# CHAPTER 11.4. **Bovine spongiform encephalopathy**

## Article 11.4.1.

**General provisions**

1) The recommendations in this chapter are intended to mitigate the human and animal health risks associated with the presence of the bovine spongiform encephalopathy (BSE) agents in cattle only. BSE manifests in two main forms: classical BSE and atypical BSE. Oral exposure to contaminated *feed* is the main route of transmission of classical BSE. Atypical BSE is a condition that occurs at a very low rate and is assumed to occur spontaneously in any cattle population. ~~Oral exposure to contaminated~~ *~~feed~~* ~~is the main route of transmission of classical BSE.~~ ~~Given that c~~Cattle have been experimentally infected by the oral route with a low molecular weight type of atypical BSE (L-type BSE~~,~~). Therefore atypical BSE is also ~~potentially~~ considered capable of being recycled in a cattle population if cattle are orally exposed to contaminated *feed*.

2) BSE primarily affects cattle. Other animal species may be naturally and experimentally susceptible to BSE, but they are not regarded as being epidemiologically significant, particularly when feeding ruminants with ruminant-derived ~~protein meal~~*protein meal* is not ~~practiced~~practised.

3) For the purposes of the *Terrestrial Code*:

~~1~~a) BSE is an invariably fatal neurological prion disease of cattle caused by a misfolded form of the prion protein (~~PrP~~~~BSE~~PrPSc)~~, including~~ which includes both classical (C-type BSE) and atypical strains (H- and L-type BSE~~). for respectively~~ having, respectively, a ~~protease resistant PrP~~~~BSE~~PrPSc fragment of higher and lower molecular mass than classical BSE). The term ‘BSE’ includes both classical and atypical forms~~, unless otherwise specified~~.

~~2~~b) The occurrence of a BSE *case* is defined by the immunohistochemical (IHC) or immunochemical detection of ~~PrP~~~~BSE~~PrPSc in brain tissue of a bovid of the species *Bos taurus* or *Bos indicus.* ~~, with d~~Discrimination between atypical and classical BSE strains is based on the Western immunoblot banding pattern, as described in the *Terrestrial Manual*.

4) For the purposes of this chapter~~:~~

~~3a)~~ , ‘~~C~~cattle’ means ~~a~~ bovids of the species *Bos taurus* or *Bos indicus.*

~~4b)~~ ~~‘Protein meal’ means any final or intermediate solid protein-containing product, obtained when animal tissues are rendered, excluding blood and blood products, peptides of a molecular weight less than 10,000 daltons and amino- acids.~~

5) When *commodities* are imported in accordance with this chapter, the BSE risk of the *importing country* or *zone* of destination is not affected by the BSE risk of the *exporting country*, *zone* or *compartment* of origin.

6) Standards for diagnostic tests are described in the *Terrestrial Manual.*

## Article 11.4.1bis.

**Safe commodities**

When authorising the importation or transit of the following *commodities* derived from cattle, *Veterinary Authorities* should not require any conditions related to BSE, regardless of the BSE risk posed by the cattle population of the *exporting country*, *zone* or *compartment*:

1) *milk* and *milk products*;

2) semen and *in vivo* derived cattle embryos collected and handled in accordance with the relevant chapters of the *Terrestrial Code*;

3) hides and skins;

4) gelatine and collagen;

5) tallow with maximum level of insoluble impurities of 0.15% in weight and derivatives made from this tallow;

~~6)~~ ~~tallow derivatives;~~

~~7~~6) dicalcium phosphate (with no trace of protein or fat~~).~~);

7) ~~foetal~~ fetal blood.

Other *commodities* of cattle can be traded safely if in accordance with the relevant articles of this chapter.

