

Biosecurity

Preventing Disease Risks From Purchased Cattle

Dairy herds typically have a cull rate of about 30 percent of the milking herd annually. For herds undergoing expansion, herds with higher than average cull rates, or herds not raising replacement heifers, purchased animals may be entering the herd. With the purchase of outside cattle comes the risk of introducing diseases into the herd.

The risk of contagious disease spread is great when purchased animals are added to the herd because:

- disease organisms on the farm of origin for purchased animals may be different from the organisms in your own herd
- animals that are moved from one farm to another are stressed by trucking and change of environment—this makes them more susceptible to disease and more likely to shed disease organisms they may be carrying
- introduction of animals to a new farm environment is often done around the time of calving; a time of stress and reduced immune capabilities for most cattle.

Many different contagious diseases can be introduced by the addition of purchased cattle. The following are common, economically-important diseases frequently introduced to herds through purchased cattle. It is by no means a complete listing of all diseases which could be introduced with purchased cattle.

- Bovine Virus Diarrhea (BVD)
- Bovine respiratory disease (BRD) complex including IBR, BRSV, and PI3 viruses and pasteurilla and haemophilus bacteria.
- Contagious mastitis—including streptococcus agalactiae, Staphylococcus aureus, and Mycoplasma species
- Salmonellosis
- Johne's disease (paratuberculosis)
- Digital dermatitis (hairy heel warts, strawberry warts)
- Interdigital pododermatitis (foot rot)
- Bovine leukosis virus (BLV)

WHAT CAN YOU DO?

Herd Vaccination Plan

Both your cattle and the animals you bring into your herd need protection against viruses and bacteria that can be transmitted from animal to animal. Vaccination of healthy animals will help prevent specific diseases from occurring.

The objective of a vaccination program is to ensure a high level of immunity at the time of exposure to disease-causing organisms. A guideline for such a vaccination program would be:

First 2 weeks of life: Intranasal IBR/PI3

6 months of age: Modified live virus (MLV) intramuscular (IM)—BVD, IBR, PI3 (Colostrum antibodies may persist for up to 6 months and block the immune response to the vaccine) 5-way Leptospirosis IM—2 injections 2 to 4 weeks apart

12 months of age: MLV IM—BVD, IBR, PI3 (at least 30 days prior to breeding) 5-way Leptospirosis IM

Adults: 5-way Leptospirosis IM each 6 months BVD, IBR, PI3 may be boosted with MLV vaccine while the cow is open, or with a killed virus product when pregnant or open.

If a killed virus vaccine is recommended by your local veterinarian, the first time a killed vaccine is given it must be followed by a booster dose in 2 to 4 weeks. If not followed by a booster dose in two to four weeks, the first killed vaccine dose will not induce immunity. Boosters would then be recommended once to several times per year as she/he would direct.

Protecting Purchased Animals

Purchased cattle should be protected from diseases caused by shipping stress, from sale yards, or other influences. Most producers do not know if the animals they are buying have been vaccinated or not.

Asking about when, how, and for what diseases your purchased replacements were vaccinated may help prevent some problems. If the purchased cattle are vaccinated like the above protocol, you can feel fairly comfortable that they are protected from the vaccine-preventable diseases. Other vaccines such as for Pasteurella or Salmonella immunization should be determined on a herd by herd basis, by you and your veterinarian.

Biosecurity

Herd biosecurity refers to those management practices that

- 1) reduce the risk of bringing infectious diseases into your herds
- 2) reduce or minimize the spread of diseases within your herd, and
- 3) minimize the severity or economic impact of infectious diseases in your herd. Holding or isolation facilities for purchased cattle are important to your biosecurity program.

Minimizing spread of disease organisms between cattle is a challenge facing many dairy farms. Disease transmission can go both directions; from your cattle to newly-purchased animals or visa versa. Controlling the spread of disease between new and existing cattle is usually a combination of management facilities, and equipment.

The selection of methods will depend on the degree of biosecurity desired, the number of animals involved, how often and how long the biosecurity is required, available labor, and the time of year.

The paths of disease spread between cattle include:

- Direct contact between cattle
- Transmission of fluids and secretions (milk, blood, manure . . .) between infected and susceptible cattle
- Breathing air containing disease organisms between infected and susceptible cattle
- Contact with items that have been in contact with purchased cattle (milking machine, water, barn equipment, etc.)

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