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Over-The-Counter Antibiotics Going Away

In case you haven't heard, most antibiotics will become available only through veterinary prescription in June 2023. This includes commonly used drugs like penicillin, LA-200 and even intra-mammary mastitis treatments.

If you're wondering how to be prepared for these new regulations, there is a video that can answer many of your questions. This is a recording of a webinar presented with Dr. Tom Van Dyke of the NCSU Vet School entitled *The Last of the "Over The Counter" Antibiotics*.

To access the recording, visit this website: go.ncsu.edu/22antibiotics
 Once you have registered, the recording will be immediately available for you to view.

Small Ruminant Winter Webinar Series

There are four sessions left in the webinar series. They are held on the third Thursday of every month beginning at 7 pm. Remaining sessions:

December 15- Getting Off to the Right Start: Small Ruminant Health and Lambing/Kidding

January 19- Taking the Next Step: Small Ruminant Post-Weaning Management

February 16- Marketing Considerations and Genetic Improvements for Small Ruminants

March 16- Reproductive Management for Improved Small Ruminant Flock/ Herd Productivity

Visit smallruminants.ces.ncsu.edu for more information

Soil Sample Pay Period Soil samples will be \$4 per sample starting on December 1 through March 31, 2023. From April through November, routine soil samples will again be free for NC residents.

Hay Directory

North Carolina Department of Agriculture's Hay Alert is at <http://www.ncagr.gov/HayAlert/>. It lists people selling hay or looking for hay to buy. It is free to list your hay.

For any meeting listed, persons with disabilities may request accommodations to participate by contacting the Extension Office where the meeting will be held by phone, email, or in person at least 7 days prior to the event.

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Waste Management Classes and African Swine Fever

By: *Becky Spearman, Livestock Extension Agent with N.C. Cooperative Extension in Bladen County*

Statewide Animal Waste Zooms - 3 hours each

November 16th from 9 am - 12 pm
go.ncsu.edu/2022oic1
 Topics: Farm Safety, African Swine Fever, Feral Hogs, Inspection Missteps

December 1 from 1 - 4 pm
go.ncsu.edu/2022oic2
 Topics: Crop and Forage Updates, Sludge, Rodent and Fly Control (1 hour X pesticide credit at 3pm)

In-person County Animal Waste Continuing Education Classes - 6 hours

Date	Location	Time	To register, call or email:
December 5	Wayne County	9 am - 4 pm	919-705-1921
December 6	Bladen County	9 am - 4 pm	910-862-4591 or becky_spearman@ncsu.edu
December 9	Duplin County	9 am - 4 pm	910-296-2143
December 13	Sampson County	9 am - 4 pm	910-592-7161
December 13	Hoke County	9 am - 4 pm	910-875-3461 or liz_joseph@ncsu.edu by 12/9
December 14	Greene County	9 am - 4 pm	252-560-6094 or kfmohrfe@ncsu.edu
December 14	Cumberland Co	9 am - 4 pm	910-321-6405 or liz_joseph@ncsu.edu by 12/12
December 16	Lenoir County	9 am - 4 pm	252-560-6094 or kfmohrfe@ncsu.edu

Initial 10-hour Animal Waste Operator Class (OIC)

There will be an initial class on January 26 and 27 in Bladen County. Participants will be able to take the March exam. To sign up, call (910) 862-4591.

African Swine Fever (ASF)



Stay Vigilant: Know the Signs

To protect our pigs from African swine fever, you must be alert to the signs of this deadly virus:



High Fever



Decreased appetite and weakness



Red, blotchy skin, or skin lesions



Diarrhea and vomiting



Coughing and difficulty breathing



Abortions or sudden death

African Swine Fever action week was in October and the USDA Animal and Plant Health Inspection Service (APHIS) website reminds farmers of the importance of vigilance and biosecurity. The Protect our Pigs - Fight African Swine Fever! Key Take Aways:

- In the US, there are 76 million pigs at risk and the 10 year estimated cost of an ASF outbreak to the US swine industry is \$50 billion.
- It is a disease of pigs and humans can't contract it and pork is safe to eat
- 3 ways for transmission to occur: direct contact, indirect, and insect-borne soft ticks

BIOSECURITY - 6 key prevention steps:

1. Limit on-farm traffic.
2. Require workers and visitors to routinely wash hands or shower-on and out.
3. Wear clean coveralls and boots at each site.
4. Prohibit anyone eating in animal areas - ASF can survive for extended periods in pork products.
5. Clean and disinfect all equipment and vehicles entering or leaving your site.
6. Ask employees and visitors about recent international travel.