## Article 11.4.2.

**~~The~~ General criteria for the determination of the BSE risk ~~of the cattle population~~ of a country, zone or compartment**

~~The Due~~ Owing to its specific etiological and epidemiological features, the BSE risk of ~~the cattle population of~~ a country, *zone* or *compartment* is determined on the basis of the following criteria:

1) ~~a~~A BSE *risk assessment*, in accordance with the provisions of ~~Chapter 1.8.~~the ~~“~~‘Application for official recognition by the OIE of risk status for bovine spongiform encephalopathy~~”~~’ that evaluates the ~~likelihood~~ risk of BSE agents being recycled within the cattle population by identifying all potential factors associated with the occurrence of BSE and their historic perspective. Member Countries should review the *risk assessment* annually to determine whether the situation has changed.

~~A~~The *risk assessment* for the purpose of BSE, based on the framework provided by Article 2.1.4., consists of:

a) Entry assessment

~~An~~The entry assessment evaluates the likelihood that the classical BSE agent has been introduced into the country, *zone* or *compartment* ~~via imported~~through the importation of the following *commodities~~.~~* in the preceding eight years:

i) ~~C~~cattle;

ii) ~~R~~ruminant-derived ~~protein meal~~*protein meal*;

iii) *~~F~~feed* (except packaged and labelled pet food ~~not intended for pets~~) that contains ruminant-derived ~~protein meal~~*protein meal*;

iv) ~~F~~fertili~~z~~sers that contain ruminant-derived ~~protein meal~~*protein meal*;

v) ~~A~~any other *commodity* that either is or could be contaminated by *commodities* listed in Article 11.4.14.

b) Exposure assessment

~~An~~The exposure assessment evaluates the likelihood of cattle being exposed to BSE during the preceding eight years, either through imported *commodities* or as a result of the presence of BSE agents ~~in~~ within the indigenous cattle population of the country, *zone* or *compartment*.

The first step in the exposure assessment involves an evaluation of livestock industry practices through a consideration of the impact of:

i) Livestock industry practices ~~on~~ preventing cattle from being fed ruminant-derived ~~protein meal~~*protein meal*, taking account of:

‒ demographics of the cattle population and production and farming systems;

‒ feeding practices;

‒ slaughtering and waste management practices;

‒ rendering practices;

‒ *feed* production, labelling, distribution and storage.

Depending on the outcome from this step, an evaluation of mitigation measures specifically targeting BSE may also need to be included through ~~a~~ consideration of the impact of:

ii) Specific risk mitigation measures ~~on~~ preventing cattle from being fed ruminant-derived ~~protein meal~~*protein meal*, taking account of:

‒ the nature and scope of a *feed* ban on feeding ruminants with ~~protein meal~~*protein meal* derived from ruminants;

‒ the fate of *commodities* with the greatest BSE infectivity (those *commodities* listed in point 1 of Article 11.4.14.);

‒ parameters of the rendering process;

‒ prevention of cross-contamination during rendering, *feed* production, transport, storage and feeding;

‒ an awareness programme under the scope of the *feed* ban;

‒ monitoring and enforcement of the *feed* ban.

Depending on the outcome of the exposure assessment, a consequence assessment (in point (c) below) may not be required.

c) Consequence assessment

~~A~~The consequence assessment evaluates the likelihood of cattle becoming infected ~~with~~ following exposure to the BSE agents together with the likely extent and duration of any subsequent recycling and amplification within the cattle population during the preceding eight years. The factors to be considered in the consequence assessment are:

i) age at exposure;

ii) production type;

iii) the impact of cattle industry practices or the implementation of ~~BSE~~ BSE-specific mitigation measures under a *feed* ban.

d) Risk estimation

The risk estimation combines the results and conclusions arising from the entry, exposure and consequence assessments to provide an overall measure of the risk ~~that~~ of BSE agents ~~have been~~ being recycled ~~in~~ within the cattle population ~~through the feeding of ruminant-derived protein meal, with indigenous~~ *~~cases~~* ~~arising as a consequence~~, and to determine the date from which the risk of BSE agents being recycled within the cattle population has been negligible.

2) ~~the~~ The ongoing implementation of a *surveillance* programme for ~~classical~~ BSE in the cattle population in accordance with Article 11.4.18.

