

# HANDLING FOREIGN ANIMAL DISEASES IN CATTLE



This guide is published by the BAMN Group (Bovine Alliance on Management and Nutrition) which is comprised of representatives from AABP (American Association of Bovine Practitioners), ADSA (American Dairy Science Association), AFIA (American Feed Industry Association) and USDA (United States Department of Agriculture). BAMN's charge is to develop information for cattle producers regarding timely management and nutritional practices.

Foot and mouth disease and bovine spongiform encephalopathy (Mad Cow Disease) have been in the news in recent years and could seriously affect the livestock industry here in the United States. These are not the only cattle diseases foreign to the U.S. that are threats to the industry. Foreign animal diseases (FADs) are those diseases that are not currently in the U.S. When dealing with a suspect FAD, the producer and veterinarian are the first line of defense for the cattle industry. The critical first step is for the producer to contact their veterinarian when unfamiliar signs of disease are observed or excessive numbers of animals are affected.

## What are FADs and how are they reported?

### Diseases that are considered FADs for the U.S. (partial list):\*

- Foot and mouth disease (FMD)
- Bovine spongiform encephalopathy (BSE, Mad Cow Disease)
- Peste des petits ruminants
- Lumpy skin disease
- Rinderpest
- Contagious bovine pleuropneumonia
- Rift Valley fever
- Haemorrhagic septicaemia
- Theileriosis

\* (For more information about FADs and the worldwide status of particular diseases visit the OIE website at [www.oie.int](http://www.oie.int))

The U.S. government is required to report the occurrence of these diseases to the world animal health organization (OIE) in Paris, France, and the international agriculture community. There are currently List A and B diseases, but recently a resolution was proposed and passed to form a single list of diseases. Guidelines depend on their potential to spread internationally, their capacity to spread in a country or region without a history of the disease, and the potential for the disease to cause human illness (zoonotic disease).

## Foot and Mouth Disease

Foot and mouth disease (FMD) is a highly contagious viral disease affecting only cloven hoofed animals (swine, cattle, sheep, goats and other ruminants). FMD causes a much higher death rate in younger animals compared to adult animals. The disease is usually first identified by observing cattle with excessive salivation and vesicles on the nose, mouth and foot regions (These signs can also occur with another disease – vesicular stomatitis which is therefore treated as if it were FMD until diagnostic tests prove otherwise). Because FMD is so highly contagious, many countries have strict regulations in place to control an outbreak. Disease outbreaks in countries previously free of FMD can have far reaching socio-economic consequences. The key to controlling an outbreak is early reporting and diagnosis.

## **Bovine Spongiform Encephalopathy (Mad Cow Disease)**

Bovine spongiform encephalopathy (BSE), commonly called “Mad Cow Disease”, can also have a dire impact economically, but the disease is very different from FMD. BSE is a chronic, degenerative neurological disease of cattle. Clinical signs of BSE include changes in behavior such as nervousness or aggression and abnormal gaits. There have been more than 180,000 cases of BSE worldwide since it was first diagnosed in 1986 in Great Britain. The mortality rate with BSE is 100 percent, with deaths occurring 2 weeks to 6 months after onset of signs. There is no evidence that transmission of BSE can occur by contact with an affected cow. As a result of the suspicion that feeding rendered bovine meat and bone meal to cattle spreads the disease, the FDA has prohibited the use of these by-products in the manufacture of feeds for ruminant animals.

## **Why should you care about FADs?**

Foreign animal diseases can affect an individual animal or the entire herd. In either case, FADs can have major effects on the industry if not reported and diagnosed quickly. In addition, the potential effects on public health or trade can stimulate a regional or national response to an occurrence of a FAD or the emergence of a new disease.

