over 30 months, were targeted:

[d] Chapter 11.4 of the 30th edition of the Terrestrial Animal Health Code describes the BSE surveillance points and the associated calculations.

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- animals found dead (deadstock);
- non-ambulatory animals (downers);
- animals presented for emergency slaughter (dying); and
- animals sent to slaughter that are condemned because of a deviation from normal behaviour or appearance at ante-mortem inspection (diseased).

17.1 Risk group

Under the Canadian BSE surveillance program, the above subpopulations are described as 4Ds, i.e., deadstock, downers, dying, and diseased. The 4Ds and BSE clinical suspects are collectively described as the **risk group** under the Canadian BSE surveillance program in 2009. The composition of this risk group matches the fallen stock, casualty slaughter, and clinical suspect described as BSE surveillance subpopulations under Article 11.4.21 of the WOAH Terrestrial Animal Health Code.

17.2 Healthy slaughter is not tested

The Canadian BSE surveillance program does not test healthy slaughter, referred by Article 11.4.21 of the WOAH's Terrestrial Animal Health Code as routine slaughter, i.e., healthy cattle aged over 36 months at the time of slaughter. Explained by the Canadian dossier, this treatment allows Canada to focus its BSE surveillance resources on the risk group to achieve the best return for the resources invested in BSE surveillance.

17.3 Surveillance data are stratified by age only

BSE surveillance data collected under the Canadian BSE surveillance program are stratified by the age of the risk group. This treatment deviates slightly from the guidance under Article 11.4.21 and 11.4.22 of the WOAH Terrestrial Animal Health Code where BSE surveillance data are stratified by the age of the subpopulation comprised of routine slaughter, fallen stock, casualty slaughter, and clinical suspects.

Canada notified the WOAH in 2009 of its decision to use the above risk group for its BSE surveillance. In that notification, Canada justified its approach and the stratification of BSE surveillance data by age only. The justification compared BSE surveillance points stratified by the age of the subpopulation of fallen stock, casualty slaughter, and clinical suspects as recommended by WOAH and the BSE surveillance points stratified by the age of the risk group for the BSE surveillance data collected for each birth cohorts of 15 BSE cases detected between 2003 and 2008 in Canada. The total surveillance points stratified by the age of the risk group was approximately 83% of the total surveillance points stratified by the age of three subpopulations, i.e., fallen stock, casualty slaughter, and clinical suspects. This comparison indicates that the stratification of BSE surveillance data by the age of the risk group under Canada's BSE surveillance program does not score any more BSE surveillance points than those stratified by the age of the subpopulation of fallen stock, casualty slaughter, and clinical suspects recommended by WOAH.

17.4 Samples of the BSE surveillance

Samples under the Canadian BSE program have been collected from a variety of sources, including cattle on-farm, from deadstock operations and condemned cattle at federal and provincial abattoirs. Most BSE surveillance samples (90 to 95%) have been collected on-farm through deadstock collection services. Because of the considerable distances involved in providing deadstock collection services for the provinces of Alberta, Saskatchewan and Manitoba, there is a lack of a viable deadstock collection service. This has resulted in less samples being collected in these provinces where 70% of Canada's adult cattle population reside. Viable deadstock collection services are available in the province of British Columbia

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and eastern Canada. These regions account for 85% of Canada's dairy population. Most of the BSE surveillance samples (85-90%) under the Canadian BSE surveillance program have been and continues to be collected in these provinces by deadstock collection services. Canada recognises that the Canadian BSE surveillance program has a greater emphasis on sampling dairy cattle relative to beef cattle.

Canada has also conducted work to demonstrate that the BSE surveillance samples collected under the Canadian BSE surveillance program represent the distribution of Canada's adult beef and dairy cattle populations. The demonstration considered the differences in the demographics of the beef and dairy sectors by comparing the estimated survival of adult beef and dairy cattle in Canada.

17.5 Incentives to cattle keepers

Any cattle that are exhibiting symptoms consistent with BSE must be reported to CFIA. Under the Health of Animals Act, the CFIA may order the destruction of animals or things affected by a disease.

