

The Basics of Bovine Respiratory Disease

Uncover common signs of BRD to help better detect, prevent and treat affected cattle on your feedlot. Bovine Respiratory Disease (BRD) is the most prevalent disease in North American feedlots. The more you understand about this disease, the better prepared you will be to detect it early and begin treatment.

What Is BRD?

BRD, also called shipping fever,¹ encompasses diseases that affect the upper or lower respiratory tracts of cattle. It is based on a complex interaction between the host (cattle), the host's environment and bacteria and viruses under the influence of stress usually cause its development.²

The disease accounts for over 65 per cent of the illness that occurs in a feedlot operation.² While BRD most commonly affects cattle during their first two weeks on a feedlot, it can also emerge later in the feeding period. The more you know about the ways in which your livestock can develop this disease, the better prepared you will be to detect it in your feedlot.

Disease and Illness in the Feedlot

While disease and illness may seem like interchangeable words, their meanings are different. Diseases refer to specific medical conditions that affect an animal's ability to function normally (including BRD). Illness, on the other hand, refers to a more general state of unwellness or poor health (including depression or fatigue).

Risk Factors

BRD is a complex disease. While some cattle may be more predisposed to contracting BRD, there are several factors that can increase the risk of developing the disease. A crucial factor to consider is stress. When cattle are stressed, their bodies release cortisol, which can suppress their immune systems and cause them to be more susceptible to contracting or developing a disease.³ Poor vaccination, dehydration, overcrowding, transportation, adverse weather conditions, mixing groups of cattle from various sources, and events such as dehorning, weaning and auction can all increase stress and put your cattle at risk of developing BRD.² A study published in the *Journal of Veterinary Diagnostic Investigation* found that up to 62 per cent of BRD cases go undetected or are



missed until the disease has reached an advanced stage.⁴ When BRD goes undetected and treatment is delayed, your cattle are at a much higher risk for developing secondary infections, severe illness (morbidity) or death (mortality).² Lung lesions caused by BRD are associated with a higher risk of mortality and retreatment, and cattle experiencing severe illness tend to grow slower and require different rations of feed.⁵ When BRD does occur on the feedlot, early intervention, diagnosis and treatment are key to lowering the likelihood of your livestock developing chronic illness, morbidity or mortality.⁶



Signs and Symptoms

Recognizing the signs of BRD as early as possible is critical to successful detection and treatment; however, it can be challenging as cattle have an instinct to hide any signs of disease or illness.⁴ Although this instinct has served cattle well in the past as they avoided predators, it can now make identifying diseases in the initial stages more difficult. By the time signs of illness are noticeable, the animal may have been sick for at least a few days.⁶ Your feedlot personnel must be sharp-eyed and astute observers in order to detect the first signs of BRD in your feedlot—catching it when the disease is still in its preliminary stages and the pathogens have not yet reached your cattle's lungs.⁶ While clinical signs of illness are not as obvious in the first few days, the likelihood of the animal responding to treatment is much greater.⁶

The most common signs of BRD in your feedlot cattle include a fever of over 40°C (104°F), coughing, runny nose, difficulty breathing, rapid or shallow breathing, lack of appetite, and mild depression (depressed cattle will separate themselves from the rest of the group).²

The health of your livestock is vital to the success of your feedlot. The more you understand about BRD, the better prepared you will be to help detect and treat it in your feedlot and help provide the best possible outcomes for your livestock. Reducing stress, keeping facilities clean and understanding the clinical signs of illness can all help you reduce incidence of disease and its impact.

Sources:

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- ² Campbell, J., & Jelinski, M. (2024). *Bovine Respiratory Disease*. Beef Cattle Research Council. <https://www.beefresearch.ca/topics/bovine-respiratory-disease/#:~:text=Bovin>
- ³ Cappelozza, B. (2013). *Stress and the Immune System for Cattle*. Oregon State University. <https://extension.oregonstate.edu/animals-livestock/beef/stress-immune-system-cattle>
- ⁴ White, B. J., & Renter, D. G. (2009). *Bayesian Estimation of the Performance of Using Clinical Observations and Harvest Lung Lesions for Diagnosing Bovine Respiratory Disease in Post-weaned Beef Calves*. *Journal of Veterinary Diagnostic Investigation*. <https://journals.sagepub.com/doi/full/10.1177/104063870902100405>
- ⁵ Chai, J., Capik, S. F., Kegley, B., Richeson, J. T., Powell, J. G., & Zhao, J. (2022). *Bovine respiratory microbiota of feedlot cattle and its association with disease*. *Journal of Veterinary Research*. <https://veterinaryresearch.biomedcentral.com/articles/10.1186/s13567-021-01020-x#Sec2>
- ⁶ Tomazi, T. (2024). *BRD: Diagnose and Treat Early for Better Outcomes*. Merck Animal Health USA. <https://www.merck-animal-health-usa.com/species/cattle/dairy/diagnose-treat-bovine-respiratory-disease-early>