



Herd This?



Volume 4, Issue 2

October 2014

Don't forget to call our office and set up appointments for:

- Pregnancy checks for spring calving herds
- Bull tests for fall 2015 calving herds (recommended in the 30 days prior to the bulls going in)
- Herd health reviews for winter and fall calving herds.
- Herd Vaccination Ordering

Inside this issue:

Freeze Branding 101 (con't)	2
Urolithiasis in Small Ruminants (con't)	2
Two Common Fall Diseases in Ruminants	2
What's In A Mineral?	3
Client Appreciation Day	4
Meet our New Vet—Dr. Jennifer Freeman	4

Preventing Urolithiasis in Small Ruminants



Obstructive urolithiasis is the fancy medical terminology that describes a sheep or goat that is having trouble urinating due to a blockage in their urethra. The urethra is the tube that runs from the bladder to the penis in a male or the vulva in a female. Urethral obstruction caused by uroliths is most commonly seen in pet goats and show lambs that are being fed inappropriate nutrition. For example, a diet high in grain, phosphorous, and magnesium and low in roughage (hay or fresh grass) and calcium will increase the risk of phosphate urolith formation.

Normally, a ruminant will remove phosphorous from its body by excreting it into saliva and then out through the feces (manure). High grain, low roughage diets decrease the formation of saliva, so extra phosphorous must be removed from the blood by the kidneys and then excreted in the urine. When diets are too high in phosphorous, the urine phosphorous levels become excessively high, and the phosphorous settles and consolidates into stone-like pellets that can be too large to pass through the urethra. These uroliths increase the risk of urinary tract infection and may result in life-threatening blockages of the urethra. Some breeds of sheep (for example, Texel and Sottish Blackface) may be predisposed to stone formation because they tend to excrete phosphorous through the urinary tract rather than the saliva and feces.

Early in the onset of urolithiasis, your sheep or goat may have blood in the urine, an inability to urinate completely, a prolonged urination stream, urination by dribbling, flagging of the tail, and apparent abdominal pain (stretching out all four limbs, kicking at the abdomen, looking at the side, grinding teeth, etc.). Later in the course of the disease, he or she may demonstrate inappetance, apparent depression, the inability to get up or excessive abdominal swelling. Terminally, patients may have seizures, suffer cardiovascular collapse, or die suddenly. This course of clinical signs may progress very rapidly depending on the severity of the blockage and, therefore, immediate veterinary care is recommended if you fear that your sheep or goat may have a urethral blockage.



To prevent urolith formation with your sheep or goats, we at Pineview recommend that any goat or sheep intended to be a pet should NOT be castrated until they are 6 to 12 months old

Continued on page 2

Freeze Branding 101



One identification method that has gained popularity in recent years is freeze branding cattle. Instead of placing a branding iron in a fire, the iron is placed in liquid nitrogen or a combination of dry ice and alcohol. The super-cool temperature then kills the melanocytes (pigment producing cells in skin), causing subsequent hair growth to be white. It is recommended to freeze brand in the spring or fall as the hair coat is shedding and new hair growth should appear in 2-3 months.

The advantages of freeze branding are that it is a relatively painless procedure and reduces hide damage as compared to fire branding. The disadvantages are the increased time and expense of freeze branding and the need for dark-hided cattle to be visible. To freeze brand, the irons should be made of copper or a copper alloy. Sizes for the numbers range from 2 inches to 5 inches in height and a set of all nine numbers (the number 6 is inverted to also be used as a 9) can cost \$150-250, depending on the quality.



Continued on page 2

Freeze Branding 101 (con't)

To prepare the irons for branding, place them in a cooler filled with either liquid nitrogen or isopropyl alcohol and dry ice, enough to cover the numbers. Leave the brands in the cooler about 20-25 minutes. Once the handles have a nice layer of ice on them and the liquid has stopped boiling, they are ready for use.

Freeze branding starts with clipping the area around the hip and rump with a #10 blade. Then wipe the area clean with 99% isopropyl alcohol to remove any dirt and remaining loose hairs. Spray the area down with alcohol and leave it wet. This provides a good contact with the irons to make sure the skin gets cold enough to kill the melanocytes.



Once the area is ready, apply the irons in the correct numerical order for 75 seconds. Make sure that all edges of the numbers contact the skin for the entire 75 seconds to obtain a clear number. Cattle usually jump about 5-10 seconds after applying the irons; afterwards the skin is numb. Make sure to allow the irons at least two minutes back in the cooler before moving on to the next cow.