According to CFIA publication of National BSE Surveillance Reimbursement Program, cattle producers in Canada receive $75 per carcass directly from the CFIA to assist carcass disposal either on farm or through commercial deadstock streams. In addition, CFIA will pay up to a maximum of $100 for veterinary services for which CFIA pays directly to the veterinary service. The province of Alberta introduced additional financial reimbursements in 2004 which pays $150 per identified case in addition to a mileage allowance of $2.50 per kilometre paid to the veterinary service which collected the samples.

17.6 Government and industry collaboration in BSE surveillance

CFIA established CanSurvBSE Technical Committee (TC) in 2012 to expand the collaboration effort between Canadian government and industry in BSE surveillance. The CansurvBSE TC membership includes industry associations, Agriculture and Agri-Food Canada, CFIA, Health Canada and the Council of Chief Veterinary Officers. This Committee provides a collaborative forum where participants inform, discuss, identify and develop consensus on future options to ensure the Canadian BSE surveillance program continues to be science-based and serves the interests of all stakeholders.

18 Canada's BSE surveillance points data

The population of Canada's adult bovine herd has remained relatively steady over the past 9 years. Table 4 summarises the Canadian adult bovine population from 2015 to 2023.

Table 4. National Adult Bovine Population of Canada, 2015-2023 (x1000)

Year	Beef herd	Dairy herd	Total
2015	3,709.90	945.60	4,655.50
2016	3,675.20	943.70	4,618.90
2017	3,680.20	945.00	4,625.20
2018	3,699.80	972.30	4,672.10
2019	3,661.00	977.90	4,638.90
2020	3,668.40	979.20	4,647.60
2021	3,711.10	974.50	4,685.60
2022	3,652.90	969.1	4,622.00
2023	3,560.10	967.6	4,527.70

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The WOAH points target for a national adult bovine (24 months and older) population exceeding 1 million cattle is 300,000 points for Type A surveillance and 150,000 for Type B surveillance. Canada achieved its Type A surveillance points target in 2005 (Table 5), and has maintained a cumulative total for each preceding 7-year period of over 1 million surveillance points since 2009. According to Chapter 11.4 of the WOAH Terrestrial Animal Health Code, Canada's BSE surveillance can be shifted to Type B surveillance once Canada reached Type A surveillance points target. The Canadian BSE surveillance however continued and continues to emphasise the importance of the surveillance as a measure to monitor the effectiveness of the feed ban.

Table 5. BSE surveillance points 2004 – 2021 on the risk group

Year	Samples tested	Surveillance points	Cumulative points (Note 1)
2004	23,845	88,668	88,668
2005	58,484	228,982	317,650
2006	57,620	222,014	539,664
2007	58,285	228,785	768,449
2008	48,863	216,553	985,002
2009	34,549	175,888	1,160,890
2010	34,382	178,154	1,339,044
2011	32,867	166,934	1,417,310
2012	27,357	141,885	1,330,213
2013	31,092	154,601	1,262,800
2014	27,389	141,251	1,175,266
2015	26,220	138,706	1,097,419
2016	27,384	144,567	1,066,098
2017	29,835	160,921	1,048,865
2018	30,894	164,789	1,046,720
2019	30,457	164,084	1,068,919
2020	22,171	119,074	1,033,392
2021	28,375	153,278	1,045,419
2022	24,080	129,915	1,036,628

Note 1: Numbers in this column represent the surveillance points accumulated up to and inclusive current year (2004 to 2009), and over a period of seven years and inclusive of the current year (2010 to 2022).
*: Data sourced from BSE enhanced surveillance program prepared by CFIA.

Table 6 presents Canada's BSE surveillance samples and surveillance points stratified by year and age group between 2015 and 2021. Information captured in this table responds to the requirements described in Section 3 of the Australian Questionnaire, i.e., provided evidence of the number of BSE-related samples collected for each cattle subpopulation, with data stratified by year and age group.

