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NC State Extension works in tandem with N.C. A&T State University, as well as federal, state and local governments, to form a strategic partnership known as N.C. Cooperative Extension.

**Beef Quality Assurance Field Day**  
 Join us on Friday, September 29, 2023 at 1:00 pm at 929 West Highway 73 Ellerbe, NC 28338 for a hands-on field day that will cover the following topics:

- Cattle Handling
- Injection Strategies
- Body Condition Scoring (BCS)
  - Blood Drawing
- Medication Administration
  - Haltering
  - Safety Around Cattle
- Breeding Management
  - Basic Maintenance

Register here: <https://go.ncsu.edu/bqafieldday2023>



**Goat and Sheep Management Fall Workshop**  
 Saturday, October 7, 8:30 am to 12:30 pm  
 Ithika Acres Creamery, 4273 Gainey Rd. Raeford, NC 28376  
 Topics will include:

- Forages and Feeding Through the Winter
  - Fencing Demonstration

Register here: <https://go.ncsu.edu/fallworkshop2023registration>  
 Registration is required by Wednesday, October 4 at 5:00 pm.

**Cost:** The cost will be \$20 per person and \$10 for each additional family/ farm member.  
 Cash or check only day of the event.

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.

Disclaimer - The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by North Carolina State University nor discrimination against similar products or services not mentioned.

## Changes to NC Certified Animal Waste Operator Fees and Renewals

By: Brian Parrish, Agriculture Extension Agent with N.C. Cooperative Extension in Harnett County

On June 27, 2023, the NC General Assembly passed Session Law 2023-63 (Senate Bill 582). The law went into effect July 1, 2023.

Section 13.1 amended the Certified Animal Waste Operator exam fees and renewal fees, and added an option to pay a late fee instead of retaking the exam.

- Certified Animal Waste Operator exam fee: \$85.00.
- Certified Animal Waste Operator annual renewal fee: \$25.00
- Annual renewal fees are due by December 31 each year.
  - There is no longer a 30 day grace period. A certificate is invalid if no payment is received by December 31 and a \$50 late fee is assessed on January 1.
- The late fee and renewal fee (total \$75.00) can be paid up to 12 months from the due date.

After 12 months of invalid status, an operator with an invalid certification is required to pass the exam to obtain active status.

Prior to this change, an operator who did not pay the renewal fee was required to pass the exam in order to obtain active status.

These changes are an effort to bring Animal Waste Operator and Wastewater Operator rules in alignment.

No change was made to Continuing Education requirements: an operator needs 6 credits every 3 years to be able to renew.

For questions: NC Certified Animal Waste Operator Program website: [deq.nc.gov/opcert](http://deq.nc.gov/opcert)

Patrick Beggs- [Patrick.beggs@deq.nc.gov](mailto:Patrick.beggs@deq.nc.gov) – 919-707-9105

Jeffrey Talbott – [Jeffrey.talbot@deq.nc.gov](mailto:Jeffrey.talbot@deq.nc.gov) – 919-707-9108

## Virtual Animal Waste Classes

**3 hours of credits will be offered at each class!**

**November 15, 9:00 am - 12:00 pm**

**<https://go.ncsu.edu/23oicnov15>**

Topics include:

- Biosecurity
- Irrigation
- New Technology

**November 30, 1:00 - 4:00 pm**

**<https://go.ncsu.edu/23oicnov30>**

Topics include:

- Inspection missteps
- Sludge
- Soybean Update (1 hour pesticide credit—N, D, O, & X)

## Fall Armyworm Management in Hayfields

By: Anthony Growe, Livestock and Row Crops Extension Agent with N.C. Cooperative Extension in Richmond County

