Dairy Industry Background and Talking Points
Mad Cow Disease (BSE)

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What is Mad Cow Disease?

Mad Cow Disease, known formally as bovine spongiform encephalopathy (BSE), is a disorder that belongs to a family of brain diseases known as Transmissible Spongiform Encephalopathies (TSEs). Some TSEs primarily affect animals, while others affect humans. In all cases, a TSE-related disease occurs when a normal cellular protein, called a prion, misfolds and can no longer be broken down by the body. The misfolded, or rogue, proteins accumulate, particularly in the brain, leaving spongy holes and killing healthy tissue. This causes neurological problems and ultimately death.

Mad Cow Disease in Animals

TSEs can strike several different species of animals, including sheep, goats, deer, elk and mink. Researchers believe that cows in Great Britain diagnosed with BSE were likely first infected by eating animal feed contaminated with TSEs from another species (probably sheep). The incubation period for BSE ranges from two to eight years. Following the onset of clinical signs, the animal's condition rapidly deteriorates until it dies (usually within six months) or is destroyed. The disease is fatal, and there is no treatment or vaccine to prevent BSE.

The first case of BSE was discovered in cattle in Britain in the 1980s. BSE quickly became an epidemic in the cattle herds there, infecting nearly 200,000 cattle, though since 1993 the number of infected cattle in Britain has decreased to almost none, with strict controls now in place. BSE is not an infectious disease, and does not spread from cow to cow. Rather, all of the diseased cattle ate tainted feed.

BSE has now also been reported in small numbers of cattle in several other European countries (including Ireland, France, Portugal, Belgium, the Netherlands, Luxembourg, Germany, Italy, Denmark, Spain and Switzerland), Japan, and most recently, Canada and the U.S. (where a cow discovered in Dec. 2003 was traced back to Canada). All cases lead back to feed containing meat and bone meal from infected animals. Since 2003, the United States has identified three other cases of BSE, two in beef cattle in Texas and Alabama and one in a dairy cow form California. All of these cases are atypical, meaning the disease is not believed to have been caused by cattle eating infected feed.

Mad Cow Disease in Humans

The agent that causes BSE is believed to cause a similar disease in humans, called variant Creutzfeldt-Jakob Disease (vCJD). This link was not identified until 1996, with the first case of vCJD in Britain. It is suspected that humans contract vCJD by eating meat products that contain neural tissue from BSE-diseased cattle (including brain and spinal cord tissue, and eye tissues). About 150 people, most of them in Britain, have died of vCJD. The disease typically strikes younger people, in contrast to “classic CJD.”

Classic CJD, very rare, has occurred spontaneously in human populations for decades, and kills about 300 Americans a year -- usually in old age. First identified in the 1920s, CJD has no known cause, affects men and women of diverse ethnic backgrounds, and has been diagnosed in vegetarians and meat-eaters alike. The CJD rate in the U.S. remains consistent with the rate in other countries, approximately one case per million each year. The median age of a CJD sufferer is 64, and most people affected are over 55.

With the identification of vCJD in 1996, the World Health Organization, the European Union, the United States government and other bodies all set up protocols to prevent and control future outbreaks of BSE and vCJD, including banning suspected feed products. Research from the UK supports the medical link between BSE in cattle and vCJD in humans, in that vCJD likely developed as result of people consuming beef products contaminated with central nervous system tissues of BSE-infected cattle.

Surveillance by the Centers for Disease Control shows that only one case of vCJD has been found in the U.S., that of a young woman who was born and raised in Great Britain.

In addition, no BSE has ever been detected in muscle meat or milk, and transmission does not occur into cow's milk. Therefore, the World Health Organization, the European Commission's Health and Consumer Protection Directorate, and the United Kingdom's Ministry of Agriculture, Fisheries and Food, all have confirmed that dairy products are safe to consume without fear of contracting vCJD.

Keeping Mad Cow Disease from Spreading in the U.S.

The U.S. Department of Agriculture, the Food and Drug Administration and many arms of the U.S. livestock industry have taken a number of measures for nearly a decade to prevent BSE from spreading in the U.S., including:

- The United States has not imported any beef from the UK since before 1985.
- In 1989, the U.S. banned the importation of ruminant animals and most ruminant products from countries with confirmed cases of BSE in native cattle.
- In April 1996, the National Milk Producers Federation joined with the National Cattlemen's Beef Association to implement a voluntary ban on the use of protein supplements in cattle feed derived from ruminant sources.
- On August 4, 1997, an FDA regulation went into effect banning the use of most mammal-derived animal protein by-products in cattle feed to ensure that if the BSE disease agent ever entered the U.S. it would be prevented from spreading through cattle feed.
- On December 13, 1997, the USDA banned imports of all live ruminants and certain ruminant products from European countries until BSE is more fully understood.
- On April 24, 1998, the USDA entered into a cooperative agreement with Harvard University's School of Public Health to analyze and evaluate the Department's BSE prevention measures. The resulting report found that the risk of BSE spreading in the U.S. was extremely remote.
- In December 2000, the USDA banned all imports from Europe of rendered animal protein products, regardless of species.

- In October 2001, USDA extended to Japan – where a new case of BSE was detected -- the ban on imports of ruminants, meat, meat products, and certain other ruminant products.
- In early 2004, the USDA and the FDA undertook additional regulatory steps to enhance the safety of the meat supply, including banning "downer" cows from the human food chain, and further restricting certain meat products from use in the food chain.
- In the spring of 2004, the USDA undertook a comprehensive surveillance program, using new rapid diagnostic tests, in the effort to determine if additional cases of BSE exist in the U.S. In the past 6 years nearly 250,000 tests have been conducted.

Talking Points for Dairy Products

- Dairy products are among the most tested and regulated foods in this country.

- The U.S. Department of Agriculture is always monitoring for BSE to make sure it is detected, and therefore contained, as soon as possible.

- Milk is safe; it does not contain or transmit BSE. All international health organizations have affirmed and reaffirmed that milk and milk products around the world do not transmit BSE. That includes the World Health Organization, the United Nations Food and Agriculture Organization, the U.S. Food & Drug Administration and U.S. Department of Agriculture, the U.K. Food Standards Agency and the European Union.

- The Harvard Risk Analysis concluded that the controls in place make it virtually impossible that the US will experience a widespread outbreak of BSE similar to the one experienced in the UK and Europe.

- The United States has not imported any meat or bone meal from Britain for two decades, and many additional safeguards have been established since that time.

- The United States put regulations in place in 1997 to prohibit ruminant protein from being used in animal feed. This applies to all cattle, dairy and beef alike.

For Further Reference

- USDA's APHIS website: http://www.usda.gov/wps/portal/usda/usdahome?contentid=BSE_FAQs.xml&contentidonly=true

- Centers for Disease Control: http://www.cdc.gov/ncidod/dvrd/bse/

- Comprehensive information and links from the National Cattlemen's Beef Association, www.bseinfo.org

- UK Food Safety Agency FSA Review of BSE Controls http://www.bsereview.org.uk/