A Discussion on Castrating Bull Calves

By: Randy Wood, Livestock Extension Agent with N.C. Cooperative Extension in Scotland County

One thing I've learned in my career as a livestock agent is that there are some arguments, you're not going to win sitting on a farmer's tailgate.

One of these is why you should be selling steers instead of bull calves. Farmers either believe in the merits of selling steer calves on a high-quality sale and have been doing it for years or they are not going to do it no matter what you say. If I have heard the argument that "a 400 pound bull brings the same thing as a 400 pound steer on the weekly sale" once I have heard it a hundred times. I will spare you my standard response of "well why in the world are you selling a 400-pound steer on a weekly sale in the first place?" and instead focus this article on the best time and methods to castrate a bull calf.

For the farms that are castrating their bull calves, when they castrate and how they castrate their calves are going to be performed according to their available labor and future marketing plans. I tell farmers if your system works, don't fix it. However, let's look at the pros and cons of each method.

There are two main ways to castrate a bull. "surgical" or knife cutting is performed by cutting into or even removing part of the scrotum and then completely removing the testicles. This is no doubt an invasive procedure and there will be some blood involved. Depending on the age of the bull when this is performed will determine the recovery time and how much stress the bull will experience during and after the procedure. One of the main advantages knife cutting has is it is hard to screw it up. The old saying of if you can count to two then you can knife-cut a bull correctly is as true today as it was when I first heard it 30 years ago. They may bleed a little and it may be a tough couple of minutes getting it done, but knife-cut calves will be true steers when you are done.

"Banding" or bloodless castration is done by clamping a strong elastic band around the testicles, which stops blood flow through the scrotum, and the tissue of the entire scrotum and testicles will deteriorate and eventually fall off the body altogether, thus rendering the animal a steer. While no large wound is opened up on the bull, most of the times the bull needs to be vaccinated for tetanus and will still experience some stress from the procedure, how much stress and for how long will again depend on the age of the bull when this is done.

If done correctly, then banding works fine. But banding is much easier to make a mistake performing. Banding, particularly in younger bull calves, may result with one testicle getting pushed back into the body cavity while the procedure is being performed. Thus, resulting in a stag. If you are not familiar with the term stag, this is a "steer" that still has bull characteristics and appearances. Stags often have a testicle still in their upper body cavity or have been castrated so late in life they will have a bull-like appearance and behavior. Stags have all the "downside" of a bull in the feedlot and are rejected on any type of graded sale. The other downside of banding is that sometimes people associate no blood with no pain. This is not so. Having a sensitive part of your body slowly squeezed off over a matter a

days and weeks is no picnic.

Let's now discuss the timing of castration. The older a bull calf is cut, by any method, the more stress, the more pain and the longer the recovery period will be for that animal. Bulls castrated at birth will be up and running around the next day like nothing happened. Bulls cut at weaning will lay around a week or more recovering from the procedure.

Early (birth to 3 months of age) castration has some clear advantages. As stated above, the stress and recovery period is much less than older bulls. Also, it's a lot safer to castrate a young bull calf. Getting kicked by a month-old calf will hurt and make you say some bad words. Getting kicked by a 6-7 month old bull may send you to the doctor and those words will have a lot more adjectives said around them.

There are some disadvantages with early cutting, however. IF you are not going to use growth implants when you castrate, then the growth rate for these young steers will be significantly less. Countless studies have shown that intact bulls will wean anywhere from 50-75 pounds (or more) than non-implanted steers. Please note that just as many trials have shown over and over that steers that were treated with an FDA approved growth promotant (Ralgro, Synovex, etc...) at castration grow and wean equally to intact bulls. However, if you are in an all-natural program or just do not want to use implants, then cutting early will cost you some weight.

As stated above, banding very small calves can be tricky and is much easier to make a mistake than surgical castration. It can be done correctly and will work fine, but it is hard to see if a mistake was made until months down the road and there's not a lot that can be done about it at that point.

Late castration (4 months through weaning) also has pros and cons. If you are not going to use growth implants for whatever reason, then you need to let these bulls stay intact for a while to increase their growth rate and muscling. Also for purebred producers, it is difficult to fairly evaluate a young bull calf still running with mama to see if they will make the cut for a potential marketable bull. Waiting to make your first selections at weaning and then castrating any early cull bulls will still allow you to recoup some salvage value on these animals as steers in the feedlot.

