What is Bovine Spongiform Encephalopathy or (BSE)?

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Bovine Spongiform Encephalopathy (BSE) or 'Mad Cow Disease' is a progressive and degenerative fatal disease of the central nervous system of cattle. This condition in cattle results in changes in temperament, such as nervousness or aggression; abnormal posture; lack of coordination and difficulty in rising; decreased milk production; or loss of body weight despite continued appetite. Early in the clinical course of the disease, symptoms may be slight, undetectable or unrecognizable. Not all affected cattle display all signs of the disease.

BSE is a transmissible spongiform encephalopathy (TSE), which means the brain of an infected animal looks like sponge under microscopic examination. Other TSEs include scrapie in sheep, chronic wasting disease in deer & elk, and Creutzfeldt-Jakob disease in humans. Presently, there is no test yet available to accurately diagnose BSE in live animals. A Tentative diagnosis for BSE is based on clinical signs. A definitive diagnosis for BSE can only be confirmed by microscopic examination of an animal's brain.

In infected cattle, the prions or abnormal proteins often associated with BSE concentrate in tissues known as specified risk material (SRM), which include; the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord, dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older, and the distal ileum (portion of the small intestine) of cattle of all ages.

The most likely route of BSE transmission is through feed contaminated with the prion proteins associated with BSE. Cattle can develop BSE by eating as little as one milligram of infected tissue. In 1997, based on World Health Organization (WHO) recommendations, countries with a BSE outbreak should have implemented a feed ban prohibiting the feeding of rendered ruminant (cattle; sheep; goats; bison; deer; elk) protein products, including SRM, to other ruminants. In 1997, the United States Department of Agriculture (USDA) published a final rule prohibiting the feeding of rendered ruminant protein products. Specified risk materials are removed from all cattle at slaughter in order to insure no potential harmful products enter the human food chain. Removal of specified risk materials at slaughter is internationally recognized as the most effective means of insuring food safety and protecting public health.