

Feedlot Health Management

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Bovine Respiratory Disease (BRD) is a multi-factorial disease that affects the lower respiratory system. There are a multitude of viruses and bacteria that can potentially contribute to BRD. However, there are typically one or more predisposing factors that allow pathogens optimal access to the lower respiratory tract. Stress from weaning, transportation, castration and/or dehorning, nutrition and ration changes, enteric disease, immunity, ventilation and weather changes contribute to the onset of BRD.

Host factors such as immunity can be enhanced by optimizing management practices. Ideally, cattle arriving at the feedlot should have received a previous dose of this vaccine, but in many cases the vaccine initially administered at the feedlot is their first vaccine. A good pre-conditioning program prepares young calves for finishing at the feedlot and includes proper vaccination, weaning before shipping, acclimation to eating from a feed bunk, and castration and dehorning of calves prior to entry at the feedlot. Calves that have been pre-conditioned are more apt to remain healthy while in the feedlot. These calves will not have to endure the stress of being newly weaned etc. at the same time that they are being confined and exposed to additional disease agents.

Calves can be affected primarily by appropriate antibiotic protocols. What is more important is timely intervention to prevent extensive pulmonary disease. Metaphalactic treatment protocols are used for “high risk” calves during initial processing upon arrival at the feedlot. Otherwise, calves are pulled as they are identified to be morbid and treated with a parental antibiotic. Ancillary treatments such as vitamins or anti-inflammatories are rarely used as there is no evidence that they decrease treatment success or performance. With the advent of long acting antibiotic formulations, most cattle are returned to their pen immediately after treatment instead of convalescing in a hospital pen. Many veterinarians are now recommending treatment moratoriums with antibiotic formulations of 3 to 8 days depending upon drug. Since antimicrobial resistance is not as critical as the antibiotic being able to adequately penetrate diseased lung, treating with more or different drugs following initial treatment is often not beneficial. The stress of pulling from pen and treating is probably worse than benefit of treating with additional drugs. Remember that the primary goal of any respiratory treatment program is to keep the calf alive long enough for the calf’s immune system to clear the infection with the assistance of targeted and appropriate antibiotics.

More important than which antibiotic is administered is when therapy is instituted. The earlier calves are identified and treated the less lung damage which leads to consolidated and necrotic areas of lung with limited blood supply to deliver antibiotic therapy. Calves should be observed daily for signs of respiratory disease. Initial signs of respiratory disease are more easily identified as subtle changes of behavior instead of obvious respiratory signs. Calves should be assessed on both their overall attitude and specific signs of respiratory disease. It is sometimes

beneficial to use a scoring system until personnel are comfortable assessing cattle and can reliably identify sick cattle. A typical scoring system would be:

Attitude:

- 0 – Normal, cattle are bright and alert, hold their head up and readily move away from the observer
- 1 – Mild depression, cattle's attitude is slightly depressed but respond quickly to observer and appear normal
- 2 – Moderate depression, cattle stand with head down, ears droop, abdomen lack of fill and may appear floppy, cattle move away slowly from observer
- 3 – Severe depression, cattle stand with head down and very reluctant to move, very noticeable gauntness of abdomen

Respiratory:

- 0 – Normal, eyes clear, nose is clean with no discharge, normal breathing
- 1 – Mild Respiratory, serous discharge from eyes and/or nose, slight cough
- 2 – Moderate Respiratory, mucco-purulent discharge, cough, increased respiratory rate
- 3 – Severe Respiratory, excessive mucco-purulent discharge, harsh cough, open mouth breathing

Typically, cattle are not pulled until they are at least a 2 for either attitude or respiratory symptoms. Remember that cattle will show attitude symptoms before respiratory symptoms so most cattle will be pulled with an attitude score of 2 and a respiratory score of 1. If morbidity is high in the pen or cattle have not been responding to initial therapy satisfactorily, it may be prudent to pull deeper and select cattle that have an attitude score of 1. It is usually best to observe cattle in the morning at approximately the same time each day. Personnel should make sure that they move and observe all of the cattle. Cattle are a prey animal and will try to hide when they are sick. These sick animals will hide behind other cattle when moving and often stand beside healthy cattle at the bunk but will often not eat. Cattle that have been pulled will then be evaluated. Rectal temperature greater than 104° F is primary tool used to determine if treatment is necessary. If temperature is below 104° F, then evaluate to determine the presence or absence of other important disease entities such as sub-clinical acidosis.