

BSE Information for Policy Makers

Background

Bovine spongiform encephalopathy (BSE), commonly known as 'mad cow disease', is a chronic degenerative disease affecting the CNS of cattle. The average incubation period of BSE is 5 years. Scientific evidence has established the association between consumption of BSE contaminated materials with variant Creutzfeldt-Jakob Disease (vCJD). vCJD is a fatal degenerative disease in humans, characterized by an early age of disease onset (average age 29 years).

The first case of BSE was diagnosed in UK in 1986. Until then, UK has reported more than 180,000 cases of BSE and over 1,500 cases have been reported in Europe. The disease has been recently reported in Japan (2001), Israel and Poland (2002) and Canada (2003). Risk and threats of BSE spill over to the rest of the world leading to eventual BSE appearance is therefore real and a major concern. It is therefore of utmost importance that immediate measures be implemented.

A joint WHO/FAO/OIE Technical Consultation on BSE held in France in 2001 recommended that:

BSE and vCJD be considered as **International Issues** because potentially infected BSE materials have been distributed worldwide via trade in live cattle, infected MBM and certain bovine products and by-products.

The WHO/FAO/OIE consultation also concluded that

BSE is a risk to animal and human health because the disease is transmissible to humans. Scientific evidence confirms that the source of exposure is through the consumption of infected BSE materials (especially central nervous tissues or food significantly contaminated with such tissues)

Message

BSE epidemic and its implications for human health should therefore draw outstanding concern of the need for intensive surveillance in animals to protect consumers against the disease.

Effective protection of consumers from exposure to the BSE agent and maintenance of consumer confidence should be the immediate and ultimate concern of each country. This can be achieved by ensuring that clinically BSE affected cattle and SRM from slaughter cattle do not enter any food or feed chain.

Currently, all tests available are only for dead animals where the brain is the main organ used to detect the agent. There are however, no tests available yet to detect BSE agent in live animals, meat and meat products and processed foods. Due to this, a surveillance and monitoring system based on standards developed by WHO/FAO/OIE to address the different levels of risk posed by a country with respect to the likelihood of the presence of the BSE agent in the feed and food chain and its exposure to humans has been established.

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Under the International SPS Agreement of WTO, the standards for BSE developed by OIE have been recognized as the international standards for trade and the Codex Alimentarius of FAO and WHO as the standard for food safety.

Under these standards, each country should implement measures, including:

- A risk assessment be conducted to determine level of risk and BSE status in accordance with the OIE International Animal Health Code (Articles 2.3.13)
- a national, scientifically based surveillance system
- a ban on feeding ruminant protein to ruminants
- controlling imports or certain products from risk countries

It is highly recommended that the necessary legislation be put in place and implemented, and funding be allocated for implementing these measures and activities in our country.

Further information

Contact within veterinary services

Websites OIE BSE page, DEFRA BSE, Canada BSE, BVET BSE, FAO/AGA, Australia/NZ?

BSE Information for Technical Personnel

Background

Bovine spongiform encephalopathy (BSE; Mad Cow Disease) is an infectious disease of cattle which destroys the central nervous system and is always fatal. There is no vaccine and no treatment.

BSE is transmitted to cattle through feed prepared from bovine tissues, such as brain and spinal cord, that are contaminated by the BSE agent. The agent enters a new country through import of contaminated feed and/or live cattle. Then, by processing of bovine tissues and feeding them back to cattle as meat and bone meal (MBM), the agent is amplified and distributed more widely (figure). This cycle may not be detected until the agent has been in the country for many years. For this reason, the use of rendered ruminant proteins in feed intended for ruminants is banned.

The average time lapse between infection and the first signs of the disease (incubation period) is five years, therefore the disease is found almost exclusively in mature cattle because they have lived long enough for the symptoms to become apparent. The diagnosis can only be made after the animal has died, by examining brain tissue.

It now appears probable that BSE can be transmitted to humans through consumption of certain tissues, such as brain and spinal cord, derived from BSE-infected cattle. These products may be consumed directly or other food products may contain these tissues. The human disease is called variant Creutzfeldt-Jacob Disease (vCJD). This form of CJD should not be confused with the sporadic form, which occurs at a rate of 1-2 cases per million people in countries worldwide. For this reason the use of certain bovine tissues for human consumption is prohibited in many countries.

No infectivity has yet been detected in bovine skeletal muscle (beef). Milk and milk products are generally considered to be safe, as are all products from poultry and swine.

BSE has been reported in cattle throughout Europe as well as in Israel, Japan, and Canada. These countries have experienced severe economic repercussions to trade and local industry.

Due to global trade in bovine MBM, feed containing MBM, and live cattle, countries in the Asia and Pacific region have potentially imported risk materials from BSE affected countries. Therefore these countries are potentially at risk for having BSE silently cycling in their cattle.

