

BOVINE SPONGIFORM ENCEPHALOPATHY (BSE)

or

“MAD COW DISEASE”

[\(This Bulletin was prepared by Dr. N. Charisis for the Greek Ministry of Agriculture\)](#)

INFORMATION BULLETIN FOR THE PROTECTION OF PUBLIC HEALTH AND NATIONAL ECONOMY FROM BOVINE SPONGIFORM ENCEPHALOPATHY (BSE)



What is BSE? It is a fatal neuropathy that has been reported only in cattle over 30 months of age and more often in animals ranging 4–7 years old.

Way of transmission: The predominant perception is that bovines are infected after consumption of meat–meal deriving from infected ruminants.

Is BSE transmissible to man? In 1996 a new fatal form of Creutzfeldt–Jacob disease, which was supposedly due to the consumption of meat products deriving from BSE infected bovines, was reported in humans.

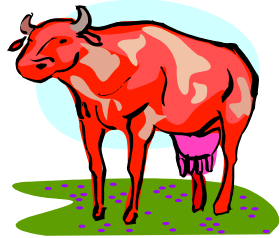
Prevention of BSE and protection of the consumers. No laboratory examination revealing the presence of the causative agent in animal products intended for human consumption was reported up to now. Therefore, the only way to make sure that the animal products are free of BSE and safe for consumption, is the examination of the animals where these products originate.

**THE COOPERATION OF
ANIMAL BREEDERS
IS CONSIDERED ABSOLUTELY
NECESSARY IN ORDER TO
PRESERVE OUR COUNTRY FREE
OF BSE AND MANY OTHER
ZOO NOTIC DISEASES**

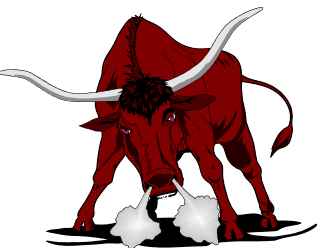
Dr. Nikolaos Charisis (WHO/MZCP)



Not all affected animals saw the same symptoms



Although all animals saw a weight loss, their appetite remains normal.



The breeder is the only person who can identify as early as possible the symptoms of the disease because of the every day contact with the herd and the deep knowledge of the behavior of his animals. When it becomes suspicious, the breeder should immediately notify the veterinarians and help them locate the suspect animals and detect one or more of the following symptoms:

- Drop in milk production and reduction of animal weight (a special attention should be given to these cases because such kind of animals are usually driven to the slaughterhouse before the development of the typical signs of the disease).
 - The infected animals are usually isolated from the herd
 - Milk producing cows deny to enter the milk-parlor (Violant kicking or “balistic” kicking in the milking parlor is frequently the first sign of BSE that is recognized by the farmers).
 - Animals become hypersensitive to the light, noises and contact with man or other animals (strong muscle contractions, tail movements, head shaking, and cleaning the body (licking with the tongue), may follow the slightest puncture with a pencil on the animal’s neck, muzzle, ears, or the touch of a broom on its hind legs).
 - Hypersensitivity of the respiratory tract that may be manifested by the extensive licking of the nostrils, coughing, and sniffing (before making the diagnosis, any irritation deriving from environmental abnormalities should be detected)
 - Excessive movements of the ear-flaps or abnormal position when the animal is at rest.
 - The animal is rubbing very often the head against the waterers or troughs and its ears with its hind legs).
 - Infected animals are frightened easily even in presence of animal tenders (show abnormal gait in hind legs, rise immediately when people enter the premises and try to hide themselves behind the other animals of the herd. When undisturbed, they lay down longer than usual. In this case the disease is confused with metabolic disorders such as hypomagnesemia. For the purpose of differentiation they should be treated accordingly in order to exclude this case)
 - Abnormal behavior is very often noticed (trying to avoid handling, violent kicking of the hind limbs, or becoming very aggressive).
 - They react intensively in sharp sounds.
 - Tossing (throwing) of the head towards the flank. (This is a normal behavior, but its frequency is increased in many BSE cases).
 - Increased tail movements and bruising on the left hind limb due to falling a result of ataxia
- Symptoms of ataxia (they stagger and fall as they try to walk or turn).
- When forced to run, their stride is long and the tail up.
 - At rest the head is lowered and the back humped.
 - Handling from the head makes them frenzy.
 - Apprehension with lowering of the head, ears held back and wide based stance in the hind limbs.
 - They try to jump over the bars of their cells.
 - They fall to the ground and cannot rise even with the help of the attendants (This is the final stage before death)



Duration of illness The duration of clinical disease ranges from two weeks to one year. In the majority of cases the clinical situation deteriorates after the first two months in such a degree that euthanasia is recommended.

Surveillance and control in the herd When introducing new animals in a herd we should pay special attention to their country and farm of origin. All incoming animals should originate from farms free of BSE. For this reason the use of a proper identification system is required. In infected farms all animals should be destroyed and the carcasses burned. Feeding stuffs containing proteins which are deriving from ruminants should be excluded from animal nutrition .

Protection of Public Health The following measures are recommended for the protection of Public health in officially BSE-free countries:

- 1.Careful selection of animal material destined for the preparation of medicinal or veterinary products and drugs (all animal material should originate from countries and farms free of BSE).
- 2.Prohibition of entry in the country of suspect animals or animal products.

Other Information

- 1.Good cooking of food of animal origin may significantly diminish the possibility of transmission to men.
- 2.From different experiments conducted in rats, the transmission of BES through the milk of infected animals has never been proved. However, it is recommended to confiscate and destroy all milk from infected animals.
- 3.The protein responsible for BSE does not belong to any known group of pathogenic agents and therefore it is not easy to be coped with common disinfectants.

ENCEPHALOPATHY OF SHEEP – (Tremblante du mouton or Scrapie)

It is a fatal neuropathy of sheep and less often of goats. It has been reported in many countries of Europe for over 200 years. Although Scrapie is very similar to BSE and is due to the same pathogenic agent, it is a different disease and do not affect humans. It is characterized by loss of wool, intense pruritus, altered gait, debility and trembling.

Is there any connection between the BSE and Human's Encephalopathy (Creutzfeldt-Jakob disease)? There is no doubt that there is a connection between a variant form of CJD and BSE. However it is worth mentioning that the frequency of appearance of Encephalopathies in humans is the same in countries with a large number of affected from BSE bovines, (such as England) as well as in countries where there is no sign of appearance of the disease in animals. In this point we should also mention that people who are an immediate connection with sick animals are not at greater risk than any other professional groups.

Is there any BSE in Syria? No there is no sign of BSE in Syria until now.

Since there is no BSE in Syria, why the producers should inform the local Veterinary and Medical Services for any signs or suspicious behavior of their animals? A good reason is that BSE may be introduced into the country due to the importation of infected animals or feed. The other reason is because there are many other infectious diseases, beyond BSE, that if identified early and treated properly, can be prevented from spreading among the animal population and harm the economy of our Country and/or the health of our countrymen.

Why is to our benefit to keep Syria officially free from BSE? Our country is and should remain free of BSE and other infectious diseases for many reasons.

1st We preserve the health of our countrymen and

2nd We preserve our economy, because

- The consumption of National products of animal origin improves farmers income and encourages them to continue the production.
- We don't import animal products, or otherwise we do not spent valuable currency.
- We continue to export our products to neighboring countries, which draws currency into Syria.
- The less people infected with diseases, the less money is spent for hospitalization, lost working hours and medicaments.

This is WHY the surveillance of BSE is an effort that requires everyone's contribution.



(MZCP)