Urolithiasis in Small Ruminants (con't)

to allow for development of normal urethral diameter. All show animals that need to be fed a relatively high grain diet should have salt added into the ration at a rate of 2 to 5% of their diet. Alternatively, ammonium chloride can be used at a rate of 0.5 to 1%. Horse feed should never be fed to small ruminants be-

cause the diet is not balanced for ruminants and thus is more likely to cause uroliths.

Please call our office at (910) 655-2442 if you have questions or concerns about the current diet you are feeding your sheep or goats as we can help you determine if you are feeding the appropriate

diet to help prevent urolithiasis from occurring.



Two Common Fall Diseases in Ruminants

Grass Tetany

Grass tetany is a serious, often fatal metabolic disorder characterized by low levels of magnesium in the blood stream of cattle. It most commonly occurs in early lactation and when pastures are their lowest in magnesium and sodium (usually when they are lush). In addition, the cooler weather also causes decreased absorption of magnesium in the cow. These three risk factors come together in the fall and spring in North and South Carolina when most producers are set up to calve and the pastures are lush.

Grass tetany can present as either subclinical or clinical disease. With subclinical disease, cows have reduced feed intake, nervousness, and reduced milk fat. Clinical disease causes hyperexcitability, muscle twitches of the face, neck, and flank, staggering, falling, convulsion, and sudden death. Treatment can be ineffective and is greatly dependent on the time between the cow going down and the start of treatment. It is also common for the cow to need additional treatment

12 hours after initial treatment as her body uses up the magnesium she was given initially.

Therefore, prevention of grass tetany is key. The most common way is provide the herd with a high-magnesium mineral, either loose or in a block, to supplement low magnesium forage. Turn to page 3 for information about choosing a mineral.



Milk Fever

Milk Fever is another metabolic disease of cattle caused by low serum calcium. It is called milk fever because it most commonly occurs in dairy cattle as they enter lactation. However in beef cattle, milk fever commonly occurs before calving in late gestation when the fetus has a very high requirement for calcium as its bones are grow-

ing, especially with twins. For this reason, milk fever is also common in ewes and does.

Similar to grass tetany, cows with milk fever go down and are unable to rise. Unlike grass tetany however, cows typically do not have muscle tremors or convulsions. Animals can be supplemented with calcium in the diet, but it can be difficult when a cow or ewe becomes inappetent due to a late term pregnancy. The risk for milk fever increases as the cow or ewe ages and has more pregnancies, because their bodies are less able to accommodate their changing calcium requirements.

It is also possible to have animals with both milk fever and grass tetany at the same time. This is because the regulation of calcium relies on the presence of magnesium. If magnesium is low, then calcium cannot be regulated properly. Therefore, it is very important to make sure that your herd is receiving adequate amounts of both magnesium and calcium. Turn to page 3 for information about choosing a mineral.

What's in a Mineral?

Beef cows have a requirement for many vitamins and minerals to maintain their everyday body function. Some of these are provided by the forage they eat and some by grain, but the amounts of minerals that feeds and forages contain can vary quite a bit between sources. Minerals are broken down into two groups based on whether they are found in a small or large quantity in the cow's body—macrominerals and microminerals.

MACROMINERALS:

Calcium and Phosphorous: The bones of the animal require greater than 80% of both the calcium and phosphorous an animal needs and are the storage place for these minerals until they are needed. When the body requires more than what is available in the blood, it pulls from the bones as needed. This puts the animal at risk for fractures due to weak or brittle bones. As previously discussed, low calcium is the cause for milk fever.

Sodium and Chloride: Sodium and chloride are required for proper function of muscles and the nervous system. There is very little storage of these minerals, so constant daily intake is required to meet the needs of the animal.

Magnesium: Magnesium is required for enzyme and nervous system function. As previously discussed, low magnesium is the cause for grass tetany. High rates of nitrogen and potassium fertilization can bind the magnesium in the forage and contribute to the disease as well.

Potassium: Potassium regulates the amount of water retained in the body as well as the acid-base balance. Potassium is soluble in forage and leaches if hay was baled or stored wet.

Sulfur: Sulfur is the building block required for making protein. It is commonly excessive in cattle diets, which can then interfere with the metabolism of copper. Excess sulfur can also reduce feed intake and result in a condition known as polioencephalomalacia.

MICROMINERALS:

Cobalt: A component of B-12, Cobalt is synthesized in the rumen by bacteria. Most forages in the southeast have adequate levels of cobalt, though it does not need to be supplemented when feeding a grain-based diet.

Copper: Copper is the most common micromineral deficiency in grazing cattle and is essential for normal growth and development. Look for a mineral with its copper source as copper sulfate, tribasic copper chloride, or an organic complexed form because copper oxide is very poorly absorbed.