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Table 6. BSE surveillance points according to age group (2015 – 2021)

Age range	Routine slaughter		Risk group	
	Samples	Points	Samples	Points
2015				
≥2 to <4			6,264	14,964
≥4 to <7			13,239	108,092
≥7 to <9			3,376	11,861
≥9			3,341	3,790
Totals			**26,220**	**138,707**
2016				
≥2 to <4			6,608	15,581
≥4 to <7			13,828	112,636
≥7 to <9			3,547	12,491
≥9			3,401	3,859
Totals			**27,384**	**144,567**
2017				
≥2 to <4			6,853	16,289
≥4 to <7			15,538	127,035
≥7 to <9			3,827	13,490
≥9			3,617	4,107
Totals			**29,835**	**160,921**
2018				
≥2 to <4			7,730	17,836
≥4 to <7			15,830	128,836
≥7 to <9			4,017	14,325
≥9			3,317	3,791
Totals			**30,894**	**164,788**
2019				
≥2 to <4			7,845	18,321
≥4 to <7			15,765	128,472
≥7 to <9			3,859	13,812
≥9			2,988	3,478
Totals			**30,457**	**164,083**
2020				
≥2 to <4			5,506	13,413
≥4 to <7			11,361	92,633
≥7 to <9			2,872	10,193
≥9			2,432	2,835
Totals			**22,171**	**119,074**
2021				
≥2 to <4			6,503	15,995
≥4 to <7			14,871	121,769
≥7 to <9			3,236	11,268
≥9			3,765	4,246
Totals			**28,375**	**153,278**

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19 Summary: BSE surveillance

Data and information presented in the above indicate that Canada carried out active BSE surveillance since 2004, and reached the required Type A surveillance points target in 2005. Canada has maintained active BSE surveillance since 2005 and the surveillance points accumulated over a period of 7 years since 2010 have always been more than three times of the Type A surveillance points target described in Article 11.4.22 of the WOAH Terrestrial Animal Health Code. Australia acknowledges the change by WOAH in 2023 that alters requirements on surveillance points.

Conclusions and BSE risk categorisation

FSANZ has completed a BSE food safety assessment of Canada in response to their request to seek to export beef or beef products to Australia.

This assessment considers legislative measures and systems in place for the control and prevention of BSE in Canada covering five main control areas: imports; feed ban; food safety; traceability and animal identification; and surveillance.

As part of their submission, Canada advised that WOAH upgraded Canada to negligible risk status in 2020. Key milestones in Canada's control systems are summarised below:

Year	Milestones achieved
2020	Recognised by WOAH for **Negligible** status
2007	Enhanced feed ban; recognised by WOAH for **Controlled** status
2006	Cattle RFID mandated
2005	Achieved WOAH Type A surveillance points target
2003	SRM removal mandated
2001	Cattle ID mandated
1992	BSE surveillance program initiated
1990	BSE mandated as a notifiable disease

In conclusion, Canada has comprehensive and well established legislative controls and systems to prevent the introduction and amplification of the BSE agent within the cattle population and to prevent contamination of the human food supply with the BSE agent. Verification focussing on animal identification systems at primary production, and awareness and implementation of controls confirmed the effectiveness of the BSE preventative measures in Canada. In-country verification centred around three key primary production sectors - a beef breeding farm, dairy farm and a beef finishing premises.

In completing this BSE assessment, FSANZ worked with DAFF to assess Canada's systems of certification and official control.

This BSE food safety risk assessment concludes that imported beef and beef products sourced from Canada are safe for human consumption and recommends **Category 1** status for Canada.

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Appendix 1

The Canadian Government's Administrative Arrangement on BSE Controls

For BSE associated animal health protection and human food safety protection, CFIA is Canada's central competent authority which regulates food safety, animal health and plant protection.