What are the disadvantages in late cutting? Obviously, the stress and healing time on older bulls being cut is much more significant. When you double this stress up by weaning them at the same time this makes for a really rough week these calves are having. This is especially true when Knife-cutting calves this size. The potential blood loss and possible infection is a real issue. Bulls banded this late still go through a lot of stress, but you generally do not have to worry about blood loss or massive infection.

Hopefully your castration system is working fine on your farm. But if you are not getting your calves cut or if a couple of bulls that were missed turns into most of the bulls were missed, or if 25% of your steers were rejected as stags, then it may be time to come up with a new plan.

Hoof Care for Sheep and Goats

By: Tom Shea, Livestock Extension Agent with N.C. Cooperative Extension in Moore County

Hoof care is a significant part of raising livestock. Horses need their hooves done every 4-8 weeks, dairy cows yearly, and sheep and goats every 3 to 6 months. This critical step is often overlooked or forgotten, leading to lameness and infections such as foot rot.

How often hooves need to be trimmed depends on the environment in which the animals live. Sheep and goats that live in softer environments such as pasture or sand will need more frequent hoof maintenance. However, when they live in environments that have more rocks or climbing material, they will need less trimming because they will wear down more quickly. If you have a goat play set, adding shingles or nonslip steps will help wear down the hooves, increasing the time between trimmings.

Preventive maintenance will reduce the amount of overgrowth, allowing the animal to walk correctly. When trimming, the hoof should be shaped so that it is flat on the bottom, side walls, and heels and follow the same angle as the hairline. While trimming, remove all manure, dirt, and rocks from the hoof.

Trimming hooves is a great time to check for abnormalities such as abscesses, foot rot, and stuck materials.



Livestock & Prussic Acid Poisoning

By: Stefani Sykes, Livestock Extension Agent with N.C. Cooperative Extension in Wayne County

As temperatures continue to get cooler and the ground begins to frost, many producers may be concerned about grazing forages that have the potential to cause prussic acid poisoning and what they can do to minimize the risk.

Prussic acid (or cyanide) can build up to dangerous levels any time the plant is stressed, like after a drought or following a frost. Prussic acid hinders the oxygen-transferring ability of the red blood cells, which causes animals to suffocate. Ruminant animals such as cattle, sheep, and goats are more susceptible than non-ruminant animals. The main grasses that pose a problem are sorghums, sorghum-sudangrass crosses, and sudangrass. Other plants that may contribute are arrowgrass, cherry trees, and Johnson grass. Leaves and young/new growth are particularly high in prussic acid accumulation.

Allowing the plants to rest after frost reduces the risk of poisoning because the cyanide levels can decrease. Once a frost occurs, take your animals off the pasture and prevent grazing of the sorghum, sorghum-sudangrass, or sudangrass. Sufficient drying and recovery should occur within 7-10 days following the frost; after that it is probably safe to return your animals to that field. Always err on the side of caution and wait a full 10 days before turning your animals back onto pasture, if possible.

Here are some other tips for handling and/or preventing possible prussic acid poisoning in livestock:

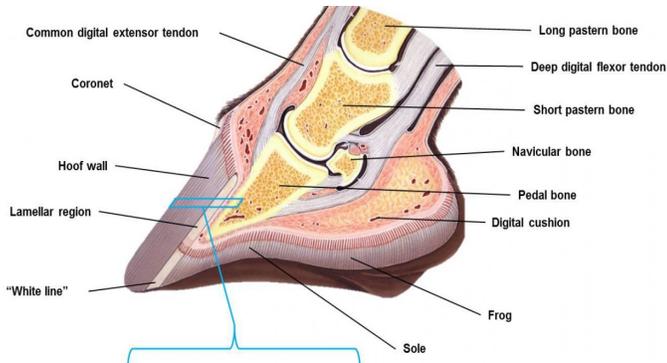
- Do not graze sheep on sudangrass or hybrids until it is 12-15 inches tall.
- Do not graze cattle on sudangrass or hybrids until it is 18-24 inches tall.
- Sorghum may not be safe to graze until fully headed.
- Do not graze hungry livestock on sorghum or sorghum-sudangrass hybrids. Potential for poisoning increases with the amount of this high-risk forage that is consumed.
- Select grass varieties that are low in prussic acid.

