

Biosecurity Guidelines of National Cattlemen's Beef Association

Controlling Disease within the Herd

- Vaccinate the herd against all endemic diseases (BVD, Clostridia disease, etc.).
- Decrease stress by using low stress management for movement and processing. Provide ample feed, water and shade.
- Isolate all sick animals.
- Minimize fence line contact with neighboring animals.
- Do not place cattle of different ages in the same pen.
- Keep records of all disease occurrences.
- Maintain a closed herd, if possible.

Purchasing Replacement Animals

- Quarantine all new animals for 30 to 63 days.
- Test new animals for disease (BVD, Johne's, Salmonella, etc.).
- Purchase animals from healthy and reputable herds.
- Purchase feeds from reputable sources.

Environmental and Pest Control

- Provide footbaths at entrances and exits of confinement facilities.
- Provide timely manure and dead animal removal.
- Keep grounds and feed bunks as dry as possible.
- Have an insect control program in practice. (Insects can be vectors for diseases such as anaplasmosis and bluetongue.)
- Have a rodent control program in practice.

Disinfection

- Clean and remove as much organic material as possible, before disinfecting.
- Choose a disinfectant that will work against the pathogen you are trying to control.
- Be aware of any toxic, harmful or corrosive effects of the disinfectant.
- Follow the label on the disinfectant package.

Visitors

- Minimize the number of visitors to the facility.
- Be sure all visitors have clean clothing/coveralls, boots and hands.
- Minimize visitors' contact with animals.
- Be sure all equipment brought onto the farm is disinfected or that disposable equipment is used.
- Be sure all vehicles brought to the farm are clean and have disinfected tires.
- Do not allow foreign visitors on the farm until they have been in the country for five days.
- Do not allow foreign visitors to bring any clothing, food or accessories they have had in another country onto the farm.

Employees

- Be sure all employees understand and follow the biosecurity protocol.
- Realize that employee-owned animals can be a possible source of contamination to your facility.

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.

Cattle Biosecurity

The purpose of “biosecurity” is to establish a prevention barrier to disease. Essentially it is like being a bodyguard to prevent disease from entering/crossing the fence. The only reason for establishing increasing levels of biosecurity is to control disease. Each increase in biosecurity level requires an equivalent increase in management decisions and activities.

If you already have a disease that you want to eliminate from your herd, you will have to go to a greater level of biosecurity for a longer period of time. Once you have achieved that level of biosecurity, then you would have to undergo a testing and eradication scheme within your herd.

If you want to keep a disease out, you have to go to the level of biosecurity that will prevent the disease from gaining possible entry into/onto your farm.

Example 1: Shipping fever	Should be at least level 1
Example 2: Johnes	Should be at least level 2C
Example 3: Salmonella/Mycoplasma	Should be at least level 4
Example 4: Foot and Mouth	Should be at least level 5

In general, to achieve a higher level of biosecurity, you will have to adopt the restrictions and precautions of the lesser (preceding) levels as you progress to the next level, even if it is for a temporary time period.

Levels of Biosecurity

0) No precautions or restrictions. Animals and people free to move and have contact with other livestock.

- A) Vaccination program instituted (for Brucellosis, Black Leg, Lepto, etc.).
- B) Establish a sick isolation pen physically separate from rest of herd.
 - 1) Separation barrier with quarantine facilities. Complete identification of each animal on farm. Establish a quarantine facility where any purchases, additions, animals returning from livestock shows are kept for two to three weeks before adding to rest of herd. Retesting for unwanted/undesirable diseases. Quarantine facility should be physically separated from the rest of the livestock and the sick pen by a fenced barrier strip so that there is no physical contact with drainage of water or waste. An individual that either does not have access to the rest of the livestock or as the last activity before retiring for the day should provide care in the quarantine facility. No equipment used on quarantine animals should have contact with other animals without cleaning and disinfecting. Necropsy all unknown causes of death. Bury dead animals so that there is no physical contact with fluids or excretions. Clean and disinfect equipment used for burial prior to other use.
 - 2) Semi-closed herd established with all replacements added only from herds of equal or preferably higher health status into a quarantine facility for two to three weeks (or longer) before contact with the herd. Institute testing for any specific diseases to be excluded/eliminated. All livestock transportation vehicles cleaned and disinfected prior to and after each use. Identification and record system of health status that identifies offspring to at least the mother. Double fence property to prevent contact with neighbors.
 - 2A) Additions by whole herd purchasing of animal of equal or greater health status.

- 2B) Only bulls purchased from herds of equal or greater health status.
- 2C) Manure/litter disposal should follow a management plan to prevent contact with pregnant animals and babies. Management restrictions to control contact of animals of different ages and reproductive status. Restrictions on usage and source of colostrums. Maintain same minimum health requirements for all embryo donors/recipients. Remove all known infected animals. Institute fly/insect control.
- 3) Closed herd maintained, with replacements raised on the farm. Only allow semen for artificial insemination from reputable sources with equivalent of higher health status.
 - 3A) Address wildlife access issues by appropriate fencing.
- 4) Strict access control to farm. No one on the farm without disinfected rubber boots or disposable boots, clean coveralls (provided by farm) or disposable coveralls. All instruments, or other material brought on to farm, must be washed or disinfected. Recommend a logbook to record every entry and visitor to farm with date, time on, time off and purpose of visit. Strict control of feed sources and delivery. All incoming vehicles should be restricted from areas where they might have contact with livestock. No contact/access of meter readers and postal/parcel deliveries with herd. Feed bins covered. Bird, rodent and pest controls implemented.
- 5) Total restriction of farm access. Restrict the number of family and employees with access to animals to the minimum required to feed and care for animals; only those individuals can have access to the animals at any time. No outside visits by owner, employees or members of their families to any other farms or areas where livestock might be. Total control of feed sources.