Fall Armyworm is a common pest in hay, especially bermudagrass varieties (Coastal, Tifton 44, Midland 99, etc.) and can decimate a crop if left unchecked. Some years, Fall Armyworm numbers remain relatively low, causing minimal damage. Other years, populations build-up and can cause serious yield reduction in various crops. This pest is one that hay producers and pasture owners usually have on their radar in late August but reports of damage has come in as early as July. Typically, Fall Armyworm does not over-winter outside of southern Texas and Florida but warm winters can allow Fall Armyworm to over-winter which contributes to an early Armyworm migration in North Carolina. In 2021, experts estimated that Fall Armyworm damage in the southern U.S. was the worst in nearly fifty years. The question many hay producers are asking, "Will this year be another bad year?". Because of the migratory nature of the Fall Armyworm, it is difficult to predict exactly when they will arrive. So far, NC has had a relatively uneventful hurricane/tropical storm season which often brings moth migrations from the south. I suspect we will begin to see some populations of Fall Armyworm develop in the next couple of weeks so hay producers should begin to scout their fields regularly. Below are some tips for identifying and managing Fall Armyworm in hayfields and pastures.

**Fall Armyworm Identification:** To determine if a field has an infestation, look for caterpillars with dark heads that are usually marked with a distinct, pale, inverted "Y" on top. Typically, you will find a black stripe down each side of their body and a yellowish-gray stripe down their back. Fall armyworms come in a variety of colors including, green, brown or black which can make identification difficult.

Before managing Fall Armyworms, it's important that we understand this pest's lifecycle. Fall armyworms are the larvae (or caterpillars) of the Ash-gray moth. Like butterflies, the Ash-gray moth starts out as a caterpillar before going through metamorphosis. This moth has white wings with light gray spots. Female moths lay eggs at night and lay up to several hundred that hatch within 2 to 4 days. What hatches from these eggs are what we call Fall Armyworms. Development from egg to fully grown Fall Armyworm requires about 2 to 3 weeks. At this point, armyworms burrow down into the soil and form pupae. In about 10 to 14 days, the moths emerge and the metamorphosis process is complete.

While this article concentrates on pastures, note that Fall Armyworms will attack centipede and bermudagrass lawns. Armyworms feed just about any time,

day or night, but are most active early in the morning or late in the evening. These caterpillars will march like an army across your fields eating plant matter along the way. They tend to start from a field edge and work their way across to adjacent farms. In severe infestations, leaves will be completely eaten with only stems left behind. Scout your fields regularly so that you can implement a control measure in a timely manner. Because they are active in the morning, this is a great time to scout your fields.

**Should I spray?** Most research has shown that an average of 3 medium to large armyworms (about  $\frac{3}{4}$  of an inch) per square foot is enough to cause significant damage to your hay crop or pasture and justifies a control measure, such as an insecticide treatment. If your bermudagrass is within a week or two of cutting or at least a foot tall then it's more economical to harvest the hay a little early.

**What can I spray?** If you do choose to apply an insecticide, read the label carefully to ensure it is safe to apply on hay and/or pasture! There are numerous insecticide options available so choosing the right product can be a bit overwhelming. Several pyrethroid insecticides, such as Mustang Maxx and Karate are effective against Fall Armyworm but are restricted use and can only be purchased with a pesticide license. Other products, such as Dipel and Intrepid Edge are worm-specific insecticides and are not restricted use but may be higher in cost. No matter what product you choose, be sure to abide by all label specifications, calibrate your sprayer and pay attention to grazing or haying restrictions!

If you have any questions concerning pasture or hay management please contact the your local Extension office.



## Buy All the Bull You Can!

By: Paul Gonzalez, Livestock Extension Agent with N.C. Cooperative Extension in Sampson County

Most of us have calves hitting the ground or soon will. That means bulls will be going in with cows in just a few months. You may be looking for bulls to replace old, injured, or poor performing bulls you already have. Possibly, you are looking for an addition to your bull battery due to expansion. Maybe you are looking for a bull to breed heifers. Whatever your reason, if you are in the market for a bull this year, let me encourage you to buy all the bull you can.

What I mean by this is think about spending a little more than you normally would on your bull to get one that has increased performance. Especially now when calf prices are high, and you have more income to put towards a good bull. Money spent now will more than pay off when prices start dropping and you have more pounds to sell! And we all know that even though projections are for calf prices to stay up for the next couple of years, the normal cattle cycle will return. I'm often asked what a bull is worth. While there are many variables that determine the value of an animal, the general rule is that a bull is worth 27 times the current selling price of six weight steers. I checked an area sale barn and last week those steers (602 lbs) were \$221 per hundred pounds, bulls should be worth about \$6000. Again, this is just a guide not a set rule.

