Bovine Spongiform Encephalopathy (BSE)

Advisory Notes For Farmers
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These Advisory Notes are designed to be a general guide to assist cattle keepers in fulfilling their legal obligations. They are not designed to be a complete guide to a cattle keeper's obligations. Cattle keepers should ensure they keep and refer to other publications sent by other government agencies. All the information contained in these Advisory Notes was correct at the time of going to press.
Bovine Spongiform Encephalopathy (BSE) was first confirmed in 1986 in the UK and was made a notifiable disease in June 1988. The UK epidemic peaked at over 37,000 cases in 1992 and there have been over 183,000 cases to date. A major BSE testing programme has been in place in the EU since 2001, generating important information on the epidemic. Reinforced feed controls, considered effective in the UK from 1 August 1996, banned the feeding of mammalian meat and bone meal to farmed animals. Since 2001, EU controls have banned the feeding of animal proteins (with minor exceptions) to farmed livestock. These controls reduce the risk of cattle being infected with BSE.

In March 1996, scientists linked BSE to a new (variant) form of Creutzfeld-Jakob Disease (CJD) a progressive, fatal, brain disease of humans. BSE has also had a serious impact on the livestock industry. Everything possible should be done to eradicate BSE in cattle. Although the disease is declining rapidly, it is essential that all animals showing signs of BSE are reported and that feed stores are cleaned out regularly to remove any potentially contaminated feed.
**How to recognise BSE**

Most cattle with BSE show a gradual development of signs over a period of several weeks, or even months, although some can deteriorate very rapidly.

Most BSE cases will show at least one of the following signs – **apprehension, increased sensitivity to touch or sound, weakness of the legs** – although some of these signs may also be seen in other diseases. BSE should be considered in any animal, usually over 24 months old, which shows changes in behaviour or signs of nervous disease, where other causes cannot be identified.

Mild signs may go unnoticed but stress can bring on signs in some animals, particularly when they are brought in before calving, have calved, or if they are transported.

**Summary of Possible Signs of BSE**

- change in behaviour
- apprehension or nervousness (flighty)
- repeated, exaggerated reactions to touch or sound
- weakness or high stepping of the legs, particularly the hind legs
- reluctance to cross concrete or drains/turn corners/enter yards/go through doorways/permit milking
- (occasionally) aggressive to cattle and humans
- manic kicking when milked
- head shy, with head held low
- difficulty in rising, progressing to recumbency (downer cows)
- tremors under the skin
- loss of body condition, weight or milk yield
- excessive nose licking

There is much more detailed information about the clinical signs of BSE on the Veterinary Laboratories Agency (VLA) website at http://www.defra.gov.uk/vla/science/sci_tse_rl.htm.

You can purchase a DVD on the clinical signs of BSE from the VLA. Further details are available at http://www.defra.gov.uk/vla/services/ser_bse_dvd.htm

**You are legally obliged to report immediately any animal that you suspect of being affected with BSE** to Animal Health. This applies to cattle in your possession or under your control at farms, markets, slaughterhouses or other places. You may wish to take advice from your private veterinary surgeon who will contact Animal Health if they suspect BSE.
What you must do if you suspect BSE

Don’t delay! Early reporting:

- allows more thorough clinical examination
- improves your chances of compensation
- reduces the stress on the animal
- reduces the risk of injury to handlers
- may help to detect new strains of BSE
- safeguards public and animal health by removing potentially infected animals at an early stage

If in doubt, telephone your Animal Health office or the Information line 0844 8844600. There is no charge. Animal Health would rather visit for a false alarm than not be called out.

Death Before Examination

If you report a suspected BSE case and it dies or is killed on welfare grounds before a Veterinary Officer (VO) can examine it you should advise Animal Health.
After receiving a report of a suspected BSE case, a VO will visit and examine the animal as soon as possible. The subsequent action depends upon the outcome of the VO’s examination:

**Negative BSE Diagnosis**

If the VO decides that your animal is not a BSE suspect, they will not restrict its movement. You should then contact your private veterinary surgeon to discuss an alternative diagnosis or treatment. If you retain the animal and remain concerned that it is affected with BSE because of further developments in its symptoms, you must again report your suspicions to Animal Health.

Sometimes, when the VO does not suspect BSE, they may advise you that your animal requires killing on welfare grounds because it is suffering from another disease. You will not be paid compensation for the animal. You must comply with the requirements for BSE testing and disposal of fallen cattle.

**Animals Placed Under Observation**

In some cases the VO may decide that it is necessary to keep your animal under observation, to determine whether or not it is a BSE suspect. If so, they will restrict the movement of the animal from the farm. The VO will periodically visit the animal during the observation period. You remain responsible for the welfare of the animal. If at any time the VO is able to rule out BSE, they will lift the movement restrictions.