3) ~~the~~ The history of occurrence and management of BSE *cases*.

## Article 11.4.3.

**Negligible BSE risk**

The BSE risk of ~~the cattle population of~~ a country~~,~~ or *zone* ~~or~~ *~~compartment~~* can be considered to be negligible if all the following conditions for the cattle population are met for ~~at least~~ at least the preceding eight years:

1) A *risk assessment* as described in Article 11.4.2. that has identified all potential risk factors associated with the occurrence of BSE, including feeding ruminants with ruminant-derived *protein meal*, has been conducted, and the Member Country has demonstrated through documented evidence that any identified risk factors have been adequately managed and that the ~~likelihood~~risk of BSE agents being recycled ~~in~~ within the cattle population has been negligible ~~as the result of:~~.

~~EITHER:~~

~~a)~~ ~~livestock industry practices ensuring that protein meal derived from ruminants has not been fed to ruminants;~~

~~OR~~

~~b)~~ ~~effective and continuous mitigation of each identified risk ensuring that protein meal derived from ruminants has not been fed to ruminants.~~

2) The *surveillance* provisions as described in Article 11.4.~~20~~18. have been implemented.

3) EITHER:

a) there has been no *case* of BSE or, if there has been a *case*, every *case* of BSE has been demonstrated to have been imported or has been diagnosed as atypical BSE as defined in this chapter;

OR

b) if there has been an indigenous *case* of classical BSE:

~~EITHER~~either:

i) all *cases* were born ~~at least eight years ago~~ before the date from which the risk of BSE agents being recycled within the cattle population has been negligible;

~~OR~~or

ii) where a *case* was born ~~within the preceding eight years~~ after that date, subsequent investigations have confirmed that any identified source of *infection* has been ~~mitigated~~controlled and the ~~likelihood~~risk of BSE agents being recycled within the cattle population has continued to be negligible.

4) Any *cases* of BSE that have been detected have been completely destroyed or disposed of to ensure that they do not enter the animal *feed* chain.

The country or the *zone* will be included in the list of countries or *zones* posing a negligible risk for BSE in accordance with Chapter 1.6. Retention on the list requires annual confirmation of the conditions in points 1 to 4 above. Documented evidence should be resubmitted annually for points 1 to 4 above.

Any changes in the epidemiological situation or other significant events should be notified to the OIE in accordance with Chapter 1.1.

## ~~Article 11.4.3bis.~~

**~~Recovery of negligible BSE risk status~~**

~~WhenShould an indigenous~~ *~~case~~* ~~of classical BSE is reported in an animal born within the preceding eight years occur in a country or~~ *~~zone~~* ~~recognised as havingposing a negligible BSE risk for BSE, the status, of the negligible BSE risk statuscountry or~~ *~~zone~~* ~~is suspended and the recommendations for controlled BSE risk status apply, pending. The status may be recovered when the outcome of subsequent investigations confirmingconfirms that any identified source of~~ *~~infection~~* ~~has been mitigated and the likelihoodrisk of BSE agents being recycled within the cattle population continues to be negligible. TheIn the interim, the provisions for a country or~~ *~~zone~~* ~~will regainwith a controlled BSE risk status apply.~~

~~The negligible BSE risk status of the country or~~ *~~zone~~* ~~will be reinstated only after the submitted evidence has been accepted by the OIE.~~

## Article 11.4.4.

**Controlled BSE risk**

The BSE risk ~~of the cattle population~~ of a country or~~,~~ *zone* ~~or~~ *~~compartment~~* can be considered to be controlled provided all of the conditions of Article 11.4.3. are met, but ~~at least~~ one or more of these conditions has not been met for ~~at least~~ the preceding eight years.

The country or the *zone* will be included in the list of countries or *zones* posing a controlled risk for BSE in accordance with Chapter 1.6. Retention on the list requires annual confirmation of the conditions in points 1 to 4 of Article 11.4.3. Documented evidence should be resubmitted annually for points 1 to 4 of Article 11.4.3.