**Foreign animal diseases are important because of potential production losses and death losses of the affected animals as well as their economic impact on markets.**

## **When should you call a veterinarian?**

- disease signs never seen before on your operation (blisters in the mouth or on the feet, neurologic conditions, etc.)
- higher than normal death loss
- large number of animals with signs of recognizable disease

Do not delay in reporting suspicions of a FAD to your veterinarian, as it is your legal responsibility. Erring on the side of caution by calling early is a reasonable response and will be supported by your veterinarian as well as the state veterinarian. Ramifications of reporting too late have the potential to reach far beyond individual farms and can affect entire livestock industries.

## **What to expect if your veterinarian suspects a FAD**

The USDA's Animal and Plant Health Inspection Service, Veterinary Services (APHIS-VS) maintains a force of veterinarians that are specifically trained in the investigation and field diagnosis of FADs. FAD diagnosticians respond to reports of suspected cases of such diseases. The diagnosticians are state and federal veterinarians who have been trained extensively in foreign animal diseases. Many of these veterinarians have worked internationally, assisting other countries during outbreaks of disease considered foreign to the U.S. and thus are very knowledgeable in the investigation, diagnosis and control of disease. Their nationwide distribution means a diagnostician is only a few hours away from any location in the U.S.

## **Investigation of a potential FAD**

Reasonable approaches to quarantine of animals are generally the rule during the initial phases of an investigation. Owners are obligated to follow the restrictions inherent in the quarantine. This is to protect neighboring producers and the rest of the industry. Continued medical care of the affected animal or animals remains the responsibility of the practitioner and owner, and biosecurity measures should be employed by the practitioner to prevent the spread of disease. It is important to note that all investigative procedures conducted by the diagnosticians are at no charge to the owner or practitioner. Please see Figure 1 for a flow chart of the investigative procedures.

## **Infectious disease control (Biosecurity)**

Constant attentiveness of producers and their employees, diligent efforts by U.S. veterinarians, border control, and adherence to regulations have helped U.S. livestock remain free of many FADs over the years. However, it is increasingly evident that this task is becoming extremely difficult with such a mobile society. Strict biosecurity regulations on your farm or ranch will help protect your animals from FADs. Here are some actions you can take to improve your farm's biosecurity: (from the Colorado Dairy News – March 2003)

### **→ Limit access to your farm**

1. Have only one gated road leading to your farm
2. Keep the gate locked when not in use
3. Use some sort of rodent and bird control in the barns, especially in areas where feed is stored

### **→ Restrict vehicle traffic**

1. Park vehicles away from barns and livestock areas, preferably on concrete or paved area
2. Avoid transfer of dirt, mud or manure by vehicles

### **→ Inform visitors of specific rules to follow on the farm**

1. Post signs with rules
2. Monitor visits to your farm
3. Do not take visitors to livestock areas unless necessary

### **→ Properly train employees**

1. Make sure employees know how to recognize unusual disease signs and patterns
2. Stress the importance of good hygiene
3. Use clean coveralls and rubber boots