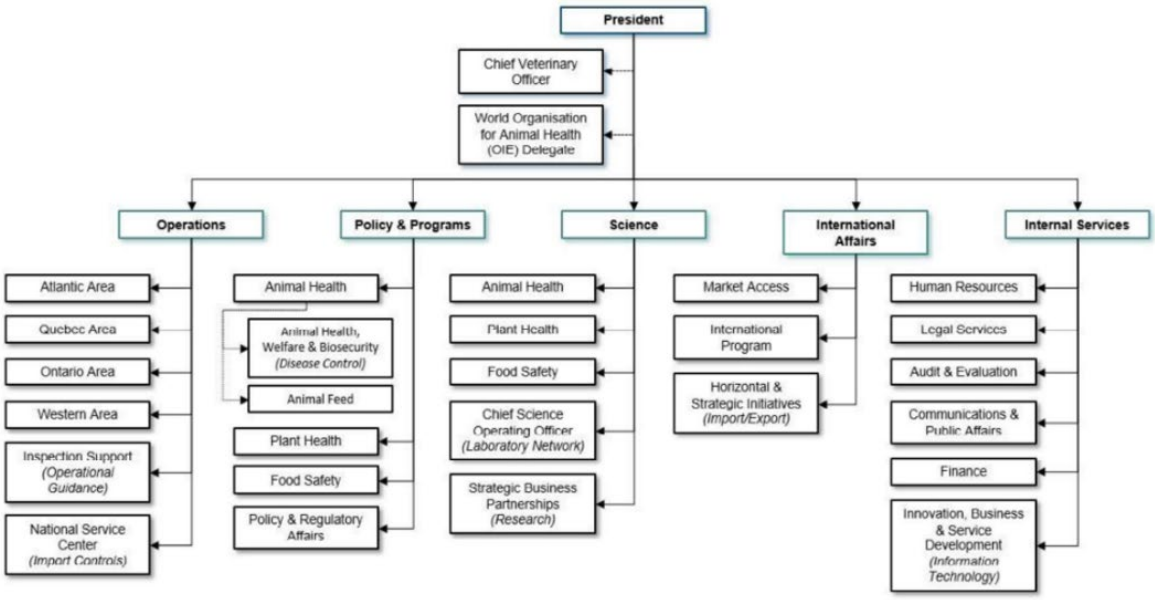
As the national veterinary authority in Canada, CFIA

- controls specified animal diseases,
- regulates animal feed and veterinary biologics, and
- performs tests on animals exported from and imported into Canada.

Food safety is the primary mandate of the CFIA. CFIA enforces food safety control measures including the controls for zoonotic diseases. Previously CFIA reports to the Minister of Agriculture and Agri-food. CFIA was transferred to the Ministry of Health portfolio in 2013. The Minister of Agriculture and Agri-Food continues to be responsible for CFIA's non-food safety agricultural activities, including animal health, plant protection and international trade. CFIA reports to the Minister of Health on food safety issues, and also reports to the Minister of Agriculture and Agri-Food Canada on non-food safety activities.

CFIA is a science-based organisation, divided into 5 streams: Operations, Policy and Programs, Science, International Affairs, and Internal services. The organisational structure of CFIA is summarised in Figure 4.

Figure 4. Organisational structure of CFIA



CFIA's Chief Veterinarian Officer (CVO) leads Canada's delegation to the WOAH. The CVO provides the leadership to ensure that Canada's animal and veterinary public health infrastructure is adequate and effective to manage current and emerging disease threats.

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This contributes to the overall animal and human health protection in Canada.

As an organisation, CFIA is made up of 11 functional branches (Figure 5). Each branch is led by a branch head who reports directly to the President of CFIA.

Figure 5. Functional branches of CFIA

The CFIA headquarters is located in Ottawa and has Science, Policy and Program, and Operations networks spread throughout Canada. CFIA has four geographic operational regions, located separately in the Western provinces, Ontario province, Quebec province and Atlantic region. These four geographic operational regions are further subdivided into: 17 regional offices; 185 field offices inclusive of 67 animal health district offices and border points of entry; and more than 400 offices in non-government establishments, for example federally regulated meat-processing establishments.