Any changes in the epidemiological situation or other significant events should be notified to the OIE in accordance with Chapter 1.1.

## Article 11.4.4bis.

**Compartment with negligible or controlled BSE risk**

The establishment and bilateral recognition of a *compartment* posing negligible or controlled BSE risk should follow the relevant requirements of this chapter and the principles laid down in Chapters 4.4. and 4.5.

## Article 11.4.5.

**Undetermined BSE risk**

The BSE risk ~~of the cattle population~~ of a country or~~,~~ *zone* ~~or~~ *~~compartment~~* is considered to be undetermined if it cannot be demonstrated that it meets the requirements for negligible or controlled BSE risk.

Article 11.4.5bis.

**Maintenance of BSE risk status**

Should an indigenous *case* of classical BSE in an animal born after the date from which the risk of BSE agents being recycled within the cattle population has been negligible occur in a country or *zone* recognised as posing a negligible or controlled risk for BSE, the status of the country or *zone* is maintained, provided that documented evidence regarding the outcome of subsequent investigations is submitted to the OIE within 90 days demonstrating that any identified source of *infection* has been controlled and the risk of BSE agents being recycled within the cattle population has continued to be negligible.

If no documented evidence is provided or if it is not accepted by the OIE, the provisions of Article 11.4.3. or Article 11.4.4. apply.

## ~~Article 11.4.6.~~

**~~Recommendations for importation of cattle from a country, zone or compartment posing a negligible BSE risk~~**

*~~Veterinary Authorities~~* ~~should require the presentation of an~~ *~~international veterinary certificate~~* ~~attesting that cattle selected for export came from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a negligible BSE risk.~~

## Article 11.4.7.

**Recommendations for importation of cattle from a country, zone or compartment posing a negligible or controlled BSE risk**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1) ~~the~~The cattle selected for export~~:~~

~~1)~~ ~~came from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a negligible or controlled BSE risk~~ ~~and~~ are identified through an *animal identification system* enabling ~~each~~ *~~animal~~* them to be traced throughout ~~its~~ their lifetime~~;~~.

AND EITHER:

2) ~~the~~The cattle selected for export were born and kept in ~~the~~ a country, *zone* or *compartment* posing a negligible or controlled BSE risk after the date from which ~~during the period when~~ the ~~likelihood~~risk of ~~the~~ BSE agents being recycled ~~in~~ within the cattle population has been demonstrated to be negligible~~;~~.

OR

3)

~~a)~~ ~~are identified by a permanent individual identification system from birth enabling each animal to be traced throughout its lifetime; and~~

~~b)~~ ~~are~~ ~~it~~ It is demonstrated ~~as having~~that the cattle selected for export have not been fed ~~protein meal~~*protein meal* derived from ruminants.

## Article 11.4.8.

**Recommendations for importation of cattle from a country or~~,~~ zone ~~or compartment~~ posing an undetermined BSE risk**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that ~~cattle selected for export~~:

1) ~~the~~The cattle selected for export are identified ~~by a permanent individual~~ through an *animal identification* *system* ~~from birth~~ enabling ~~each~~ *~~animal~~* them to be traced throughout ~~its~~ their lifetime~~;~~.

2) ~~areit~~ It is demonstrated ~~as having~~ that the cattle selected for export have not been fed ~~protein meal~~*protein meal* derived from ruminants.