Now let's do a little comparing of two bulls. Bull A has a weaning weight EPD of +30 and Bull B has an EPD of +50. Theoretically, the calves from Bull B will weigh an average of twenty pounds more at weaning than those of Bull A. We'll say these are two year old bulls that will be used on thirty cows. If you have a ninety percent calf crop, you will have an additional 540 pounds of calf to sell. Five weight calves at Ayden sold for \$239 per hundred last week. This equates to an additional \$1300 by using Bull B.

Keep in mind you should make these calculations to compare prices for bulls you are interested in purchasing. In this example you could pay \$1300 dollars more for Bull B than you would for Bull A and still cover the additional cost of the bull with the first calf crop. If you pay more than an extra \$1300 you will go into other calf crops.

How much more bull can you get for that \$1300? Depends on the sale and situation. But how many times have we seen that bull go for just another 50 bucks? It is important to figure these comparisons so you don't get into a situation where you pay more for the bull than you could ever recover. Also remember that spread between the EPD's will make a difference too. In the above example, Bull C with a +40 EPD probably won't make enough difference to justify more money. On the other hand, Bull D with a +70 EPD would be worth even more.

Additionally, if you are making comparisons between two bulls of different breeds, you need to add or subtract the appropriate adjustment factor from the across breed EPD chart produced by USDA Meat Animal Research Center. Most breed associations have copies of this or you can obtain one from the extension office. And finally, choose a bull that meets your requirements. If you are breeding heifers, choose a low birth weight and/or high calving ease direct bull. I'm gonna get on my soap box here! By low birth weight I don't mean negative EPD's either. Lower positive EPD's will be fine. (I harped on this in a previous article so that is all I will say about it for now.) If you are breeding only mature cows, you can be a little less concerned with birth weight and calving ease EPD's and concentrate on bulls with more growth. If you never keep or sell replacement heifers, the milk EPD is of little or no concern to you. Don't try to find a bull that is perfect in all aspects. Find one that will optimize your operation and benefit buyers through the production chain. Never forget, we are in the beef business and in the end, someone will be eating what you produce. As always if you have any questions, comments, or just want to debate the article, contact me at the Extension office, 910-592-7161

## Parasite Management in Sheep and Goats

By: Taylor Chavis, Livestock Extension Agent with N.C. Cooperative Extension in Robeson County

Parasite management tends to be one of the bigger issues among sheep and goat producers. *Haemonchus Contortus* worms, also called Barber Pole worms are an intestinal parasite that plague sheep and goats. Barber Pole worms are blood-sucking worms that cause anemia and thrive in warm, wet conditions, typical Southeast USA. They lead to decreased growth, decreased milk production, and death. They have a 3-week life cycle and can lay about 5,000 eggs per day. Adult worms lay eggs in the abomasum of the sheep or goat, which are passed in the feces and go through 2 molts to be an infective L3 larvae in the environment. The L3 larvae can then migrate up blades of grass in drops of moisture to be ingested by sheep or goats, continuing the life cycle. L3 larvae can survive in pasture for up to 6 months, depending on temperature and moisture. Goats acquire partial immunity and sheep are slow to develop immunity to the worms. During kidding and lambing, immunity wanes. If you are thinking about purchasing sheep or goats, there are some things that can be done to help control Barber Pole worms that include stocking rate and pasture management, and strategic deworming to avoid anthelmintic resistance.

Deciding on stocking rate, the number of animals in your flock or herd, and managing pastures will help control parasite burdens. The recommended number of animals per acre is 6 to 8 goats per acre and 4 to 6 sheep per acre. Any more will require more intensive grazing and animal management. The general rule is that 20% of animals produce 80% of eggs that are deposited in the pasture. Continual grazing of pastures will mean that more worm eggs are deposited on pasture, and consequently larvae will accumulate. Incorporating rotational grazing will help to control parasite loads and be better for grass growth and regrowth. Most of the worm larvae are concentrated in the lower 3 inches of the grass. If pastures are rotated before they get less than 3 inches tall, sheep and goats don't have much of a chance to pick up larvae, especially sheep since they are true grazers that like to graze close to the ground. Overgrazing pastures can have negative effects on grass stands. It can cause stress and reduce grass vigor, which can lead to increased weed pressure and bare spots.

