

## Disaster Biosecurity In Cattle Operations



Trying to maintain animal health following a disaster is extremely important, whether the disaster is a hurricane or a foreign animal disease. Animal health begins with adequate care and nutrition and is enhanced through proper vaccination programs. Biosecurity is another extremely important part of an animal health program that should not be overlooked. In disaster situations, good husbandry and biosecurity are especially critical to decrease animal stress and decrease exposure to diseases.

Biosecurity plans control the introduction and spread of disease by evaluating and addressing the primary routes of disease transmission. An effective biosecurity plan will control several diseases at one time. Contagious diseases such as bovine viral diarrhea (BVD) and Salmonella, as well as new or unexpected diseases such as foot and mouth disease, are minimized by assessing disease risks and implementing management steps. With an effective biosecurity plan, there is less need for detailed knowledge about individual diseases, but understanding disease transmission is critical.

In natural disaster situations, cattle may be evacuated or rescued and brought to holding areas with animals from other herds, or they may escape and commingle with animals from other herds. In the first situation, although it may be difficult, every effort should be made to put biosecurity plans into place to avoid spread of disease. In the second situation, biosecurity is already breached. These animals should be watched closely for signs of disease and possibly tested for certain diseases once they return to the farm. If the disaster is an animal disease outbreak, then biosecurity measures are imperative.

The five primary routes of disease transmission are aerosol, direct contact, fomite or traffic, oral and vector-borne. All five routes are important to consider in preparation for or following a disaster.

- Aerosol transmission occurs when disease agents contained in droplets pass through the air from one animal to another. Close proximity between infected and susceptible animals is typically required for disease transmission.
- Direct contact transmission of disease agents occurs when a susceptible animal directly touches an infected animal or its open wounds, mucous membranes or skin through blood, saliva, nose-to-nose contact, rubbing or biting.

- Fomite transmission occurs when a disease pathogen is carried or spread from one animal to another by an inanimate object (such as boots, buckets and milking and grooming equipment). Vehicles, trailers and even humans can also be considered fomites and can spread disease through traffic transmission.
- Disease agents can also be spread through oral transmission, such as when an animal licks or chews on contaminated environmental objects or consumes contaminated feed or water.
- Vector-borne transmission involves the spread of disease through an insect. Ticks and mosquitoes are biological vectors, commonly spreading disease after becoming infected from a diseased animal and injecting the disease agent into another animal. Flies are a common mechanical vector, simply carrying the disease agent on their body and passing it from animal to animal.

Eliminating contact with other cattle may be difficult following a disaster, especially if herds commingle because of damaged fences. The following biosecurity practices can still minimize the risk of disease transmission during a disaster:

- Do not intentionally commingle animals from different herds.
- Avoid moving evacuated animals to areas where many herds are congregating by partnering with another farm.
- Provide a buffer between adjoining herds so no fence-line contact is available.
- Animals that escaped or were evacuated should be isolated from animals that remained on the farm and from each other, and a veterinarian should be consulted about testing for certain diseases before allowing new animals to commingle.
- Bathe and change clothes before working with different herds.
- Clean and disinfect trucks and trailers after hauling cattle.
- Practice appropriate insect control measures.
- Communicate the importance of the biosecurity plan to all people involved with the livestock operation.

Producers should annually evaluate their herd health programs, including nutrition, vaccinations and biosecurity. An appropriate herd health program not only maximizes animal health and profitability during normal times, but it also prepares livestock for disasters.

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## Authors

W.F. "Frank" Owsley, Extension Animal Scientist, Associate Professor, Animal Sciences, Auburn University

Christine B. Navarre, DVM, MS, DACVIM, Extension Veterinarian, LSU AgCenter, Department of Veterinary Science

Soren P. Rodning, Extension Veterinarian, Assistant Professor, Animal Sciences and Veterinary Clinical Sciences, Auburn University

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