## ~~Article 11.4.9.~~

**~~Recommendations for importation of fresh meat and meat products from a country, zone or compartment posing a negligible BSE risk~~**

*~~Veterinary Authorities~~* ~~should require the presentation of an~~ *~~international veterinary certificate~~* ~~attesting that the cattle from which the~~ *~~fresh meat~~* ~~and~~ *~~meat products~~* ~~were derived:~~

~~1)~~ ~~came from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a negligible BSE risk;~~

~~2)~~ ~~have been subjected to an ante-mortem inspection with favourable results.~~

## Article 11.4.10.

**Recommendations for importation of fresh meat and meat products from a country, zone or compartment posing a negligible or controlled BSE risk**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1. the cattle from which the *fresh meat* and *meat products* were derived ~~came from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a controlled BSE risknegligible or controlled BSE risk and~~ are identified through an *animal identification system*;

2) they have been subjected to an ante-mortem inspection with favourable results;

AND EITHER:

3) they were born and kept in ~~the~~ a country, *zone* or *compartment* posing a negligible or controlled BSE risk after the date from which~~during the period when~~ the ~~likelihood~~ risk of ~~the~~ BSE agents being recycled ~~in~~ within the cattle population has been demonstrated to be negligible;

OR

4) the *fresh meat* and *meat products*:

a) derived from cattle not subjected to a *stunning* process with a device injecting compressed air or gas into the cranial cavity, or to a pithing process, or to any other procedure that can contaminate blood with nervous tissue, prior to *slaughter*; and

b)were produced and handled in a manner which ensures that such products do not contain and are not contaminated with:

i) the *commodities* listed in point~~s~~ 1~~)~~ *~~a~~*~~) and 1)~~ *~~b)~~* of Article 11.4.14.;

ii)mechanically separated *meat* from the skull ~~andnor~~ or from the vertebral column ~~from~~ of cattle over 30 months of age.

## Article 11.4.11.

**Recommendations for importation of fresh meat and meat products from a country, zone or compartment posing an undetermined BSE risk**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

1) the cattle from which the *fresh meat* and *meat products* were derived~~:~~

~~a)~~ are identified through an *animal identification system*;

2) it is demonstrated ~~as having~~that the cattle from which the *fresh meat* and *meat products* were derived have not been fed ~~protein meal~~*protein meal* derived from ruminants;

~~b~~3) the cattle from which the *fresh meat* and *meat products* were derived:

a) were subjected to an ante-mortem inspection with favourable results;

~~cb~~b) were not subjected to a *stunning* process with a device injecting compressed air or gas into the cranial cavity, or to a pithing process, or to any other procedure that can contaminate blood with nervous tissue, prior to *slaughter*;

~~2~~4) the *fresh meat* and *meat products* were produced and handled in a manner which ensures that such products do not contain and are not contaminated with:

a) the *commodities* listed in point~~s~~ 1~~)~~ *~~a)~~* ~~and 1)~~ *~~b)~~* of Article 11.4.14.;

b) mechanically separated *meat* from the skull ~~andnor~~ or from the vertebral column ~~from~~ of cattle over 30 months of age.

## Article 11.4.12.

**Recommendations for importation of cattle-derived protein meal from a country, zone or compartment posing a negligible BSE risk**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the cattle from which the ~~protein meal~~*protein meal* was derived ~~came from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a negligible BSE risk. 1)~~ ~~came from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a negligible BSE risk;~~

~~2~~ were ~~are~~ identified through an *animal identification system* and were born and kept in ~~the~~ a country, *zone* or *compartment* posing a negligible BSE risk, and

EITHER

1) they were born after the date from which ~~during the period when~~ the risk of ~~the~~ BSE agents being recycled ~~in~~ within the cattle population has been demonstrated to be negligible

OR

2) the *protein meal* was processed in accordance with Article 11.4.17.

## Article 11.4.13.

**Recommendations for importation of blood and blood products derived from cattle (except ~~foetal~~ fetal blood)**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that:

EITHER:

~~1)~~ ~~the blood and blood products came from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a negligible or controlled BSE risk; and~~

~~OR~~

1~~2~~) the ~~blood and blood products came from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a controlled BSE risk and the~~ cattle from which the blood and blood products were derived ~~are~~ were identified through an *animal identification system* and were born and kept in ~~the~~ a country, *zone* or *compartment* posing a negligible or controlled BSE risk after the date from which ~~during the period when~~ the ~~likelihood~~ risk of ~~the~~ BSE agents being recycled ~~in~~ within the cattle population has been demonstrated to be negligible;

OR

2~~3~~) the blood and blood products were:

a) collected from cattle not subjected to a *stunning* process~~, or to any other procedure that can contaminate the blood with nervous tissue,~~ with a device injecting compressed air or gas into the cranial cavity, or to a pithing process, or to any other procedure that can contaminate the blood with nervous tissue, prior to *slaughter*;and

b) collected and processed in a manner that ensures they are not contaminated with nervous tissue.