**Death While Under Observation**

If your animal dies or is killed for welfare reasons, while it is restricted during the observation period, you must report its death to Animal Health immediately.

If Animal Health suspect that your animal was affected with BSE, they will take control of its carcase. Animal Health will arrange BSE testing and disposal of the carcase. If Animal Health does not suspect that your animal was affected with BSE they will lift the movement restrictions. You must comply with the requirements for BSE testing and disposal of fallen cattle.

**BSE Suspected**

If the VO decides that your animal is a BSE suspect, they will restrict the movement of the animal and issue a notice of intention to kill. If the animal has died, they will take control of the carcase.

Following the issue of a notice of intention to kill, the VO will determine the compensation payable before the animal is killed. The VO may arrange for the BSE suspect to be transported to the VLA where it will be killed as soon as possible. The VLA collects samples for vital research. In some cases, the VO will kill the BSE suspect on the farm. Animal Health will then arrange for the collection, testing and disposal of the carcase.
What Animal Health will do

If a BSE suspect dies or has to be killed for welfare reasons (other than by Animal Health) you must report its death to Animal Health immediately.

Most cases of BSE are now detected through the BSE testing programme described below. If initial tests suggest that your animal was affected with BSE, Animal Health will notify you and arrange to visit your farm. In all cases where BSE is suspected or confirmed, Animal Health will gather details about the case which are used to study the epidemic.

Offspring and Cohorts

If the VO suspects an animal (or its carcase) is affected with BSE, they will identify and restrict the movement of:

- all the offspring of a female BSE suspect, born within 2 years before, or any time after, the first signs of BSE appeared; and
- the cohort of a BSE suspect.

The cohort includes cattle which were either:

- born in the same herd as a BSE case, up to a year before or after its birth; or
- reared with a BSE case when both were up to a year old.

Cattle in the cohort (“cohorts”) might have consumed the same feed as the BSE case during the first year of their lives. Feed contaminated with the BSE agent is the most likely source of BSE infection for cattle. Experts believe that the majority of BSE cases were infected during the first year of their lives when they are thought to be most vulnerable to infection.

The VO will confiscate the passports of the restricted animals. In some cases Animal Health will restrict the movement of whole herds if they suspect that they contain the offspring or cohorts of a BSE suspect.

If any cattle under BSE movement restrictions die or have to be killed for welfare reasons, you must report their deaths to Animal Health immediately.

If BSE is confirmed by further tests, Animal Health will issue a notice of intention to kill the offspring and cohorts. Following the issue of a notice of intention to kill, the VO will determine the compensation payable before the animals are killed. Animal Health will arrange for the collection and disposal of the carcases.

Compensation

Defra will only pay compensation in the following cases:

i. Where Animal Health issues a notice of intention to kill, and then kills a BSE suspect, or the offspring, or the cohort of a confirmed BSE case;

ii. Where Animal Health issues a notice of intention to kill a BSE suspect, or the offspring, or the cohort of a confirmed BSE case, but the animal dies (or is killed for other reasons) after Animal Health has valued it; or
iii. Where Animal Health restricts the movement of an animal for BSE control purposes and it has to be killed for welfare reasons because it has suffered an accident. To qualify for compensation, these cattle must be accompanied by a private veterinary certificate confirming that they would otherwise have been fit for human consumption.

How the Compensation is Calculated:

For (i) and (ii) above, the compensation payable is the average price paid for that age and category of animal:

- For a pedigree animal, in the last six months
- For other animals, in the last month

The category of the animal will be decided by its age¹ on the date the notice of intention to slaughter was issued. The compensation payable will be taken from the published table for the month of valuation. Defra publishes monthly compensation tables on its website at http://www.defra.gov.uk/news/media.htm.

For (iii) above, the compensation payable is the value of the carcase.

¹ As shown on its cattle passport
BSE Testing Programme

In addition to the testing of reported BSE suspects, the UK also tests the following cattle as part of the EU active surveillance programme:

- all cattle aged over 48 months slaughtered for human consumption;
- all cattle which die or are killed other than for human consumption (fallen cattle) aged over 48 months; and
- cohorts of BSE cases

Fallen Cattle

BSE tests can only be carried out on a brain sample collected soon after the animal has died or has been slaughtered. For fallen cattle aged over 48 months, you must, within 24 hours of the animal’s death, either

- make arrangements for a collector to deliver the carcase to an approved BSE sampling site; or
- identify an approved BSE sampling site that is content for you to deliver the carcase to the site.

