

## BSE IN CANADA

### *Implications for United States Livestock Industry and Trade*

Bovine Spongiform Encephalopathy (BSE) or “mad cow disease” is a degenerative disease of the brain of domestic cattle. Cattle with clinical signs of BSE always die or need to be euthanized; the only way to test for BSE is to directly examine brain tissue. BSE was first diagnosed in 1986 in Great Britain, of the 180,000 cases of BSE reported world wide, 95% of all cases were found in the United Kingdom. **There have been no cases of BSE found in the United States.** Currently there is much controversy over the causative agent for BSE but some facts are well known. The BSE agent is smaller than most viruses and is resistant to heat, UV light, ionizing radiation and common disinfectants. Feeding practices in the United Kingdom allowed the BSE agent to pass from infected animals into meat and bone meal. This product was fed in huge amounts to young livestock, infecting them at an early age and causing the epidemic. The UK also exported tons of meat and bone meal to Europe and Asia, infecting livestock in these areas. BSE cannot be transmitted from cow to cow by casual contact. Cattle are only infected by ingestion of contaminated feed. In a small percentage of cases (less than 10%) an infected cow may pass the disease directly to her calf. Consequently complete tracing of all offspring of infected cows is an important part of control.

Because of the outbreak of BSE in Britain, in 1989 the USDA prohibited the importation of cattle, cattle products and meat and bone meal (mbm) from the UK. To prevent the possible spread of BSE in the United States, in 1997 the FDA implemented a ban on the feeding of most mammalian derived proteins to ruminants (feed ban). In a risk assessment study completed in 2002 by Harvard University it was found that risk of BSE occurring in the United States is extremely low. Additionally, USDA is conducting active surveillance in high-risk populations, that is cows more than 20 months of age, cows showing nervous system signs, and nonambulatory cattle. The current testing program is designed to find 1 BSE infected cow per million cattle (*APHIS Hot Issues, 2002*).

In 1993 a single cow in Canada was tested positive for BSE. In this case, the cow had been imported from Great Britain. The infected animal, her offspring, and all herd mates were destroyed. The Canadian government believed these actions prevented BSE from becoming established. However, on May 20, 2003, the Canadian government confirmed that a 6 to 8 year-old Angus cow was condemned at slaughter and then tested positive for BSE. This cow was born and raised in western Canada and her age would indicate she was born after Canada put feeding restrictions in place. The challenges facing Canadian officials are to determine if any other cattle in neighboring herds may be infected with BSE and to find the source of infected feed. Because the incubation for BSE is up to 8 years trying to determine where and when the cow may have been fed contaminated feed is going to be very difficult. Investigation of this cow has expanded to 13 farms in Alberta, British Columbia and Saskatchewan, at least 200 cows and calves have been slaughtered and tested for BSE. Why such a vigorous response?

With BSE diagnosed in Alberta, Canada is now considered infected with BSE. Under current USDA regulations this means that Canada cannot export any live cattle, cattle products or cattle derived feed to the United States. Alberta accounts for greater than 60% of Canada’s beef production and provides \$2.8 billion in cash income. In 2002 Alberta sent more than 500,000 live cattle to the United States for harvest. Finding BSE in Canada will have a tremendous impact on the Canadian beef industry with the loss of major export markets in the United States, Mexico and Japan. If consumer demand remains strong in these areas it would help support beef prices here in the United States. However if consumer demand falls because of concerns over food safety or if more cases of BSE are found in Canada this would depress cattle prices. Continued surveillance by APHIS of high risk cattle and strict observation of feed ban by producers are the two most effective tools we have in keeping BSE out of the United States beef industry.

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