## Article 11.4.14.

**Recommendations in relation to the trade of the commodities with the greatest BSE infectivity**

~~1)~~ Unless covered by other articles in this chapter, the following *commodities* ~~originating from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a controlled or undetermined BSE risk, and any~~ *~~commodity~~* ~~contaminated by them,~~ should not be traded ~~for the preparation of food,~~ *~~feed~~*~~, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices~~:

~~a~~1*~~)~~*) ~~distal~~ Distal ileum from cattle of any age; *~~b)~~* skull, brain, eyes, vertebral column and spinal cord from cattle that were at the time of *slaughter* over 30 months of age~~.~~; or any *commodity* contaminated by them, for the preparation of protein products, food, *feed*, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices, which originate from a country, *zone* or *compartment* posing:

a) an undetermined BSE risk;

b) a controlled BSE risk ~~or a negligible BSE risk~~ if the *commodities* are derived from cattle born before the ~~period when~~ date from which the risk of ~~the~~ BSE agents being recycled ~~in~~ within the cattle population has been demonstrated to be negligible.

2) Protein products, food, *feed*, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices prepared using *commodities* listed in point~~s~~ 1~~)~~ *~~a)~~* ~~or 1)~~ *~~b)~~* above ~~of this article, which originate from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing a controlled or undetermined BSE risk, should not be traded~~.

3) Cattle-derived ~~protein meal~~*protein meal*~~,~~ or any *commodities* containing such product~~s,~~ which originate from a country, *zone* or *compartment* posing a controlled or undetermined BSE risk~~, should not be traded~~.

~~These points do not apply to cattle in a country or~~ *~~zone~~* ~~with a controlled BSE risk when they are born during the period when the likelihood of the BSE agents being recycled in the cattle population has been demonstrated to be negligible.~~

## Article 11.4.15.

**Recommendations for importation of tallow (other than as defined in Article 11.4.1bis.) intended for food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the tallow:

1) ~~the tallow~~ came from a country, *zone* or *compartment* posing a negligible BSE risk; or

2) ~~the tallow~~ is derived from cattle which have been subjected to an ante-mortem inspection with favourable results, and has not been prepared using the *commodities* listed in ~~points~~point 1~~) a) and 1) b)~~ of Article 11.4.14.

## Article 11.4.15bis.

**Recommendations for importation of tallow derivatives (other than as defined in Article 11.4.1bis.) intended for food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the tallow derivatives either:

1) originate from a country, *zone* or *compartment* posing a negligible BSE risk; or

2) are derived from tallow that meets the conditions referred to in Article 11.4.15.; or

3) have been produced by hydrolysis, saponification, or transesterification that uses high temperature and pressure.

## Article 11.4.16.

**Recommendations for importation of dicalcium phosphate (other than as defined in Article 11.4.1bis.) intended for food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices**

*Veterinary Authorities* should require the presentation of an *international veterinary certificate* attesting that the dicalcium phosphate:

1) ~~the dicalcium phosphate~~ came from a country, *zone* or *compartment* posing a negligible BSE risk; or

2) ~~the dicalcium phosphate~~ is a co-product of bone gelatine.

