

Pneumonia in Cattle

October in Cache Valley, with cool nights and warm days, are pleasant for most people. However, the wide variation in temperatures, sometimes exceeding 40 degrees, frequently triggers respiratory problems with cattle. Bovine Respiratory Disease (BRD) always causes serious economic losses for producers of cattle.

Depending on the organism(s) involved, death from BRD can occur within 24 to 36 hours. In other cases the infection can proliferate and become chronic, never causing death but instead producing widespread, permanent lung damage. Once the disease has progressed to the point that fibrosis, adhesions or abscesses have developed in or around the lungs, no treatment can satisfactorily correct the problem. The animal may survive, but will always carry some residual lung damage that will impact performance. Early detection and treatment of BRD is vitally important.

All cattle are susceptible to respiratory disease, but it usually begins when an animal is stressed. Common stressors include weaning, crowding, transportation, feed changes, variations in temperature and humidity, commingling and poor ventilation. Dry and dusty conditions can also augment the problem. All of these factors tend to reduce energy reserves that weaken the immune system, making the animal more susceptible to disease.

When the animal is exposed to one or more of the common respiratory viruses, the viruses infect the upper respiratory tract. This sets the stage for infection with bacteria that can settle in the lungs and cause severe tissue damage. Respiratory disease, especially *Pasteurellosis*, is most often seen in young stock that have encountered multiple stresses.

Several species of bacteria have been isolated, but the most commonly isolated species are *Mannheimia spp.* (formerly known as *Pasturella haemolytica*), *P. multocida* and *Mycoplasma*. From all observations and experimental evidence, *Mannheimia spp.* and *P. multocida* are the most important bacteria involved in BRD. Viruses such as infectious bovine rhinotracheitis (IBR), bovine viral diarrhea (BVD) and bovine respiratory syncytial virus (BRSV) may also be involved in the BRD complex.

Early detection and treatment of BRD is a priority to quickly reduce the impact on infected bovine. Initial clinical signs include an elevated temperature, nasal and eye discharge, walking with a stiff gait, a crusty muzzle, salivation and mild diarrhea. Rapid shallow breathing and coughing are also early signs. Affected animals will hang their heads, look lethargic and often stand away from other cattle in the pen. Their unwillingness to eat is closely tied to fever and depression.

Obviously, prevention is a priority. A well planned vaccination program and efforts to reduce stress on the animal are keys to preventing respiratory disease.

Management practices such as handling animals quietly and with care, minimizing pen movements, avoiding overcrowding and providing dry, clean bedding can do much to reduce stress. It is also important to provide adequate nutrition, clean water and plenty of rest, especially for animals that have been shipped. Nutritional soundness not only helps prevent disease, it also improves the immune function. A respiratory vaccination should include: IBR, BVD, BRSV, PI3 and *Mannheimia spp.* (formerly known as *Pasturella haemolytica*). *P. multocida* and *Haemophilus somnus* can also be included if your veterinarian considers these diseases to be a problem in your area.

There is no miracle answer for treating BRD because it is a disease complex and determining the correct treatment for each individual case is an equally complex process. There are a number of injectable antibiotics available for treating pneumonia and reducing fever caused by BRD infections. Wise managers will consult with their veterinarian to determine treatment protocols. Troublesome outbreaks may require complete blood counts and/or necropsies, along with detailed treatment histories before proper actions can be determined.