

Biosecurity for the Beef Herd

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Biosecurity incorporates those management practices aimed at keeping new diseases off the farm and keeping diseases from spreading from group to group on the farm. Biosecurity is the cheapest and most effective method of disease control, since vaccinations cannot eliminate disease and treatment can only reduce losses. Most cattle diseases are spread by cattle blood, saliva, manure, urine or exhaled air. Special attention must be paid to reducing contact from animal-to-animal or animal-to-object-to-animal. This is best done by a combination of animal isolation and control of movement onto and around the farm, as well as cleaning and disinfection.

Animal Isolation

Cattle disease is most frequently spread by contact between cattle, so limiting this contact is the most important part of biosecurity. Newly arriving cattle should be isolated from other cattle for a minimum of 30 days. The isolation area should be separated from any other cattle-housing areas and is best sited where drainage and prevailing wind direction are away from the rest of the farm. Health records should be requested for all incoming animals. Animals should be watched closely each day for early signs of disease. Testing for common diseases, such as BVD and Johne's disease, should be done early in the isolation period so the results will be available before the animal is put with other cattle on the farm. Deworming and vaccinating these animals are also worthwhile practices. Sick animals should also be isolated until all signs of disease are gone for at least one week. Weaned, younger cattle are best kept separated from older animals, since they are still building immunity and are

generally more susceptible to disease. Animals in isolation should be handled only after all other animals are handled for the day. Disposal of dead animals can be accomplished by burning, deep burial or composting so that they do not serve as a source of disease to live animals. If there is any question as to why the animal died, an autopsy should be performed to determine the cause of death.

Control of Movement

Traffic onto the farm must be controlled for biosecurity to be effective. Disease can be spread by people, other domestic animals, rodents such as rats or mice, birds such as pigeons, insects such as flies, and vehicles. The farm should be posted and gates should be locked when no one is around. A single entrance into the farm is easier to monitor and control than several entrances. Visitors to the farm should wear clean clothes and footwear that is free of manure. Plastic disposable boots should be available, if needed. Anyone handling animals should wash his or her hands before handling each animal and between animals. Vehicles that have been on other farms should not be allowed into barn lots or pastures. Pets from outside should be kept away from animals and feed. Feed and agricultural chemicals should be stored in a secure location. Finally, an effective program of pest control should be in place. This may include fences, screens, traps or baits.

Cleaning and Disinfection

Disinfection means to render an object free of germs. Some common examples of objects that can spread disease are handling facilities such as chutes, syringes, needles, balling guns, stomach tubes, dehorers, castration equipment and any other object that is used on more than one animal. It is best to discard disposable syringes and needles after they are used once. Non-disposable syringes and needles are best boiled, rinsed, dried and stored in plastic bags until their next use. For disinfection to be effective, the object to



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be disinfected must be clean. A thorough scrubbing with soap and water followed by rinsing will remove most germs. The presence of manure or other body fluids such as saliva will make disinfectants ineffective. A number of good disinfectants are available from animal-health product suppliers. These are very effective if used as directed. A good disinfectant that is commonly available is chlorohexadine, available as a number of brand names.

Disinfectants will work well if:

- The object to be disinfected is clean. Remove any manure, blood or saliva on the object to be disinfected.
- The disinfectant is designed to be effective against the germs to be killed. Always buy a disinfectant that is effective against a wide variety of common germs.
- The disinfectant is mixed properly. Too little or too much disinfectant in a solution will diminish the effectiveness of the disinfectant. Always follow label directions for mixing.
- The temperature of the object is high enough for the disinfectant chemical to work. Generally, temperatures above 65 degrees F are necessary and items to be disinfected may need to be carried inside in cold weather.
- The disinfectant is in contact with the object for at least five to 10 minutes.

Hypochloric acid (bleach) is a commonly used, inexpensive and effective disinfectant for which directions for use are not available on the label. Some points to remember about the use of bleach as a disinfectant include:

- Bleach can produce annoying or even toxic fumes and should always be used outside. Never mix bleach with ammonia or vinegar, as a very toxic gas is produced.
- Bleach is often used in too concentrated a form. One-eighth to one-half cup per gallon of water is all that is needed.
- Bleach solution for disinfection cannot be stored and must be made fresh daily.
- Bleach is corrosive to metals, deteriorates fabrics, irritates skin and some individuals are very sensitive to bleach fumes.

An effective program of biosecurity, including isolation, control of movement into and around the farm and disinfection of items used on more than one animal is the cheapest and most effective form of disease control for the beef herd. Even small management changes directed towards disease control can yield a healthier beef herd.

Producers planning to purchase a squeeze chute or other handling-facility components may apply for a cost share through the Tennessee Agricultural Enhancement Program administered by the Tennessee Department of Agriculture. Premise identification and Beef Quality Assurance certification are prerequisites for applying for the funds. Approval of the request must be received before items are purchased.

The National Animal Identification program is designed to provide the capability of tracing an animal back to its point of origin within a 48-hour period of time in the case of an animal-disease outbreak. It is also supposed to identify all locations where an animal has been during its lifetime. The mechanism for tracing requires that every location (premise) where animals reside must be identified (for example: owner's farm, livestock market, order-buyer lot, fairs, shows, veterinary clinics, etc). Each animal must be individually identified with some type of electronic identification (i.e., electronic ear tags, electronic implants or similar devices). Registration of premises is currently being conducted. Premise registration forms are available at local Extension offices, Farm Bureau offices, local Farmers Cooperative stores and Farm Service Agency offices. Premise identification and individual animal identification are now voluntary except for participation in Tennessee Agricultural Enhancement programs. It is anticipated that participation in the premise and individual animal identification programs will increase as information provided by these programs is needed to market animals.

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