## ~~Article 11.4.16bis.~~

**~~Recommendations for importation of tallow derivatives (other than as defined in Article 11.4.1bis.) intended for food, feed, fertilisers, cosmetics, pharmaceuticals including biologicals, or medical devices~~**

*~~Veterinary Authorities~~* ~~should require the presentation of an~~ *~~international veterinary certificate~~* ~~attesting that the tallow derivatives either:~~

~~1)~~ ~~originate from a country,~~ *~~zone~~* ~~or~~ *~~compartment~~* ~~posing that poses a negligible BSE risk; or~~

~~2)~~ ~~are derived from tallow that meets the conditions referred to in Article 11.4.15.; or~~

~~3)~~ ~~have been produced by hydrolysis, saponification or transesterification that uses high temperature and pressure.~~

## Article 11.4.17.

**Procedures for reduction of BSE infectivity in protein meal**

The following procedure should be used to reduce the infectivity of any ~~transmissible spongiform encephalopathy~~BSE agents ~~which~~that may be present during the production of ~~protein meal~~*protein meal* containing ruminant proteins~~.~~:

1) ~~T~~the raw material should be reduced to a maximum particle size of 50 mm before heating~~.~~;

2) ~~T~~the raw material should be 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.

## Article 11.4.18.

**Surveillance**

The objective of BSE *surveillance* is to detect occurrence of BSE within the cattle population.

~~1)~~  *~~Surveillance~~* ~~for BSE consists of the regular reporting of animals with clinical signs suggestive of BSE to the~~ *~~Veterinary Authority~~* ~~for subsequent investigation and diagnosis. The credibility of the~~ *~~surveillance~~* ~~programme is supported by:~~

~~a)~~ ~~compulsory notification of BSE throughout the whole territory by all those stakeholders involved in the rearing and production of livestock including farmers, herdsmen,~~ *~~veterinarians~~*~~, transporters and~~ *~~slaughterhouse/abattoir~~* ~~workers;~~

~~b)~~ ~~an ongoing awareness programme to ensure that all stakeholders are familiar with the clinical signs suggestive of BSE as well as the reporting requirements;~~

~~c)~~ ~~appropriate~~ *~~laboratory~~* ~~investigations in accordance with the~~ *~~Terrestrial Manual~~* ~~and follow-up field investigation as necessary of all clinical suspects.~~

~~2~~1) BSE is a progressive, fatal disease of the nervous system of cattle that usually has an insidious onset and that is refractory to treatment. A range of clinical signs that vary in severity and between animals have been described for classical BSE:

a) progressive behavioural changes that are refractory to treatment such as increased excitability, depression, nervousness, excessive and asymmetrical ear and eye movements, apparent increased salivation, increased licking of the muzzle, teeth grinding, hypersensitivity to touch and/or sound (hyperaesthesia), tremors, excessive ~~vocalization~~vocalisation, panic-stricken response and excessive alertness;

b) postural and locomotory changes such as abnormal posture (dog sitting), abnormal gait (particularly pelvic limb ataxia), low carriage of the head, ~~(~~head shyness~~)~~, difficulty avoiding obstacles, inability to stand and recumbency;

c) ~~generalized~~generalised non-specific signs such as reduced *milk* yield, loss of body condition, weight loss, bradycardia and other disturbances of cardiac rhythm.

Some of these signs are also likely to be relevant for atypical BSE, particularly those associated with difficulty in rising and recumbency. A nervous form of atypical BSE resembling classical BSE may be observed with over-reactivity to external stimuli, unexpected startle responses and ataxia. In contrast, a dull form of atypical BSE may be observed, with dullness combined with a low head carriage and compulsive behaviour (licking, chewing, pacing in circles).

The clinical signs of BSE usually progress on a spectrum over a few weeks to several months, but ~~in~~on rare occasions cases can develop acutely and progress rapidly. ~~In the continuum of the disease spectrum, t~~The~~The~~ final stages of the disease are characterised by recumbency, coma and death.