What do you do if you think your animals may be suffering from prussic acid poisoning? Call your local vet and remove them from the pasture. Don't delay - time is of the essence with any poisoning! Check your pastures for a cause of the problem to avoid other animals from getting sick. Avoid plants that can cause prussic acid poisoning and monitor animals.

What is Laminitis?

By: Liz Joseph, Livestock Extension Agent with N.C. Cooperative Extension in Cumberland and Hoke Counties

Laminitis is a painful and debilitating disease affecting the laminae within the horse's hoof. The laminae is a soft connective tissue responsible for holding the coffin bone in place and securing it to the hoof wall. Laminitis occurs when decreased blood flow to the laminae occurs, resulting in inflammation, death of the laminae tissue, and, in advanced cases, separation of the coffin bone from the hoof wall. This leads to founder which is the downward rotation of the coffin bone.



Laminitis can be caused by multiple different things, including excessive grain intake, access to pasture high in sugars, compensatory weight bearing due to injury of the opposite limb, ingestion of toxic plants, excessive work on hard surfaces, and certain drugs (corticosteroids). Ponies, older horses, and horses with metabolic disorders and insulin resistance are more likely to develop laminitis than other horses.

Laminitis is typically diagnosed based on clinical signs which vary depending on the amount of damage to the laminae. Reluctance to walk and stand up along with shifting weight from one hoof to another while standing are all clinical signs of laminitis. Laminitis can be divided into three phases with the first being developmental. This phase is when the injury to the laminae begins and the processes are underway. Horses do not always exhibit clinical signs during this stage. The first signs of lameness are observed during the acute stage which can last hours to days. The coffin bone may rotate and be displaced during this phase. Not all horses develop coffin bone displacement. The chronic stage is when clinical signs last longer than a week. During this phase, the pain and lameness are caused by the rotation of the coffin bone.

Radiographs are a helpful tool to observe the severity of the bone displacement. Once the bone rotates, the horse is considered to be foundering.



X-ray of the hoof of a horse with laminitis showing displacement of the coffin bone.

Once clinical signs of laminitis are observed, the damage is irreversible. At this point, it is crucial to minimize any further progression using pain management and supportive care. Non-steroidal anti-inflammatory drugs (NSAIDs) and ice baths can help minimize inflammation. Routine farrier care helps provide mechanical support and encourages normal hoof growth. Depending on the severity of the laminitis, a horse may recover, especially if there is no movement of the coffin bone. Some cases are so severe the horse is euthanized due to the pain.

Some horses are more sensitive to the amount of starches or nonstructural carbohydrates (NSC) in lush green pasture which can lead to pasture-associated laminitis. When horses consume grass with high NSC, rapid fermentation can occur in the hindgut which causes the cecum to become acidic, ultimately leading to laminitis. Winter grasses, such as ryegrass, are often planted this time of year to allow horses to have green grass to graze while our summer grasses are dormant. It is important to monitor ponies, overweight horses, and horses with metabolic syndromes for laminitis if they are allowed to graze lush green pasture. Limiting the amount of time these animals graze and adding a grazing muzzle are both ways to help prevent pasture-associated laminitis.

If you have any questions about laminitis and foundering, reach out to the Livestock agent in your county and always consult your veterinarian.

Eastern Carolina Showmanship Circuit Winners

By: Dan Wells, Livestock Extension Agent with N.C. Cooperative Extension in Johnston County

The 2022 Eastern Carolina Showmanship Circuit wrapped up in October and awards for each species were presented at the NC State Fair. Livestock Shows in the Eastern Carolina Showmanship Circuit were held in Halifax, Smithfield, Kingston, Elizabeth City, Tarboro, Kenansville, Trenton, Wilson, Greenville and Goldsboro.

Participants in the circuit were required to attend at least four shows to be in contention for circuit awards, with their top six scores (beef, goat and sheep) or top four scores (swine) being counted towards their circuit total. The highest point winner in each age division received a championship belt buckle, with reserve winning an embroidered jacket. Third through fifth place exhibitors each received gift certificates from livestock supply vendors.

