Bovine Respiratory Disease, or BRD, is a term that many cattle producers are quite familiar with. Whether they have personally dealt with BRD in their herd, know someone who has, or vaccinate against it each year, most producers understand that BRD is not something they want in their herd, and know that BRD can cause many problems in an operation. This week we will discuss what is considered to be the most economically significant disease in fed cattle, and explore methods available to prevent your cattle from contracting this illness.

Over the past several years, research studies have indicated that a variety of viruses, bacteria, and other organisms are partly responsible for acute BRD. However, it has also been found that many of these same bacteria and viruses are normal inhabitants in the bovine respiratory tract. Research shows that these organisms can live in the respiratory tract, causing no problems, until they are given an opportunity to grow. Such "opportunities" come in the form of stressors, which negatively affect the animal by suppressing its immune system. The development of BRD in an animal becomes most likely when the various stressors work in conjunction with the organisms that already reside in the animal. To help prevent BRD from affecting your operation, it is wise to have a thorough understanding of the stressors that may wreak havoc, and learn how to inhibit those stressors from playing a role in the health of your cattle.

The various stressors that compromise the health of cattle can be grouped into three categories- environmental, nutritional, and management. Environmental stressors include temperature, and other weather influenced conditions in the calves' environment such as wind, dust, and mud. Toxic fumes may also prove to be an environmental stressor in some operations. Nutritional stressors occur when the cattle have an irregular feeding schedule, have no access to clean water, and/or have sudden ration changes. Management stressors may be most apparent as factors that may compromise the animal's immune system. These include weaning, transport, commingling, crowding, and processing. Although producers can only reduce environmental stressors to an extent, they have full control over the nutritional and management stressors in the operation.

Reducing the amount and severity of stressors can greatly influence the quality of the calf's immune system. In other words, a calf that is protected from these stressors will likely have a strong immune system and be considered "low-risk" for contracting BRD. However, the more stressors a calf is exposed to, the more likely it will be to have a weak immune system, and thus be "high-risk" for contracting BRD. See Table 1 below for a table depicting how various stressors can result in high-risk calves.

Low-Risk	**High-Risk**
Direct from ranch	From sale barn/order buyer
Vaccinated before weaning	Not vaccinated before weaning
Weaned before shipping	Not weaned before shipping
Short haul	Long haul
Good weather/no climate change	Bad weather/climate change
Yearlings	Calves

Table 1. Low Risk vs. High Risk.

In most cases, the healthiest, most resistant calves are those that received ample colostral antibodies from their mother, and have a solid vaccination record. These things help build the calf's immune system, which protects it in the future. It has been found that the cattle that had developed their own active immunity (whether through exposure or vaccination) before shipment were less susceptible to BRD in the feedlot. Thus, the key to limiting BRD in your operation is to control stressors, implement a thorough vaccination program, and keep a close watch on your cattle. The major symptoms of BRD are: lack of appetite, dull or runny eyes, rapid breathing, loose feces, soft coughing, clear nasal discharge, and a body temperature of 103°F-108°F. If you detect any, or a combination of these symptoms, contact your veterinarian immediately so the animal can be quickly and appropriately treated before the problem worsens or spreads to other cattle.

BRD is a great problem in feedlots, and can quickly cause many issues if it is not controlled. Even if you don't own a feed lot and don't purchase calves from a sale barn, remember that we are all cattle producers. Are you taking the necessary precautions to ensure that the cattle you sell have immune systems that can handle the many stressors that they may face down the road? What are you doing to ensure that your cattle are not "high-risk" cases when they leave your operation? If you have any questions about BRD, or need a treatment plan for calves with BRD, please contact us.

Thanks,
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