Roles played by provincial/territorial governments in BSE control

Canada's provincial/territorial governments play important roles in BSE diagnosis and surveillance. Each provincial/territorial government in Canada has a provincial/territorial ministry or department of agriculture. Provincial/territorial governments support CFIA's investigations of BSE cases within their boundaries. Provincial/territorial veterinarians, in their ministries or departments of agriculture, generally coordinate the activities of their animal health network at the provincial level, in close cooperation with CFIA and industry associations. CFIA engages with provincial/territorial governments and industry partners in developing procedures and conducting training initiatives for field response procedures such as humane destruction and disposal of BSE suspected or impacted animals.

Veterinary diagnostic laboratory services of provincial/territorial governments including some of the veterinary colleges form part of a nationwide network of animal health laboratories across Canada. Provincial/territorial governments also support the surveillance program for BSE by supporting BSE awareness work and promoting testing.

Other Federal agencies involved in food safety regulation

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The federal regulatory agencies with responsibility for food are Health Canada, the CFIA, and to a lesser extent, the Public Health Agency of Canada (PHAC).

Health Canada is responsible for food safety at the federal level. They set food safety standards for food businesses across the country. Working with governments, food industries and consumers, Health Canada creates the safety and nutritional quality regulations, policies and standards for all food sold in Canada.

The CFIA enforces the policies and standards set by Health Canada, and works together with other federal, provincial, territorial and municipal authorities, along with industries and stakeholders.

The Public Health Agency of Canada (PHAC) works to reduce public health risks by monitoring food-borne illness outbreaks and carrying out control activities. They provide timely identification of outbreaks and risks, along with advice for food safety programs.

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Appendix 2

Details of Legislation Related to BSE Control

Table 7. Canadian Legislation and Official Documents Concerning or Relevant to BSE Control

Title/identification	Comments
Acts of Parliament empowering the Competent Authority	
Health of Animals Act and associated regulations	The purposes of the act and its enabling regulations include preventing the introduction of animal diseases into Canada, controlling and/or eliminating diseases that either affect human health or could have a significant economic effect on the Canadian livestock industry, and to provide for the humane treatment of animals during transport. The act and regulations regulate international trade in live animals, animal products and by-products, animal feed, veterinary biologics and biotechnology products. They provide for the approval and registration of private quarantine premises; the control of infected places; and the approval and registration of establishments involved in the importation of animals, animal products and veterinary biologic products. The act authorizes the development of regulations for the purpose of protecting human and animal health through the control or elimination of diseases and toxic substances. The act authorizes CFIA inspectors to enter premises; open receptacles or things; require presentation of animals for inspection; examine any animal or thing; require production of documents; conduct tests or analyses; seize and detain animals; and enter a dwelling place with a warrant.
Feeds Act and associated regulations	This act and associated regulations regulate feeds manufactured, imported, sold or represented for use for consumption by livestock. CFIA administers a national livestock feed program under the authority of the Feeds Act to verify that livestock feeds manufactured and sold in Canada, or imported into Canada, are safe, effective and labelled properly.
Fertilizers Act and associated regulations	This act and associated regulations require that all regulated fertilizers and supplements be safe for humans, plants, animals and the environment. Under this authority, CFIA prohibits the use of SRM in fertilizers or supplements; requires that fertilizers sold in or imported into Canada be registered; conducts pre-market assessment and label verification of products prior to registration; verifies that fertilizers or supplements that contain prohibited material are properly labelled and include specific cautionary statements (that is, feeding of the product to cattle, sheep, deer or other ruminants is illegal and the products should not be used on pasture land or other grazing areas for ruminants); and conducts marketplace monitoring to verify compliance with requirements.
Food and Drugs Act and associated regulations	This act and associated regulations provide Health Canada with the authority for establishing standards for the safety and nutritional quality of all foods sold in Canada. All health and safety standards under the Food and Drug Regulations are enforced by CFIA. With respect to BSE controls, the Food and Drug Regulations forbid the sale or import for sale of food that contains SRM unless the country of origin is designated as being free from BSE.
Safe Foods for Canadians Act and associated regulations	Pursuant to the Safe Foods for Canadians Regulations, SRM has the same meaning as in section 6.1 of the Health of Animals Regulations. Under the Safe Foods for Canadians Regulations, a licence holder may identify a meat product as edible only if the meat product is edible and is not contaminated, including that it does not contain any SRM, must keep a meat product that is an SRM, contains an SRM or is derived from an SRM in a separate area of the inedible products area and must handle and destroy it in accordance with the Health of Animals Regulations.
Agriculture and Agri-Food Administrative Monetary Penalties Act and associated regulations	This act and associated regulations establish a fair and efficient administrative monetary penalty system for the enforcement of the Health of Animals Act and other acts legislated by the agri-food acts. Administrative monetary penalties (AMPs) emphasize compliance rather than punitive action and provide for more immediate enforcement and corrective action. .

