Bovine Respiratory Disease - The Dreaded Shipping Fever

One of the costliest diseases affecting the cattle industry, bovine respiratory disease (BRD) is caused by a complex of viral and bacterial infection. Despite effort to reduce the disease’s rampage on the cattle industry resulting in significant economic losses, the disease remains one of the hardest to manage and control. BRD is caused by many stressors linked to management events and external conditions. Of those conditions, weaning, crowding, sorting, commingling, processing, and shipping have all been connected to causing BRD. Furthermore, environmental conditions such as a change in temperature, wet conditions, exhaust fumes, and dust can all contribute to the development of the illness (Peel, 2020). These conditions and events leading to BRD have resulted in the disease’s nickname “shipping fever.”

Unfortunately, the structural complexity of the cattle industry and its various sectors add difficulty to understanding and controlling BRD. The length of time needed and various operations it takes to produce a beef product makes cattle more susceptible to contracting BRD due to the prolonged opportunity for exposure to the stressors previously mentioned. Between cow-calf, backgrounding, stocker, and feedlot operations, cattle travel lengthy distances to be mixed with others adding handling, sorting, commingling, and shipping stressors thus increasing their risk for developing BRD. Furthermore, the disconnect between sectors and the process in which animals trade hands contributes to the lack of awareness or care of difficulties or economic losses other sectors may face concerning the disease (Peel, 2020).

According to the United State Department of Agriculture (USDA, 2017), non-predator death loss in all cattle in both the beef and dairy industries was 3.21%, including a rate of 5.55% in calves and 2.17% in cattle heavier than 550 pounds. Of that non-predator death loss, 23.9% were due to respiratory disease accounting for $370.8 million in lost value. Taking a closer look at the beef cattle industry, respiratory disease is responsible for 15.9% of cattle death and 23.0% of calf death loss. Considering morbidity, in the feedlot 16.2% of feedlot cattle are reported to have been affected by respiratory disease, with 87.5% of those animals being treated. Death due to respiratory disease is not the only economic impact of this class of disease, animal morbidity or illness can also have negative economic impacts on the cattle industry.

Bovine Respiratory Disease affects all cattle sectors in both the beef and dairy industries. There is a wide range of negative impacts that the disease has on production. These effects come in the form of animal death, but also from cattle who recover from the disease during sickness as well as after in terms of their productivity. Animals in the feedlot who contract BRD experience reduced weight gain, reduced feed efficiency, and carcass quality degradation, all which affect animal value (Peel, 2020). On the cow-calf side, calves can not only die, but also experience similar negative effects to feedlot cattle due to BRD. Females in the cowherd can suffer from reproductive losses, deformed calves, and difficulty with subsequent conceptions after contracting respiratory diseases (Peel, 2020). Beyond losses accrued from decreased efficiency, producers should also expect to accumulate losses from treatment and prevention costs. The most common treatment for respiratory disease is an injectable antibiotic, and method of prevention is a respiratory vaccination (Peel, 2020). Its important to note that vaccinating against respiratory disease in any sector can have positive benefits for animals on that operation and as they move down the line.

Despite the improvements made in terms of detection, prevention, and treatment of BRD, the disease still persists. As mentioned, there are vaccines available to help prepare cattle for the challenge of BRD. However, according to the USDA (2007-08) 60.6% of beef cattle operations do not vaccinate calves for respiratory disease with small operations less than 50 head being less likely to vaccinate. It is believed that the reason for lack of vaccination of calves against BRD is due mostly to the lack of awareness between the cow-calf and feedlot sectors. The full impact that BRD has on the feedlot sector is unrecognized by a majority of the cow-calf producers who do not witness this impact firsthand in the following sectors. However, those cow-calf producers who experience an outbreak of respiratory disease may be made more aware of the diseases’ threats and may then implement a respiratory vaccine into their program for future protection (Peel, 2020). To help bridge the preparedness of calves moving through the sectors and to incentivize the adoption of preconditioning and vaccination against respiratory disease, various preconditioning programs have been developed. These programs give cow-calf producers an economic advantage and stocker, backgrounding, and feedlot managers confidence that animals have some protection against the costly disease (Peel, 2020).

The continued persistence of BRD in the cattle industry creates frustration for producers and animal health professionals alike. There remains a continued need to improve health testing, control, prevention, and treatment for BRD; however, the economic incentive for cow-calf producers to invest in better BRD control is still lacking. The downfall of this supports the need for a strong incentive program that encourages producers to begin BRD control early on in a calf’s life (Peel, 2020). An industry-wide cooperative effort must be taken to encourage and motivate the production of calves with better immunity and less risk to getting ill through better BRD control.

For more information or resources regarding bovine respiratory disease, please visit or call the Cheyenne County Extension Office at (785)332-3171.

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