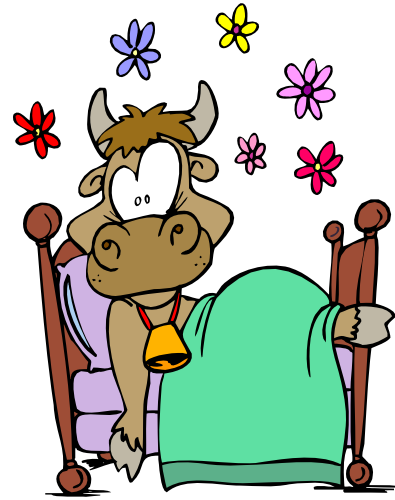


Staying Alert – Being Prepared

Mad Cow Disease – What you should know

What is “Mad Cow Disease”?

Mad Cow disease is the commonly used name for Bovine Spongiform Encephalopathy (BSE), a slowly progressive, degenerative, fatal disease affecting the central nervous system of adult cattle. It belongs to a family of diseases known as transmissible spongiform encephalopathies (TSEs). A number of other diseases of animals including scrapie (in sheep), chronic wasting disease (in deer and elk), and transmissible mink encephalopathy, as well as the human diseases, Creutzfeldt-Jacob disease, kuru, Gerstmann-Straussler-Scheinker syndrome and Fatal Familial Insomnia are other examples of TSEs. Since 1990, the U.S. Department of Agriculture (USDA) has conducted aggressive surveillance of the highest risk cattle going to slaughter in the United States.



What causes BSE?

The exact cause of BSE is not known but it is generally accepted by the scientific community that the likely cause is infectious forms of a type of protein, prions, normally found in animals cause BSE. In cattle with BSE, these abnormal prions initially occur in the small intestines and tonsils, and are found in central nervous tissues, such as the brain and spinal cord, and other tissues of infected animals experiencing later stages of the disease.

What are the clinical signs of BSE in cattle? Is there a test for it?

Affected animals may display changes in temperament, lack of coordination or difficulty in rising. It's almost always been found in older animals, but that does not mean it can't be in younger animals.

There is no reliable test to detect the disease in live animals. Scientists typically examine the suspected animal's brain tissue to confirm a BSE diagnosis.

How long does it take an animal to become sick from BSE?

The incubation period ranges from two to eight years. After the onset of symptoms, the animal's condition deteriorates until it dies or is destroyed – usually within two weeks to six months.

Have there been any cases of BSE in the United States?

There have been two cases of BSE identified in the United States. The first, in December 2003 was identified in a dairy cow in Washington State. The cow was bought from a farm in Canada. The second was identified in June 2005. The USDA confirmed that the cow was born before the U.S. instituted its ban on the use of most mammalian protein in feed for ruminant animals – believed to be the most critical protective measure in preventing the spread of BSE among cattle.

Does BSE affect people?

There is a disease similar to BSE called Creutzfeldt-Jacob Disease (CJD) that is found in people. A variant form of CJD (vCJD) is believed to be caused by eating contaminated beef products from BSE-affected cattle. To date, there have been 155 confirmed and probable cases of vCJD worldwide among the hundreds of thousands of people that may have consumed BSE-contaminated beef products. The one reported case of vCJD in the United States was in a young woman who contracted the disease while residing in the UK and developed symptoms after moving to the U.S.

What measures are being taken to ensure food safety in the U.S. from BSE? Are they sufficient to ensure the safety of the human food supply?

Both the FDA and USDA have regulatory measures in place to prevent BSE contamination of U.S. food and food products, rigid inspection programs and Emergency Response Plans. The FDA has prohibited the use of the cattle materials that carry the highest risk of BSE in human food, including dietary supplements, and in cosmetics. Since 1989, USDA has prohibited the importation of live animals and animal products from BSE-positive countries. Subsequently, USDA expanded the ban to include both countries with BSE and countries at risk for BSE. Since 1997, FDA has prohibited the use of most mammalian protein in the manufacture of ruminant feed. FDA continues to implement policies to keep safe all FDA-regulated products, including food, food ingredients, dietary supplements, drugs, vaccines, and cosmetics from risk of any BSE-contaminated bovine material. Specific safeguards include:

- A ban on use of live, but non-ambulatory cattle from entering the human food supply.
- A ban on use of organs, from cattle older than 30 months, in which infectious prions occur and the tonsils and small intestine of cattle of all ages for human food.
- Restrictions on techniques to mechanically remove meat from bones.
- Meat from tested animals will not be certified as USDA-inspected until test results are final.

Is cow's milk a source of BSE?

Scientific research indicates that BSE cannot be transmitted in cow's milk, even if the milk comes from a cow with BSE. Even though milk does not transmit BSE, the milk from a cow with BSE should be discarded. The Food, Drug, and Cosmetic Act and state milk safety regulations require that products from animals with any disease not be used for human use. This is consistent with actions taken in the U.K., and with the World Health Organization recommendations on human use of products from BSE cows.

What steps is FDA currently taking to ensure the safety of dietary supplements that contain bovine ingredients?

FDA continues to monitor dietary supplements and their ingredients when they enter the country. Those containing bovine-derived ingredients from cattle originating in prohibited countries are prohibited entry into the US. In addition, the restrictions on the use of certain cattle and cattle tissues in human food will reduce the risks that potentially infective tissue is used in dietary supplements. Most ingredients used to produce dietary supplements and most other food ingredients come from cattle that are slaughtered when they are less than 30 months of age, and because of their age, present little risk of being BSE-positive.

Is BSE in cattle the same disease as CWD in deer and elk in the U.S.?

Chronic Wasting Disease (CWD) is an infectious, neurological disease of deer and elk that has been found in Kansas and numerous other states. It, like BSE and vCJD, is in the group of diseases called transmissible spongiform encephalopathies (TSEs). As far as is currently known, neither people nor common farm livestock, including cattle, sheep and pigs are susceptible to CWD. CWD has been known since the late 1960s and no cases have been discovered linking any disease in humans or livestock to CWD. Even where wild deer and elk share common pastures with domestic livestock, there has been no evidence of natural transmission to livestock.

FDA is working closely with other government agencies and the public health community to address CWD in wild and domesticated deer and elk herds. Wildlife and public health officials advise people not to harvest, handle, or consume any wild deer or elk that appear to be sick, regardless of the cause, especially in those states where CWD has been detected.

Is mad cow disease the same as foot-and-mouth disease (FMD)?

No, Foot-and-mouth disease is a highly contagious viral disease found in cloven-hoofed animals including ruminants and swine. While FMD typically affects a large percentage of animals in a group and causes great production losses, it does not infect humans and is not a human health risk. In contrast, BSE occurs only sporadically in a herd and is not known to be contagious from animal to animal or animal to human.

Sources: USFDA; Center for Global Food Issues, and K-State Research and Extension