Iodine: Iodine is essential for the function of the thyroid hormones that regulate energy metabolism. It is rarely deficient in cow herds in the southeast and has a legal maximum supplementation level of 50mg per head per day.

Iron: Iron is required for the formation of hemoglobin and is rarely deficient in grazing animals. If supplementation is needed, it should be in the form of iron sulfate, as iron oxide is not able to be absorbed by cattle.

Manganese: Manganese is required for normal reproduction, as well as fetal and udder development. Deficiency is rarely a problem in the southeast.

Selenium: Selenium deficiency causes white muscle disease in newborn calves, as well as weak calves and increased susceptibility to scours during calthood. The FDA allows selenium to be used at a level not to exceed 0.2ppm of the dry matter in the total diet of beef cattle.

Zinc: Zinc is a component of many enzymes and is important for immunity, male reproduction, and skin and hoof health. Zinc absorption is closely tied to copper and the ratio should be kept at approximately 3:1 (zinc:copper).

Now how do you choose a mineral supplement? First, it is important to have an analysis of your forage done annually. This includes each cutting of hay that you are going to be feeding because nutritional composition can vary from cutting to cutting. Through Pineview, we can submit samples to the state lab for \$12 per sample. If you are irrigating your pastures, it is also important to sample your soil or forage. Fertilizer from swine or poultry houses can be high in certain minerals that can decrease the amount of supplemented mineral the cattle will consume.

Second, if you are feeding grain, look at the tag to determine the amount of mineral in the feed. Most complete feeds will satisfy all the mineral requirements of cattle but the feed must be fed at a certain level to make sure all the requirements are being met and you may not be feeding that much. With these two critical pieces of information, we can help you correctly pick the best mineral to meet your herds specific needs.

Most major companies have a line of minerals available, with each being formulated for a specific time of year or condition. The most widely available options include Southern States, MoorMan, Nutrena, and Purina. All three offer 4 different types of minerals, depending on the season, type of cattle, and nutrient deficiencies. All offer a Hi-Mag variety and most offer a fly control feed-through.

Once you have chosen the appropriate mineral, monitoring the herd's intake is very important. Cattle will consume more than recommended amount initially if they have been without a mineral, especially a loose mineral. Always provide fresh mineral to optimize intake and always allow access to fresh water.



So whether you eat or drink or whatever you do, do it all for the glory of God.

1 Corinthians 10:31

Pineview Veterinary Hospital is a large animal veterinary practice meeting the needs of horses and food animals in southeastern North Carolina and northeastern South Carolina.

Our mission is to provide high quality service to our clients coupled with the most advanced and progressive veterinary care for our patients with an emphasis on preventive and herd health medicine.

Pineview Veterinary Hospital
7263 Green Swamp Rd. S.
Bolton, NC 28423

Dr. Heidi Hart
Dr. Christine Long
Dr. Jennifer Freeman

Phone: 910-655-2442
Fax: 910-655-8552
E-mail: pineviewvet@gmail.com
www.pineviewvet.com

Join Us in Saying Thank You!

As the leaves begin to change and the weather finally starts to cool off, Pineview is seeing some changes of its own. As many of you know, Dr. Heidi Hart and her family will be transitioning to the next chapter in their lives as missionaries. Dr. Christine Long is buying the practice and will continue to provide the same high quality service you have come to expect from us.

To say thank you for being a valued client, we are having a Client Appreciation Day on

Saturday October 25, 2014 at 10am at the Boys and Girls Home of NC in Lake Waccamaw, NC. Please RSVP to Donna at the office no later than October 1st.

Dr. Hart will be stepping away from the practice at the end of the year and we want to take this time to celebrate all of the work she has put into making Pineview the hospital it is today.

You will also have the

opportunity to meet our new Associate, Dr. Jennifer Freeman.

We look forward to seeing you as we begin this new chapter in our lives!



Welcome to Our New Vet!



Dr. Jennifer Freeman obtained her Bachelor's degree in Animal and Veterinary Science from Clemson University in 2007. She then continued to the Ohio State University where she earned her Master's of Public Health in Veterinary Public Health in 2012 and then com-

pleted her Doctorate in Veterinary Medicine from the University of Georgia in 2014.

Dr. Freeman's professional interests include equine lameness, both equine and bovine herd health management, and bovine embryo transfer. Although she grew up an Army brat, she has spent most of her life in the South and currently calls Charleston, SC home.

Her personal interests are cheering on the Clemson Tigers and Georgia Bulldogs in football, returning to 2nd level Dressage after a break for school, and

spending time with her 2 year old Lab Diesel.

She looks forward to joining the Pineview family and is excited to meet all our clients!

