



# Facts about Mad Cow Disease in the US

## History of BSE:

Mad Cow Disease (BSE: bovine spongiform encephalopathy) is a transmittable disease originally identified in the United Kingdom in 1985. The disease results in neural degeneration and is fatal.

The disease was spread by the feeding of rendered Meat and Bone Meal (MBM) containing bovine brain and spinal cord back to cattle. This MBM was contaminated with tissue from BSE cattle.

The disease reached a peak (occurrences discovered/month) in 1992 and has declined thereafter. A large part of the decline is due to the ban on ruminant-to-ruminant feeding.

## History of vCJD:

BSE is now thought to be responsible for a similar disease in humans: vCJD (variant Creutzfeldt-Jakob Disease). Both diseases result from the accumulation of a misfolded protein (prion: PrP<sup>Sc</sup>). Humans contracted the disease by consuming cattle's brain or meats contaminated with cattle brain (or spinal cord). All of the confirmed cases of vCJD have occurred in the UK. Unluckily, vCJD is fatal for humans as BSE is to cattle.

## US Occurrence:

There have been 0 cases of BSE (and vCJD) in the US.

## US Protective Efforts:

The USDA and FDA monitor suspicious animals for BSE, have banned the import of cattle from countries with BSE, have banned feeding MBM back to cattle and have identified most of the cattle imported from the UK since the disease was discovered and confirmed their absence of the disease. Changes have been made by the Red Cross to protect the US blood supply to decrease the possibility that donors could have contracted vCJD. The USDA is supporting research to develop tests for BSE in cattle to prevent its entrance into the US. The USDA is supporting research to identify and hopefully eradicate other forms of transmissible spongiform encephalopathy (TSE) from the US (ex. Scrapie in sheep which has not been transmitted to humans). Several government agencies, education institutions and public companies are involved in educating the public about this disease, identifying new detection tests for the disease and finding a cure for humans that may contract the disease.

## Current Concerns in the US:

Two distinct concerns are being addressed that could threaten the US food supply and thus human health.

**First, what if BSE is present in the US. BSE has a long incubation period (it is currently impossible to detect animals with the disease pre-clinical symptoms) and BSE can be transmitted to other species (ex. cats). Thus, BSE may have entered the US, from cattle or other animals that have contracted the disease. Thus, monitoring systems are set up to identify and remove animals that may have BSE. Also, BSE like other TSEs may develop spontaneously in animals (occurs at 1:1,000,000 of humans). Thus, cattle could spontaneously develop the disease. With the current MBM ruminant-to-ruminant feeding ban, if BSE does spontaneously occur the disease should not spread and hence will die with the animal. Good slaughter practices are designed to prevent brain and spinal cord contamination of meat thus preventing its transmission to humans if the disease does arise (meat and milk per se cannot transmit the disease). However, no evidence of BSE entrance into the US has been confirmed.**

**Second, TSE from other animals can enter the food chain. There are several animals in the US that have other forms of TSE (chronic wasting disease of wild deer in some US states is an example). To date none of these TSEs are known to have been transmitted to humans.**

#### **US General:**

**At this time, the US meat and donated blood supply are safe. With the current regulations and bans, the meat and blood supplies are protected from BSE.**