~~Cattle displaying some of the above mentioned progressive neurological signs without signs of infectious illness, and that are refractory to treatment, are candidates for examination.~~

Since these signs are not pathognomonic for either classical or atypical BSE, all Member Countries with cattle populations ~~may~~ are likely to observe individual animals displaying clinical signs suggestive of BSE. ~~The rate at which they are likely to occur~~General statements about the likely frequency of occurrence of such animals cannot be ~~reliably predicted~~made as they will vary depending on the epidemiological situation in a particular country. ~~In addition, in~~

2) *Surveillance* for BSE consists of the reporting of all animals that ~~lie on the continuum of the~~ show ~~symptoms~~ signs of the clinical spectrum of BSE ~~spectrum~~ to the *~~Veterinary Authority~~Veterinary Services* for subsequent investigation and follow-up.

In ~~those countries where cattle are intensively reared and~~production and farming systems that allow cattle to be subjected to regular observation, it is likely that ~~such~~ animals that display clinical signs suggestive of BSE will be more readily seen. Behavioural changes, ~~that~~ which may be very subtle in the early clinical phase, are best identified by those who handle animals on a daily basis and who can monitor them closely for a progression of the signs. In ~~more extensive~~production and farming systems, ~~however,~~ where cattle are not monitored as closely, situations may ~~inevitably~~ arise where an animal might be considered as a clinical suspect, yet if it ~~was~~ has not been observed for a period of time, it may only be initially seen as a downer (non-ambulatory) or found dead (fallen stock). ~~Under such circumstances, if there is an appropriate supporting clinical history, these animals that lie on the continuum of a progressive disease from clinical suspect to downer to fallen stock may still be suitable candidates for~~ *~~surveillance~~*~~.~~

The ~~investigation of potential~~ *surveillance* programme~~candidates~~ should take into account that the vast majority of BSE *cases* arise as single, isolated events. The ~~concurrent occurrence~~ concurrence of multiple animals with behavioural or neurological signs, or non-ambulatory or fallen stock is most likely associated with other causes.

The ~~following~~ animals that lie on ~~the continuum of~~ the ~~disease~~ clinical spectrum of BSE should be targeted for BSE *surveillance* and the following animals should be followed up with appropriate laboratory testing in accordance with the *Terrestrial Manual* to accurately confirm or rule out the presence of BSE agents:

a) those displaying some of the progressive clinical signs suggestive of BSE mentioned in point 1 of Article  11.4.18. ~~suggestive of BSE~~ that are refractory to treatment, and where other common causes of behavioural or neurological signs (e.g. infectious, metabolic, traumatic, neoplastic or toxic causes) have been ruled out;

b) those showing behavioural or neurological signs at ~~that have been subjected to an~~ ante-mortem inspection ~~with unfavourable results~~ at *slaughterhouses/abattoirs*;

c) those presented as downers (non-ambulatory), with an appropriate supporting clinical history (i.e. other common causes of recumbency ~~has~~ have been ruled out);

d)those found dead (fallen stock), with an appropriate supporting clinical history (i.e. other common causes of death ~~has~~ have been ruled out).

~~All these animals should be followed up with appropriate laboratory testing in accordance with the~~ *~~Terrestrial Manual~~* ~~to accurately confirm or rule out the presence of BSE agents.~~

3) The credibility of the *surveillance* programme is supported by:

a) ongoing awareness and training programmes to ensure that all those stakeholders involved in the rearing and production of livestock, including ~~farmers, herdsmen,~~ cattle owners and keepers, *veterinarians*, transporters and *slaughterhouse/abattoir* workers are familiar with the clinical signs suggestive of BSE as well as the statutory reporting requirements;

b) the fact that BSE is a compulsorily *notifiable disease* throughout the whole territory;

c) appropriate *laboratory* testing in accordance with the *Terrestrial Manual*;

d) robust, documented, evaluation procedures and protocols for:

‒ the identification and reporting of ~~potential candidates~~animals targeted for BSE *surveillance*,

‒ ~~for~~ the determination of animals to be subjected to laboratory testing,

‒ ~~for~~ the collection and submission of samples for laboratory testing,

‒ ~~and for~~the follow-up epidemiological investigations for BSE positive findings.

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