FrontLine®
TECHNICAL INFORMATION FOR TODAY'S FEED PROFESSIONAL

I Didn't Know My Calves Had Pneumonia!

A previous ***FrontLine***® article, *Turn That Dead Calf into an Asset*, detailed the three most important areas to look at during a post mortem examination of a calf. In brief review, these were:

- Lungs: It's important to determine if the lungs were involved in the death. We often see a calf that has loose manure, is breathing hard and has an elevated temperature. It can be difficult to know what the problem from the outside. The post mortem allows us to look inside the chest cavity to see if the calf has an actual pathogen infection in the lung tissue.
- Umbilical Cord: Post mortem examination of the umbilical cord can determine if any pathogens have penetrated the internal organs via the umbilical vein and arteries. This can reveal systemic problems that may be prevented with proper protocols at the time of birth.
- Kidney: The fat normally surrounding the kidney (perirenal fat) is one of the last fat reserves mobilized in support of basic body functions such as staying warm. A lack of perirenal fat is a sign that the calf may have died from "starvation."

This article is the first in a series that will expand on the above findings and discuss the options calf raisers have should they find their calves are suffering from pneumonia. Of course, any conclusions and action plans should be reviewed carefully with your local veterinarian and, where appropriate, with your local nutritionist.

Lung Tissues

When the lungs appear to have abscesses or abnormal stringy attachments, pneumonia is the most likely diagnosis. Pneumonia is usually caused by one of several bovine respiratory viruses, acting either alone or in combination with a bacteria such as *Pasteurella*. If evidence of pneumonia is found, the lungs should be taken to a vet for a bacterial culture and sensitivity. The results will help determine effective treatment of future cases of pneumonia. This can also help in developing a prevention plan.

Management Action Plan

If pneumonia is a problem on your calf operation, areas that may need changing include:

Air Quality

Outside fresh air is the standard for air quality. If calves are housed inside any type of a barn, air quality will be compromised. A young calf can easily spend 70% of its life lying down — so when evaluating air quality, do so at the level of 6 to12 inches (15-30 cm) off the bedding pack. Take a look at the situation and see if there is anything that can be done to improve the quality of the air. This may involve using curtains instead of walls, using fans instead of vents, switching from a solid panel to a wire panel, or changing the size and location of the air inlets.

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Exposure to Older Animals
It is common to have the weaned/group pens for older animals located next to or near the young calves. The presence of older animals will increase the exposure of the young calves to respiratory pathogens. Thus, do not keep older animals near the calves. Because of the compromised air quality, this can be a major problem when calves are housed in a barn.

Vaccination Program
Talk to your vet about when to start vaccinating young calves for respiratory problems. It is common today for calf operations to start a modified live virus (MLV) vaccine program containing BVD, BRSV, IBR and PI3 to a calf between 1 to 2 weeks of life. This vaccine can then be boostered at 5 weeks and again at 8 to10 weeks in challenge situations.

You may also start a Pasteurella-type vaccine at 5 or 8 weeks of age. This is where the expertise of the vet becomes so valuable to the calf raiser.

It can take up to 3 weeks (or longer if a booster is needed) to develop good immunity with a vaccine. Start the series of vaccinations early enough to allow the calf to have protection before the start of the disease problems.

The use of the intranasal vaccine (TSV-2) is often used for its interferon stimulation in calves. TSV-2 is commonly used on newborn calves or when calves are transported or stressed. Interferon is a non-specific disease-fighting protein that the body produces after being exposed to this vaccine. Once again, work with your vet to determine the optimal time to use this vaccine in your operation. One word of caution with this vaccine — use it as soon as it is mixed. Do not store this vaccine for the next day or the next calf to be born. If you do not have enough calves to warrant using a multi-dose vial, only use individual doses.

Antibiotics
If you don't know you're having problems related to pneumonia, you may not be using antibiotics. However, an appropriate early antibiotic program for calves with pneumonia should help get them healthier quicker. That's one reason why a post mortem lung tissue culture and sensitivity is essential. Determining the precise cause of the infection is important because some forms of pneumonia need longer antibiotic treatments. For example, a pneumonia involving Mycoplasma may require treating calves for 7 to 10 days to clear the infection.

In Summary
These are just the beginning steps to controlling a pneumonia problem with your calves. The important thing is to respond to the problem when you see it. If left untreated or poorly treated, pneumonia will lead to calves that are slow to gain weight and are prone to recurrences when under stress. Quick (and correct) action to minimize pneumonia when first seen will lead to healthier, better, and more productive animals throughout their lives.

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