In both cases, the carcase must be delivered to the approved BSE sampling site within 72 hours of the animal’s death.

Please remember to stick your holding barcode label on a movement card from the animal’s passport and leave the card with the carcase. This ensures that we know that your animal has been tested.


Over Thirty Month (OTM) Cattle

Over thirty months (OTM) old cattle which were neither born nor reared in the UK before 1 August 1996 may be sent for slaughter for human consumption in specially approved licensed slaughterhouses where special arrangements apply for the removal of vertebral column and where those aged over 48 months will be tested for BSE. Details of slaughterhouses approved to slaughter OTM cattle for human consumption are available at http://www.defra.gov.uk/animalh/bse/otm/review/guidance-otm.htm

Cattle born or reared in the UK before 1 August 1996 are permanently excluded from the food chain and it is illegal to send them for slaughter for human consumption. At the end of their productive lives, they must be treated in the same way as fallen cattle.

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2 For cattle born outside Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom the age thresholds for BSE testing are over 24 months for fallen stock, over 24 months for cattle subject to emergency slaughter or sick at ante-mortem inspection for human consumption, and over 30 months for cattle slaughtered normally for human consumption.
Cattle Identification and Record Keeping

When Animal Health investigates a reported BSE suspect, they will need access to your farm register (i.e. breeding and movement records) and other management records (e.g. feed history). Suspect animals include those reported on-farm and those reported from the testing of cattle at abattoirs and fallen stock disposal sites. **Compliance with the statutory cattle identification and record keeping requirements is vital for the correct identification of offspring and cohort animals.**

The **Cattle Keepers’ Handbook** provides details of the legal requirements for the tagging of cattle, cattle passports and the recording of births, deaths and movements. It is available from the British Cattle Movement Service (General Helpline 0845 050 1234 or Welsh Language Helpline 0845 050 3456) or can be downloaded directly via http://www.rpa.gov.uk/rpa/index.nsf/vContentByTaxonomy/BCMS**Publications%20and%20Guidance**Cattle%20Keeper's%20Handbook**?OpenDocument
Feed Controls

The BSE epidemic resulted from the feeding of cattle with mammalian meat and bone meal derived from cattle infected with BSE. Experiments have shown that as little as one thousandth of a gram of BSE-infected brain material is sufficient to infect a calf. Effective feed controls are key to the eradication of BSE.

With certain exceptions, it is illegal to feed animal proteins to farmed animals, and there are strict controls on the storage and use of pet food and fish meal on farms. There are authorisation and registration requirements to produce feed containing the following ingredients, or for farmers to use or store feed containing them:

- Fish meal
- Blood products
- Blood meal (only to be fed to farmed fish)
- Dicalcium Phosphate or Tricalcium Phosphate

Feed mills, on-farm mixers or mobile mixers who wish to use the above ingredients to produce feed for non-ruminants such as pigs, poultry or farmed fish require authorisation.

Farmers who do not manufacture feed, but wish to use or store non-ruminant feedingstuffs containing the above ingredients, on farms where ruminant animals (such as cattle, goats or sheep) are also kept, require registration.

Further information on feed controls is available from Animal Health or at http://www.defra.gov.uk/animalh/bse/controls-eradication/feed-ban.html

There have been a number of BSE cases born in the UK after the 1996 feed ban. Some of these cases are believed to be due to persistence of contaminated feed produced before 1 August 1996, for example where feed stores have not been cleaned out properly. Other cases may be due to contaminated feed imported after this date. There is evidence that traces of contaminated feed might have persisted in feed stores for several years before infecting young cattle. It is essential that you clean out your cattle feed stores thoroughly on a regular basis.

Health and Safety

The Advisory Committee on Dangerous Pathogens has produced Occupational Guidance on BSE. This is available at http://www.hse.gov.uk/pubns/web22.pdf.

The Health and Safety Executive has published guidance on handling carcases of animals infected with BSE and on handling and housing cattle. These are available at http://www.hse.gov.uk/pubns/indg85.htm http://www.hse.gov.uk/pubns/ais35.pdf
If you have further questions please discuss them with Animal Health. Contact details can be found on the Animal Health website at http://www.defra.gov.uk/animalhealth/index.htm or via the Animal Health Information Line on 0844 8844600.

**Useful BSE Websites**

**Animal Health**
http://www.defra.gov.uk/animalhealth/index.htm

**Department for Environment, Food and Rural Affairs**
http://www.defra.gov.uk

**Welsh Assembly Government**
http://new.wales.gov.uk

**Scottish Government**
http://www.scotland.gov.uk