Vet Call

► by **Bob Larson,** Kansas State University

Precondition as a marketing strategy

Cattle producers who manage newly weaned feeder cattle recognize that calves castrated and dehorned, trucked, commingled with new penmates, and given a completely new diet — all near the time of weaning — are at high risk for bovine respiratory disease (BRD). Pneumonia or bovine respiratory disease can be caused by a combination of several factors.

These factors are stress (shipment, mixing with new cattle and diet change), viral infection and bacterial infection. BRD is generally considered to be a disease of stocker or feedlot cattle trucked to a feeding facility, commingled with new animals, and exposed to new feed and water sources. Age is also a factor, with recently weaned calves and light stocker calves at higher risk of sickness and death than yearling cattle.

35 Keys to Success
Marketing Commercial Cattle

Reduce stress to increase profit

Preconditioning programs aim to reduce the number of stressful situations a feeder calf has to deal with as it is moved from the ranch of origin to the feedlot. Trucking and exposure to new animals is unavoidable in most situations, but other known stresses can be managed. Preconditioning programs have been designed by universities, pharmaceutical and biological companies, marketing groups, and integrated production chain alliances.

The overall target of decreasing the risk of BRD and other diseases is the same among different preconditioning programs, yet specific requirements can vary widely. For example, preconditioning programs for cattle entering an all-natural program may differ from programs for cattle in a traditional management scheme. Other examples include the utilization or prohibition of specific vaccines, dewormers, growth implants, feed additives and feed ingredients.

Castration and dehorning have been shown to severely decrease feed intake and gain and to increase the risk of disease when done at the feedlot. If these stresses can be done earlier in life (younger than 2-4 months of age), the negative effects are greatly reduced. Castration prior to shipment is one of the oldest and most common components of preconditioning programs. Bull calves that are not castrated until they arrive at a feedyard or stocker facility have a higher risk of illness or death and decreased performance relative to comparable steer mates. Whether bull calves have been castrated is easy to tell, and castrated calves typically garner higher prices than comparable intact bull calves.

Because viral diseases such as infectious bovine rhinotracheitis (IBR) and bovine viral diarrhea (BVD) are associated with BRD, vaccination programs to decrease the risk of infection with these viruses are key components of preconditioning programs. Vaccines directed against bacteria associated with BRD such as *Mannheimia haemolytica*, *Pasteurella multocida*, and *Haemophilus somnus* are included in some, but not all, preconditioning programs. The challenge in developing the best vaccination strategy is to select the correct vaccines and deliver them in the best fashion at the correct times to create a response that will protect the calves.

Bull calves that are not castrated until they arrive at a feedyard or stocker facility have a higher risk of illness or death and decreased performance relative to comparable steer mates.

Starting on feed

Weaning on the ranch of origin for 30-45 days is a component of some preconditioning programs. Calves in these systems face relatively low levels of disease challenge because they are not trucked or commingled with new cattle during the stressful period immediately following separation from their dams and tend to have comparatively low risk of becoming sick.

Preconditioning programs may also require that calves become accustomed to grain-based feeds fed in a feedbunk. The greatest risk for BRD occurs soon after arrival at the feedyard, and adequate nutrition in the first weeks is critical to allow the animal to overcome stress and disease challenges.

Satisfactory feed intake during the arrival period is believed to be strongly influenced by familiarity with feeds other than grass or hay and by feeding behaviors other than grazing. Inclusion of a period allowing cattle to understand the procedure for eating from a bunk in the low-stress environment of their home ranch is a valuable component of a complete preconditioning program.

Feeder-calf nutritional status is difficult to evaluate visually, but body condition is often used as a gauge of previous management. Preconditioning programs that incorporate weaning and feeding for a period of time may result in cattle with good flesh scores at the time of sale. Fleshy cattle may be viewed as healthier, yet still garner a price discount because buyers will be unable to capture compensatory gains. The goal is to find a balance between healthy calves with adequate nutritional status and the potential for rapid, efficient weight gains after the calves leave the ranch.

Recapture value

Adding management such as dehorning and castration, vaccinating, weaning and starting on a grain-based diet are designed to reduce the risk of disease once an animal has left the ranch of origin, but these activities will increase costs for cow-calf producers. To benefit from these expenditures, producers must increase the income they receive for their calves.

Preconditioned calves routinely earn a higher price than similar calves that have not been preconditioned, but net income includes the total weight sold and costs incurred, as well as the price received. Producers considering a preconditioning program should consider the issues of cost and value of weight gain.

Before determining the economic risks and rewards of preconditioning, several factors, including marketing method and

timing — cyclical market fluctuations, fixed costs (overhead), variable costs (primarily feed), and the goals of the producer — should be considered.

Cow-calf producers may face obstacles to implement preconditioning management on their ranch due to lack of facilities and labor necessary to keep weaned calves on the farm, or from a reluctance to bear the health risks for postweaning calves. In some areas of the country, raised or local feedstuffs are not available at a price that allows low cost of gain. These obstacles are legitimate reasons that some producers should not precondition their calves.

To overcome these obstacles, producers must be able to utilize cost-effective weaning, working and feeding facilities; obtain feed at a competitive cost; grow the calves at a high enough rate of gain to allow a low cost of gain; and sell the calves in marketing channels and to buyers that reward preconditioning.

Another consideration that supports increased utilization of preconditioning by cow-calf producers is that beef production is shifting toward a consumer focus and new areas are achieving more attention, including individual animal identification; value-based marketing; animal health and welfare; food safety; and source, process and age verification. These changes in the beef industry are compatible with concepts of preconditioning management and should serve to generate further interest in preconditioning throughout the beef production chain.

EMAIL: rlarson@vet.k-state.edu

Editor's Note: *Bob Larson is professor of production medicine at Kansas State University.*