Strategic deworming of animals will also help decrease anthelmintic resistance and therefore reduce worm populations. Anthelmintic resistance is when the dewormer is no longer effective against the worms. Resistance occurs if treatment is at frequent intervals (more than 3 treatments per year), treating and moving directly to clean pasture results in no dilution of resistant worms, and underdosing leads to survival of worms with low levels of resistance. Incorporating FAMACHA can help reduce resistance. FAMACHA is a management tool that examines the sheep or goat's eyelid for anemia, since anemia is an indication of Barber Pole worms. Gently pull down the bottom eyelid and look at the color. The darker red the eyelid, the less parasite burden and no reason to deworm and vice versa. Incorporating FAMACHA should be done every 2 to 3 weeks during peak worm season and 4 to 6 weeks during cooler months.

There are other considerations to think about, like using resistant sheep and goat breeds, planting tannin rich forages, multispecies grazing, and optimizing good nutrition. The point is there is not a one solution fits all for managing parasites. It takes a multistep, integrated approach. If there are any questions, please contact your local livestock Extension Agent.



## The Wild Horses of North Carolina

By: Tracy Blake, Livestock Extension Agent with N.C. Cooperative Extension in Montgomery County



Did you know that North Carolina is home to four different herds of wild horses? The Corolla Herd roams 7,500 acres of protected land on the northern tip of Currituck Banks between Corolla and the Virginia State line. The Shackelford Herd on the isolated barrier islands of Shackelford between Beaufort and Cape Outlook. The Beaufort herd are found along the Beaufort waterfront and the Ocracoke, or “Banker” Ponies, roam Ocracoke Island.

For nearly 400 years, these descendants of the Spanish Mustang have roamed freely on the North Carolina Coast. However, with the population boom North Carolina has experienced over the past decade and the increase in tourism development along our shorelines, the wild herds have had increasingly negative interactions with humans. Tourists feed them, making them curious and comfortable around people they once steered clear of. Trash left behind can be a health hazard if consumed, either as a poison or a choking hazard. With increased population comes increased traffic, and as a result there have been several collision accidents in the past few years.

To help support these iconic North Carolina wild horses, vacation responsibly. Leave no trace when exploring herd habitats. Abide by speed limits in areas where these horses roam. Horse owners can also help protect these herds by vaccinating domesticated horses to stop the spread of communicable disease to wild herds. A nonprofit organization, the Corolla Wild Horse Fund, assists with the management and protection of North Carolina Wild Horses. For more information visit: <https://www.corollawildhorses.com/herd-management/>

For more information about wild horses across the United States, visit the Bureau of Land Management’s website at: <https://www.blm.gov/whb> The BLM does not manage NC herds but has additional information about assisting with protection and placement of wild horses.

## The Importance of Even Broiler Distribution in the House

By: Richard Goforth, South Central Area Specialized Poultry Agent with N.C. Cooperative Extension

Broiler companies set density rates for houses based on square feet per bird to ensure adequate space for maximum growth performance and bird welfare.

These space requirements take into account the need to provide room for heat removal from the birds and adequate moisture removal to maintain litter quality, but broiler houses are relatively large spaces and if birds are not evenly distributed within the house, then a variety of issues can form that will negatively effect bird and house performance. When birds are crowded into one area of the house feeder and drinker space will be reduced causing birds to eat and drink less. Densely packed areas will concentrate droppings and overload the bedding material's ability to absorb the moisture, increasing ammonia production. When birds are packed tighter there is less space for air to travel between the birds to remove heat and to reach the litter surface reducing moisture removal as well. This is a particular concern during hot weather when maximum cooling is needed to ensure birds are comfortable and keep eating regularly to maintain growth performance. Overcrowding in part of a house can cause issues in the winter as well, since birds generate and provide much of the heat to warm the house. If they are crowded into one end of the house, they may trigger fans for cooling while the less dense area is calling for the heaters to run wasting energy and money.