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Health of Animals *regulations specific to BSE*	
Part I (Segregation and Inspection of Animals)	This part of the regulations defines the inspector's authority to require the person having possession, care or custody of the animal to keep the animal separate for inspection and testing, to quarantine, to destroy, to dispose of its carcass and to request documentation.
Part I.1 (Specified Risk Material)	This part defines SRM and how they are handled to ensure that they do not enter human and animal food chains.
Part II (Importation of Live Animals)	This sets out the authority of the minister to designate a country or part of a country as being free of a disease or as posing a negligible risk for a disease and sets out general provisions for the importation of regulated animals and germplasm. Regulated animals may be imported into Canada in accordance with an import permit issued by CFIA and/or accompanied by a zoosanitary certificate signed by an official veterinarian stating that the animal meets Canadian import requirements.
Part IV (Importation of Animal By-Products, Animal Pathogens and Other Things)	This part sets out the rules for importing animal by-products, such as rendered animal products, garbage, blood or serum (other than veterinary biologics) and other animal products. From countries other than the United States, these products must be accompanied by an official certificate stating that they meet Canadian import requirements.
Part VII (Quarantine of Imported Animals)	This stipulates that all animals imported into Canada are subject to inspection, testing and treatment at a quarantine place approved by the minister. The minister also has the authority to order any imported animal quarantined and to request that such an animal be destroyed or removed from Canada if it fails to prove negative to any test for a disease.
Part IX (Eradication and Control of Diseases)	This regulates the establishment of an eradication area and the obligation to possess a permit to move an animal from an eradication area. The minister may designate the animals infected or contaminated by a disease and order them to be segregated, inspected and tested.
Part X (General Provisions)	This part prescribes the quarantine notification to be given by an inspector and prohibits any person to do, or permit to be done, any of the listed actions on the animal, disease agent or thing quarantined, without authorization. A person who owns or has the possession, care or control of a quarantined animal has the responsibility to notify a veterinary inspector of any quarantined animal that appears sick, and to comply with any notice of quarantine. Public sales, animal markets and auctions (Sections 92 to 97) must maintain records for every animal received and sold. The use of edible residual material in feeding swine or poultry is regulated under Part X (Sections 111 to 113), as is the disposition of a diseased carcass (Section 114).
Part XI (Veterinary Biologics)	This requires that a permit be obtained to release and to import a veterinary biologic and that information be provided for the purpose of obtaining a permit. The manufacturer must show that a biologic is unlikely to pose a risk of harm to the environment or to human or animal health. The requirements to obtain an establishment and product licence, and the conditions of operations of a licensed establishment, are also set out in this part.
Part XIII (Permits and Licences)	This part sets out the requirements to obtain a permit or license.
Part XIV (Food for Ruminants, Livestock and Poultry, Rendering Plants, Fertilizers and Fertilizer Supplements)	This part defines "prohibited material" as "anything that is, or that contains any protein that originated from a mammal, other than a porcine or an equine. It does not include milk, blood, gelatin, rendered animal fat or their products (Section 162) and prohibits the feeding of this material to ruminants. This part prohibits the production and the importation of rendered material without a permit and identifies the obligation to keep records and to place a warning label if the feed contains prohibited material. The importation, manufacturing, packaging, labelling, storage, distribution, sale or advertisement for sale of animal food, or animal food for ruminants that contains prohibited material, is regulated within this part.
Part XV (Animal Identification)	This part regulates the approval and issuance of identification devices, the obligation to keep records and the requirement to identify an animal under a national identification program for animals.

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