

## Biosecurity Protection for Beef Cattle Operations

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Biosecurity management practices are designed to reduce/prevent the spread and movement of infectious diseases onto the operation. Infectious diseases introduced onto an operation can have a devastating effect on cash flow and equity. The goal of a biosecurity plan is to minimize the movement of biologic organisms and their vectors (dogs, cats, rodents, biting flies, birds, etc.) onto and within your cattle operation. Biosecurity can be very difficult to maintain because the interrelationship between management, biologic organism and biosecurity is very complex. While developing and implementing biosecurity is difficult, it is the cheapest, most effective means of disease control available, and no disease prevention program will work without it.

Infectious diseases can be spread between operations by:

- The introduction of diseased cattle or apparently healthy cattle incubating disease.
- Introduction of healthy cattle who have recovered from disease but are now carriers.
- Vehicles, equipment, clothing and shoes of visitors or employees who move between herds.
- Contact with inanimate objects that are contaminated with disease organisms.
- Carcasses of dead cattle that have not been disposed of properly.
- Feedstuffs, especially high risk feedstuff, which could be contaminated with feces.
- Impure water (surface drainage water, etc.).
- Manure handling and aerosolized manure and dust.
- Exposure to horses, dogs, cats, wildlife, rodents, birds and insects.

### Biosecurity Plan

A biosecurity plan has three major components. They are **isolation**, **traffic control** and **sanitation**. When effectively managed, these components meet the principal biosecurity objectives of preventing or minimizing cross-contamination of body fluids (feces, urine, etc.) between animals, animals to feed and animals to equipment.

**Isolation** prevents contact between animals within a controlled environment. The most important step in disease control is to minimize commingling and movement of cattle. This includes isolation of new purchases for at least two weeks as well as not commingling established groups of cattle. Always isolate sick cattle and return them to their original group when they've recovered. Long-acting therapies have improved our ability to minimize movement of infectious organisms between groups. An important biosecurity action on beef operations is to separate cattle by age and/or production groups. Facilities should be cleaned and disinfected appropriately between groups.

**Traffic control** includes traffic and visitors onto your operation and traffic patterns within your operation. It is important to understand that traffic includes more than vehicles. All animals, including dogs, cats, horses, wildlife, rodents and birds, and people must be considered. Without good traffic control, disease can sneak in on anything from coveralls to tractor tires. People spread contaminated material directly by boots, shoes, hands, and clothing. Indirectly, shared hoof trimmers, truck tires, farm machinery and other equipment passing between farms can transmit disease.

Limit visitors' access to barns and lots. Post a warning sign asking visitors to keep out and giving instructions or a telephone number to call instead of entering the operation. Demand that visitors wear clean boots and coveralls or wear disposable boots and coveralls. Have calves and other sale animals picked up without dealers or transporters entering the barn. Keep a record of visitors. Ideally, the inside of truck, trailer and wagon beds, the bottom surfaces of a vehicle and tires should be washed and disinfected prior to entering the operation. An alternative method to minimize contact is to locate a set of holding pens away from the main housing areas and use them as a transfer station to keep outside vehicles off the main operation.

Traffic control within the operation should be designed to stop or minimize contamination of cattle, feed, feed handling equipment and equipment used

on cattle. A dead animal should be placed in a location that allows rendering trucks access without cross-contaminating healthy cattle. Vehicles and employees should not leave an area with dead cattle without cleaning and disinfecting. Composting of dead animals may be an option for many producers.

**Sanitation** is the third component to a biosecurity plan. Beware of using instruments and equipment on healthy animals following their use on sick or infected animals. Avoid using common syringes and needles for vaccination, blood testing or administering animal health products. Isolate sick animals, especially animals with unfamiliar symptoms or those that don't get better with the usual treatment. Be aware when working sick animals and try to move only from healthy to sick animals during the day, not vice-versa.

Rodents and other wildlife are capable of carrying diseases within a herd. Rodents can spread or accelerate the spread of established diseases from contaminated areas to uncontaminated areas via their droppings, feet, fur, urine, saliva or blood. Clean up, mow, seal openings in buildings and bait to hold down their population. Deer-proof fences might be necessary in certain situations.

Following is a list of signs that could be symptoms of different, serious diseases:

- Sudden, unexplained death loss in the herd.
- Severe illness affecting a high percentage of animals.
- Blistering around an animal's mouth, nose, teats or hooves.
- Unusual ticks or maggots.
- Large numbers of animals suddenly going off feed.
- Central nervous system disorder that causes an animal to stagger or fall.

### **Minimum Biosecurity Measures**

- Visitors should avoid livestock areas, pens and barns unless it is necessary.
- Park vehicles on paved or concrete areas that are away from production sites on farm to avoid contact with dirt, mud or manure. If this is not possible, be certain that tires are free of dirt and debris by hosing the tires and wheel wells before leaving the premises. If this does not clean the tires adequately; take the vehicle to a pressure car wash.
- Wash hands with soap and water or an antibacterial gel before entering and after leaving the premises to avoid transmitting disease agents from person to person.