Sponsors for the 2022 circuit included:

Signature Circuit Sponsors; Smithfield Foods-Hog Production Division, Quality Plus Automotive Service

Platinum Sponsors-AgCarolina Farm Credit, NC Pork Council

Silver Sponsors- NC Hereford Association, Picole Farm

Swine Showmanship Winners

Placing	Novice	Junior	Intermediate	Senior
1	Jane Jennings	Riley Balance	Mackenzie Cox	Hannah Cooper
2	Sarah Morgan	Arlee Fulcher	Billie Fulcher	Travis Cox
3	William Messer	Halle Taylor	Logan Balance	Connor Kennedy
4	Harley Barwick	Dylan Briley	Scarlett Denning	Faith Kennedy*
5	Southerlynn Carter	Eli Price	Liza Sullivan	Justus Meads*

Goat Showmanship Winners

Placing	Novice	Junior	Intermediate	Senior
1	Emma Briley	Cody Formisani	Mary Grace Baker	Taylor Askew
2	Wager Shook	Macon Parker	Kennedy Lee	Lilly Stallings*
3	Zoie Bright	Carson Norris	Darci Boucher	Erin Burns*
4	Adelyn Hemilright	Lucas Barbour	Emma Taylor*	Justin Richardson
5	Avalyn Tew	Reygan Tew*	Taryn Reams*	James Baker

Heifer Showmanship Winners

Placing	Novice	Junior	Intermediate	Senior
1	Mack Bunn	Makayla Davis	Mazie Bunn	Schylar Crocker
2	Wyatt Beasley	Laithan Blankenship	Wyatt McCoy	Lydia Crocker
3		Grayson Blankenship	Abigail Blankenship	Caleb Davis
4		Emma Beasley		Bryson Ingram
5		Jackson Pipkin		Emma Raynor

Lamb Showmanship Winners

Placing	Novice	Junior	Intermediate	Senior
1	Ditty Moore	Lexi Barbour	Kendall Ayscue	Kalen Barwick
2	Lane Stevenson	Tenley Barbour	Kennedy Lee	Taylor Askew
3	Valerie Poole	Cody Formisani	Lane Markham	Emma Britt
4	Zoie Bright	Meredith Poole	Jacob Meads	John Owens
5	Karson Harris	Josey Kemp	Darci Boucher	Jolyna Sundbom

*Denotes a tie that was broken on head-to-head competition or dropped scores.

Highly Pathogenic Avian Influenza Update

By: Margaret Ross, Eastern Area Specialized Poultry Agent with N.C. Cooperative Extension

Highly pathogenic avian influenza (HPAI or “bird flu”) is a real threat to the poultry industry in North Carolina, the United States, and other poultry producing countries around the globe. Surveillance testing by the USDA has confirmed the presence of the virus in different species of wild birds in 45 of the 50 states this year with the first positives occurring in South and North Carolina in January. The virus began to spread affecting multiple species and classes of poultry in both the commercial industry and backyard flocks as well. North Carolina had nine cases in commercial poultry in Johnston and Wayne counties earlier this year. Although NC experienced months without a break, there is still a need for immediate action from all of those associated with poultry and the poultry industry. This is evident by a recent press release on October 20th, from NCDA&CS confirming a positive backyard flock in Wake County.

<https://www.ncagr.gov/paffairs/release/2022/BackyardflockinWakeCountytestspositiveforHPAI.htm>

Producers, both big and small, should continue to practice proper biosecurity protocols to keep commercial and domestic flocks away from areas frequented by migratory birds, all waterfowl, and other wild birds. The main point here is that they do not need to have free access to the outdoors in a way that is unprotected. HPAI could wipe out an entire flock when infected. In addition to routine biosecurity protocols, other things to consider at this time include: relocating flocks away from all natural bodies of water, covering the top of any open or screened runs with metal and/or plastic to prevent wild bird droppings from falling into the bird area, and removing wild bird feeders or distancing them from any backyard flocks as much as possible. Also, if your birds are more confined than usual, consider adding forms of enrichment to discourage birds from pecking one another such as tree branches, cabbage, melons, pecking blocks, hanging aluminum pie pans, etc.

Please take a look at our HPAI educational resource page at <https://poultry.ces.ncsu.edu/2022/02/highly-pathogenic-avian-influenza-educational-resources/>

Share this information with other poultry keepers that you know as well. We all need to know the facts and be extra cautious during this time to protect our flocks and our industry. If you have any specific questions or concerns not addressed in this article, please don't hesitate to reach out to your local Poultry ASA, Margaret Ross, at Margaret_Ross@ncsu.edu.