### **→ Quarantine and observe animals**

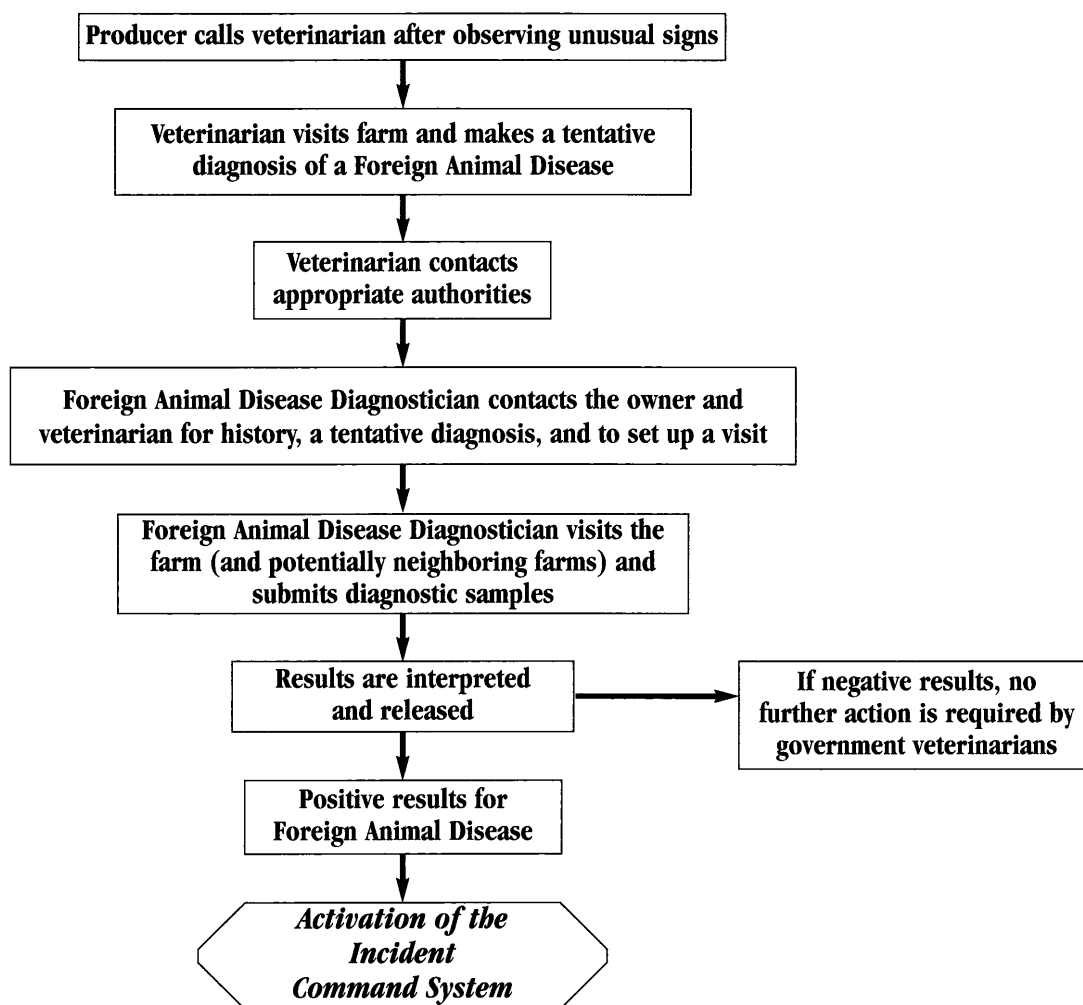
1. Isolate all new and returning animals for a set period of time depending on the situation
2. Call herd veterinarian immediately if unusual illness or signs are noticed
3. Isolate sick animals and handle or visit them last (after healthy animals)

**☛ To find out more information about biosecurity plans please refer to the BAMN info sheets on Biosecurity for Dairies and Farms.**

## **Conclusion:**

Animals and animal products are moved farther and faster than ever before and so are the diseases they may carry. As we increase our foreign travel and increase the importation of a variety of agricultural products, the risk of introducing FADs to the United States increases. Both small producers and multi-billion dollar animal industries can be damaged or destroyed by these diseases. Producers should be aware of the signs of FADs and if suspected, call their veterinarian immediately. Producers can expect a rapid and professional response from the state and federal animal health officials. The ultimate goal of producers, veterinarians and animal health officials is the health of individual animals, of individual herds, and of the national herd.

**Figure 1: FAD Investigation Procedures**



1. BAMN Publication: A Guide To Modern Calf Milk Replacers, Revised 2002.
2. BAMN Publication: A Guide to Colostrum And Colostrum Management For Dairy Calves, Revised 2001.
3. BAMN Publication: A Guide to Dairy Calf Feeding and Management – Revised 2003.
4. BAMN Publication: An Introduction To Infectious Disease Control On Farms (Biosecurity), 2001.
5. BAMN Publication: Biosecurity On Dairies, 2000.
6. BAMN Publication: Biosecurity Of Dairy Farm Feedstuffs, 2001.

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