

Mad Cow Disease vs. Foot and Mouth Disease

Although these two diseases have very little in common, they are commonly mixed up by the general public. Here's a run down of their major differences.

Feature	Mad Cow	FMD
Causative agent	Prion	Virus
Infectivity	Not contagious	Highly contagious
Transmission	Transmissible via feed	Transmissible via aerosol
Incidence of disease	Low morbidity	High morbidity
Incidence of death	100% mortality	Low mortality
Time of illness relative to infection	Long incubation	Short incubation
Visible lesions	No gross lesions	Gross lesions present
Immune response	Not detectable	Strong host response
Humans affected?	Public health concern	Rare public health issue

Transmissible Spongiform Encephalopathies (TSEs)

Mad Cow Disease, Chronic Wasting Disease of elk and deer, and Scrapie of sheep and goats are all classified as transmissible spongiform encephalopathies (TSEs)—“Transmissible” because they are contagious (although not highly); “Spongiform” because the lesions in the brain leave microscopic “holes;” “Encephalopathy” because the disease primarily affects the central nervous system, i.e., the brain. Historically, these diseases could not be diagnosed in the live animal because there is no measurable immune response. Examination of brain tissue obtained immediately after slaughter was required. Newer tests allow examination of “deteriorated” tissue samples for the abnormal prion protein (PrPres) that is resistant to degradation by enzymes. Tests have been under development to detect PrPres in tissue from live animals, including third eyelid tissue, blood, and cerebrospinal fluid (CSF). Another test used to confirm the presence of infective material is a mouse assay, which takes over two years to complete, and may miss low levels of infection.

The USDA APHIS is determined to eliminate TSEs from livestock in the US. The current scrapie control program has been in effect since 1992. Chronic Wasting Disease is under surveillance. A few cases of Mad Cow Disease were identified between 2003 and 2006. No new cases in US cattle have been reported since 2006.

For more information on Foot and Mouth Disease, see:

[Foot and Mouth Disease](#) USDA APHIS

[Foot-and-Mouth Disease and the Dairy Industry's Emergency Preparedness](#) Dairy Response Center brochure

[Foot-and-Mouth Disease Prevention Practices](#) The Center for Food Security & Public Health