(Country-specific situation on BSE : optional)

What we are doing

Measures implemented by governments related to BSE always have two fundamental objectives: to prevent more animals from becoming infected and to prevent transmission of the disease to humans. Specifically, in our country, the Veterinary Services are:

- Assessing the risk of our cattle being infected with BSE so that decisions can be made regarding measures that should be implemented nationally
- Working to establish a national, scientifically based surveillance system and requesting that all suspect cattle are reported to the authorities in order to detect cases or prove disease freedom
- Testing suspect cases using internationally recognized diagnostic tests
- Continuing to educate veterinarians and farmers in the early detection of BSE using clinical signs in order to prevent BSE infected cattle from entering the animal feed and human food chains
- Implementing a ban on feeding ruminant proteins to ruminants to prevent amplification of the agent within the country
- Controlling imports of certain products from risk countries to prevent additional agent from entering the country
- Consulting with international experts on various BSE related issues to increase local expertise and technical capacity

In the future, additional measures will be implemented to better protect our livestock and human populations. These measures include:

- Preparation of specific legislation in order to firmly establish the measures of the national control program
- Development of a contingency plan to effectively control the spread of BSE should a case be detected
- Promotion of the cooperation between responsible governmental offices (public health, veterinary services, agriculture) in order to coordinate BSE related activities
- Continued preparation of informational materials (including workshops, seminars, media releases, and printed material) to improve the baseline BSE knowledge within the country

Further information

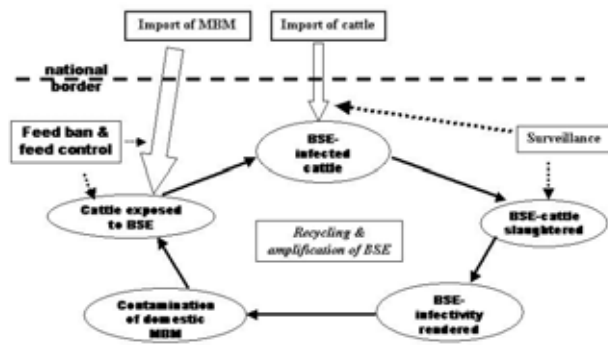
Contact within veterinary services

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Picture?

Figure: cycle of BSE in cattle

Cycle of BSE in Cattle



BSE Information for Farmers

Background

Bovine spongiform encephalopathy (BSE; Mad Cow Disease) is an infectious disease of cattle which destroys the central nervous system and is always fatal. There is no vaccine and no treatment.

There is a risk that the agent has entered our country and is silently circulating in our cattle, and it is important to our country to determine whether this has occurred. If it has, we must stop other animals from becoming infected and protect the health of people.

Suspect animals

The clinical symptoms are varied and become worse over a period of several weeks or even months, although some can change very rapidly. Few affected cattle show what would be considered typical "mad cow" signs.

Our veterinary services is implementing a program to prove we are free of the disease. Infected animals can only be detected by observation, there is no test to determine infection in live animals. Therefore, we need you to identify cattle showing certain symptoms and report them to the veterinary services.

WHAT YOU DO: Please observe your cattle closely and report any animals showing one or more of the following signs:

- apprehensiveness
- nervousness
- reluctance to cross concrete, turn corners, enter yards, go through doorways or permit milking
- occasional aggression directed at other cattle or humans
- manic kicking when milked
- head shyness, with head held low
- high stepping gait, particularly hind legs
- difficulties in rising
- skin tremors
- loss of condition, weight or milk yield

Contaminated feed

Cattle become infected by eating infectious feed, but you can not see if your feed is contaminated or not. The government has taken steps to prevent contamination from

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entering cattle feed, but it still may be present in feed for pigs or poultry. Even the label may not say whether it contains infective material.

WHAT YOU DO: (note: these should be modified according to the specific situation in the country)

- Never give ruminants feed intended for poultry, swine, horses, or pets, as this may contain infective material.
- Store and handle feed intended for ruminants separately from other feeds
- Prevent access by ruminants to feeding areas of poultry, swine, horses or pets
- Do not add ingredients or feeds meant for poultry, swine, horses or pets to ruminant feeds.

Further information

Contact within veterinary services

Picture?

BSE Information for the Public

Background

The disease was first diagnosed in 1986 in cattle in the UK and since then has spread to many countries. It is a fatal neurological disease with a long incubation period and most cases found were between ages of 4-6 years. Meat and bone meal (MBM) containing infective material is currently considered to be the cause of the disease. At present, there is no known serological test to detect BSE in live cattle. Diagnosis is only confirmed in dead animals.

It now appears probable that BSE can be transmitted to humans through consumption of certain tissues, such as brain and spinal cord, derived from BSE-infected cattle. These products may be consumed directly or other food products may contain these tissues. The human disease is called variant Creutzfeldt-Jacob Disease (vCJD). This form of CJD should not be confused with the sporadic form, which occurs at a rate of 1-2 cases per million people in countries worldwide. For this reason the use of certain bovine tissues for human consumption is prohibited in many countries.

There is no assurance that a country is free from the disease even if there is no report of the infection. Zero risk is an unattainable goal but risk can be greatly reduced.

Message

To protect the country from the introduction and re-introduction of the disease, the following measures are being undertaken:

- (1) Suspect animals are being identified and removed through surveillance of the cattle population at the farm and at the slaughterhouse, and laboratory tests are being used to identify positive cases
- (2) Feeding of mammalian MBM to ruminants is banned
- (3) Importation of cattle from BSE risk countries is banned
- (4) Recycling of slaughterhouse by-products for ruminant use is banned
- (5) International cooperation and collaboration for technical assistance is being sought
- (6) Quick sources of information from international agencies (web-site for transparency) are being made available

Other measures being undertaken to prevent risky food products from entering the human food supply and protect public health include:

- (1) Testing of suspected BSE cases and their removal from the human food chain
- (2) Preventing the import of meat products containing SRM from risk countries

What is considered safe to eat in our country?

- Milk and milk products

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- Bovine and buffalo meat
- Meat and meat products from sheep, goats, poultry, fish, and swine

Further information

Contact within veterinary services

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