

## What is Bovine Spongiform Encephalopathy?

Bovine Spongiform Encephalopathy (BSE) is a fatal neurological disease of cattle first recognized in the United Kingdom (U.K.) in 1986. This disease is a transmissible spongiform encephalopathy similar to scrapie in sheep and goats, chronic wasting disease in elk and spontaneous Creutzfeld-Jacob disease (CJD) in humans.

A new human disease known as variant CJD (vCJD), first diagnosed in the U.K. in 1996, has claimed 153 human lives to date. Most scientific evidence supports that vCJD is caused by the same agent that causes BSE. Evidence suggests that the BSE agent may have been transmitted from cattle to man through the consumption of products contaminated with the infectious agent.

As a result of BSE, more than 5.8 million cattle have been diverted from the human food chain into rendering and incineration in the U.K. BSE has affected over 200,000 cattle in 24 countries to date. Recently, BSE has been diagnosed in one beef cow in Canada and one dairy cow in Washington State.

In the U.S., BSE has led to a ban on non-ambulatory disabled (downer) cattle and specified risk materials (from cattle over 30 months of age) in human food. Furthermore, BSE has severely affected export markets for beef and beef products, and dramatically affected consumer confidence.

## What are the Signs of BSE?

BSE has an incubation period of 2 to 8 years. Signs begin with changes in temperament, such as nervousness or aggression. Cattle become progressively uncoordinated and lose condition despite continued appetite. There is no treatment - affected cattle die 2 weeks to 6 months after the first signs.

## What Causes BSE?

The agent causing BSE is not fully characterized, but most evidence suggests it is an abnormal protein known as a prion. This agent is smaller than most viruses and is very resistant to heat, ultraviolet light, radiation, and disinfectants. It causes no detectable immune or inflammatory response.

## How is BSE Spread?

The BSE agent spreads among cattle principally through feed containing meat and bone meal made from rendered ruminant products from infected animals. The U.S. and Canada banned these products in ruminant feed in 1997 to prevent BSE transmission.

***Cattle producers are key in preventing BSE in the U.S. by ensuring that feed containing rendered mammalian tissues is NOT fed to ruminants.***

## Preventing the Entry of BSE

The United States Department of Agriculture (USDA) banned importation of live ruminants and most ruminant products from BSE affected countries in July 1989. In December 2000, the USDA banned the importation of all rendered animal products from Europe, regardless of species. If you have knowledge of the illegal importation of animals or animal products or the feeding of prohibited materials, please call the appropriate numbers listed on this brochure.

## Surveillance for BSE in the U.S.

Surveillance began in 1990 and consists of examining brain tissue from cattle showing neurological signs and a targeted sample of high risk cattle. More than 2,200 brain samples from California and 20,526 samples nationwide were examined for BSE during 2003.



## The U.S. Feed Ban

Since August 1997, the Food and Drug Administration has prohibited the use of protein derived from mammalian tissues (with certain exceptions including milk, blood, porcine and equine products) in ruminant feed. Ruminant means any animal that has a four-chambered stomach, including cattle, buffalo, sheep, goats, deer, elk and antelope. Feed manufacturers are required to label any feed that contains prohibited materials with the statement, **“Do not feed to cattle or other ruminants”**.

## Compliance Within California

All feed-manufacturing facilities in California have been inspected and are compliant with the feed ban. As of December 2003, 99% of the feed-manufacturing facilities in the U.S. are in compliance with these requirements.

## Protecting California Consumers

As of December 30, 2003:

- ◆ Non-ambulatory disabled cattle (downers) are not permitted to enter the human food supply
- ◆ Specified risk materials - the skull, brain, trigeminal ganglia, eyes, vertebral column, spinal cord and dorsal root ganglia from animals over 30 months old - are prohibited in the human food supply
- ◆ The small intestine and tonsils from cattle of any age are also banned from the human food supply

Scientific evidence shows that muscle meat and milk from these animals is safe.

## What Should Producers Do?

- ◆ Comply with the feed ban - **do not feed products containing prohibited materials to ruminants**. Be diligent that commodities do not contain any prohibited materials (e.g., salvaged pet foods)
- ◆ Keep copies of all feed records – invoices and labels – for one year, and have them available for inspection. Farm inspections help ensure that prohibited materials are not being fed to ruminants, and regulatory action can be taken under the Federal Food, Drug and Cosmetic Act
- ◆ Establish an individual animal identification plan for your herd, and maintain accurate records when animals enter and leave the herd
- ◆ **Report cattle with neurological signs to your veterinarian**
- ◆ Humanely euthanize non-ambulatory cattle. Guidelines are available from CDFA
- ◆ Dispose of carcasses appropriately, such as with a licensed renderer or other legal methods
- ◆ Ensure that unsafe meat does not enter the human food chain

## Important Phone Numbers

### California Department of Food and Agriculture

#### Animal Health Branch

*For BSE concerns and questions, please call:*

Ontario District	(909) 947-4462
Redding District	(530) 225-2140
Modesto District	(209) 491-9350
Tulare District	(559) 685-3500
Headquarters	(916) 654-1447

#### Inspection Services Agricultural Commodities and Regulatory Services

*For animal feed questions, please call:*

Headquarters	(916) 445-0444
Fresno	(559) 452-9687
Ontario	(909) 930-9689
Imperial	(760) 355-2877

### United States Department of Agriculture

#### Veterinary Services

*For reporting illegal animal movement, please call:*

Sacramento	(916) 857-6170
Toll Free	(877) 741-3690



Developed by the State of California, Department of Food and Agriculture, Animal Health and Food Safety Services, Animal Health Branch, 1220 N Street, Room A-107, Sacramento, CA, 95814, (916) 654-1447. Or visit our Website at [www.cdfa.ca.gov](http://www.cdfa.ca.gov).



### Animal Health and Food Safety Services

## Bovine Spongiform Encephalopathy “Mad Cow Disease”

### Update for Producers



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