Uneven distribution can cause some other problems with proper equipment operation especially in some older houses and setups. If birds are thin in an area where the feed pan switch is located the feed line may not be activated often enough to ensure the more densely populated area pans are full all the time. If water pressure or flow is an issue in the drinker lines already having areas of high density will increase drinking time per bird adding even more pressure to nipple demand. Less used drinker sections will develop biofilms restricting flow and decreasing water quality also.

What can you do to ensure even distribution and avoid these issues?

The easiest way is to utilize whole house brooding installing migration fences at placement chicks are evenly distributed, but that is not an option for some because of company polices, house setups and energy usage, for winter flocks especially. The next best option is to move birds to the whole house as quick as possible and install migration fences.



The key to ensure you have and maintain relatively even distribution throughout grow out is to have a way to measure density. Water meters are an easy tool to confirm even density in a house and ideally would have one for each section but at least one for each half of the house. A couple of things to keep in mind birds naturally tend to migrate into the wind, toward the coolest air in warm weather, which is usually the pad end. They also avoid drafts when cold and the noise of fans and shutters when possible. For more info read this article:

<https://www.poultryventilation.com/wp-content/uploads/vol35n8.pdf>

**2023 NC State Fair Livestock Schedule**

By: Kaelyn Mohrfield, Livestock Extension Agent with N.C. Cooperative Extension in Lenoir and Greene Counties

**\*\*Official NC State Fair entries are due Sept. 15th!**

**If you miss this step you will not be eligible to show at the fair.\*\***

**Wed, Oct 11<sup>th</sup>**

Open Beef Cattle Check-In

**Thurs, Oct 12<sup>th</sup>**

9 am Open Beef Cattle Show

Goat Check-In

1 pm Open Beef Cattle

Show 5 pm Goat Show-manship

**Friday, Oct 13<sup>th</sup>**

8 am Jr Comm Does Show

9 am Open Beef Cattle Show

12 pm Open Wether Dams

Show 2 pm Jr Meat Goats Show

**Saturday, Oct 14<sup>th</sup>**

Jr Beef Cattle Check-In

Hog Check-In

5 pm Hog Showmanship

**Sunday, Oct 15<sup>th</sup>**

8 am Jr Breeding Gilts Show

8 am Beef Showmanship

12 pm Open Breeding Gilts

Show 1pm Feeder Calves Show

1pm Jr Beef Heifers Show

2 pm Jr Market Barrows Show

Open Market Barrow Show

**Monday, Oct 16<sup>th</sup>**

8am Jr Market Steers Show

10 am Jr Beef Heifers Show

**Tues, Oct 17<sup>th</sup>**

Sheep Check-In

5 pm Sheep Showmanship

**Wed, Oct 18<sup>th</sup>**

8 am Jr Ewe Show

Dairy Cattle Check-In

2 pm Jr Market Lamb Show

**Thurs, Oct 19<sup>th</sup>**

Jr Dairy Cattle Check-

In Wool Breeds Check

-In

2 pm Open Dairy Cattle Show

**Friday, Oct 20<sup>st</sup>**

8 am Wool Breeds Showmanship

9 am Jr Wool Breeds Show

10 am Open Dairy Cattle

Show Dairy Goat Check-In

11:30 am Open Wool Breeds

Show 5 pm Jr Dairy Cattle

Fitting &

Showmanship; Costume

Class 5 pm Jr Dairy Goat

Showmanship

**Saturday, Oct 21<sup>st</sup>**

8 am Jr Dairy Goat Show

9 am Jr Dairy Cattle

Show Special Awards

Show

Show

Senior Dairy Cattle Showmanship

2 pm Jr Doe Open Dairy Goat

Show

**Sunday, Oct 22<sup>nd</sup>**

8 am Sr Doe Open Dairy Goat

Show

**2 pm Sale of Champions**