

CALVING EASE

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CALF PNEUMONIA

WHAT IS PNEUMONIA?

It is an infection of the lungs (lower respiratory tract to be specific). Why is it bad? The diseased tissue does not exchange air as effectively as healthy tissue. Remember, that carbon dioxide comes out of the blood through the lungs and oxygen goes into the blood in the same place. In a talk with our calf-raiser's group, Dr. Steve Stoddard said that pneumonia infections result in pain, acidosis and cyanosis (purple gums). Nuf said! Pneumonia is bad stuff.

WHY DO CALVES GET PNEUMONIA?

_____The general answer is simple. When the disease agent is stronger than the calf's immune resistance, she gets sick. But, why? When? How come? On the disease side of the picture, if exposure is low, sickness rates are likely to be low. Well, none of us deliberately go around creating high exposure levels. But, when we have calves grouped in pens with common sources of feed and water, it only takes one or two sick calves to start an epidemic! We've all had the experience of pneumonia spreading through a pen like wildfire. Or, sharing feeding pails from one calf to another; sick calf passes bacteria on to next calf. Part of the answer? Exposure.

You might be saying, "So, we don't have any of those nasty bugs on our farm." Guess again! Dr. Stoddard reminded us of the numerous common disease agents. Viral agents include BRSV, BVD, IBR, and PI3. Some bacterial agents found commonly on our farms include *Pasturella*, *Hemophilus*, *Actinomyces*, and *Mycoplasma species*. These are just the most common ones - other bacterial and viral agents might be involved.

On the resistance side of the picture, Dr. Stoddard pointed out the physiological reason that stress aids in disease development. Stress on a calf increases blood cortisol levels. Over time, this increased cortisol level suppresses the immune system. For example, the cells that alert other immune system parts that a foreign substance is attacking don't work as quickly. This lets bacteria or viruses ("viri" to be correct) invade the calf's tissues.

Now if this wasn't bad enough, chemical agents can hurt a calf's lungs, too. Try this little test, says Steve Stoddard. Go into a pen where you house calves. Sit down so your nose is level with the calves. Take a five minute rest break (if the calves don't eat you alive), breath deeply. Are you refreshed? Or, are your eyes and nose stinging from ammonia? Are you "hungry" for fresh air? Constant exposure to even relatively low levels of ammonia is not good news for a calf's lungs.

Most of us don't think of milk as a dangerous chemical. But, in a calf's lungs milk is deadly. We wouldn't deliberately put milk into lungs. Of course, not. But, have you ever been in a situation similar to this one?

After a quiet day, you have just finished the PM feeding of calves. You check the springers. Where did these four (count them, four) newborn calves come from? And, you are supposed to be at "X" in less than an hour from now. Hurry up, heat colostrum, feed calf #1, feed calf #2 - oops, what a slow drinker - maybe that old nipple with the big hole would speed things up - darn, she's coughing a lot now, feed calf #3, calf #4 won't drink at all - tube her - hold still, quit wiggling around, oops tube pulled part way out ... and so the sorry story goes. You are only 30 minutes late. And, only two calves have milk in their lungs. We'd never do it on purpose but might we get in a rush now and then and get careless?

We know the technical part cold. Feed milk only at a rate at which the calf can effectively swallow it. When inserting or withdrawing a feeder tube, never allow milk to pass down the tube when it passes over the calf's wind-pipe opening (larynx). Doing it correctly every time takes a lot of skill and the dedication and patience of a saint!

CAN WE CUT THE NUMBER OF PNEUMONIA CASES?

Yes. If we have ammonia problems, improve ventilation. If we have aspiration pneumonia (like when calf gets milk in lungs) problems, improve our feeding management. If we have reason to suspect unnecessary exposure to bacteria and/or viruses, review our feeding and housing management practices.

What about stress? Most of us can't control the weather-related stresses directly. We can keep calves clean, dry and out of drafts or wind. That way in cold and wet weather they won't spend as much energy maintaining their core body temperature. We can spread out the stress points of changing dry feeds, weaning, vaccination and housing moves. That way a calf can recover from one stress before hitting the next one.

Another way to decrease pneumonia cases is to increase the immune system's power to react to new disease agents. Through vaccination we stimulate the immune system to prepare for fighting off the real bacteria or virus by using an agent that mimics the actual disease without making the calf ill. This is a prevention program. So, we have to plan ahead, working with our veterinarian, to come up with a schedule of vaccinations that reduce our pneumonia risk.

CALF FEEDER TIP

In keeping with the pneumonia topic, this month's TIP relates to handling and administering pneumonia-related vaccines. (We actually swiped this list from Steve Stoddard; Thanks, Steve and forgive us for editing your list slightly.)

1. Keep vaccines refrigerated; but don't freeze.
2. Use clean syringes and needles. Did you know that the preservatives in some drugs (such as killed vaccines) can render modified-live vaccines useless?
3. Be sure to use modified-live vaccines as soon as they are mixed. Their usefulness before injection is limited to hours, not days. They cannot be stored for a few days even if refrigerated.
4. Follow the product's label directions. If a booster is recommended, give it. Also, put the vaccine where it belongs (that is, intra-muscular, subcutaneous).
5. Avoid using modified-live vaccines when a calf is between 10 and 60 days of age.

These vaccines suppress the calf's immune system at that time.

6. Avoid giving pinkeye vaccine with modified-live IBR vaccines; combination may suppress immune system.
7. Keep an fresh bottle of epinephrine on hand in case a calf has a vaccine reaction; a timely injection of epinephrine will save her life.

If you know of someone that doesn't currently receive **Calving Ease** but would like to, tell them to **WRITE** to Calving Ease, 11047 River Road, Pavilion, NY 14525 or to **CALL** either 585-591-2660 (Attica Vet Assoc. office) or 585-343-8128 (Offhaus Farms Office) or **FAX** (585-591-2898) or **e-mail** sleadley@frontiernet.net or pams91@2ki.net . A limited number of back issues may be accessed on the Internet at www.calfnotes.com and clicking on the link, Calving Ease.