

Livestock News

November 2020

IMPORTANT INFORMATION

Fall Virtual Beef Cattle Series

Join us online for the remainder of this three-part webinar series to learn about managing first-calf heifers and Freezer Beef 101. This series will take place on November 19 and December 17 from 6:30 - 7:30 p.m. You can choose to register for one or both of the remaining sessions. These FREE ONLINE events can be accessed from any computer or mobile device with internet access via Zoom, a free online video communications platform.

For more information visit <https://robeson.ces.ncsu.edu/2020/09/beef-cattle-series-online-workshop/>. Register at <https://go.ncsu.edu/fallbeefseries>.

Coronavirus Food Assistance Program 2 (CFAP 2)

CFAP 2 provides producers with financial assistance to help absorb the increased marketing costs of eligible livestock commodities due to COVID-19. Eligible livestock commodities are those that suffered a five percent or greater national price decline in a comparison of the average prices for the weeks of January 13-17 and July 27-31, 2020, and include beef cattle, hogs/pigs, lambs/sheep, and some specialty livestock as described on farmers.gov/cfap/specialty-livestock. All equine, breeding stock, pets, companion/comfort animals, and animals raised for hunting or game purposes are ineligible.

Producers may apply at their local Farm Services Agency office now through December 11, 2020. More information on the program or application process can be found at farmers.gov/cfap.

Eastern NC Cattle Marketing Survey

This anonymous survey is designed to assist in determining the interests and needs for marketing channels for beef cattle/feeder calves in eastern NC. No personal identifying information is required. Survey open to all NC producers. To complete the survey, go to go.ncsu.edu/cattlesurvey.

Hay Directory

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

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If you are interested in learning more about any information in this newsletter, contact the Extension Center at 910-671-3276 or visit our website at robeson.ces.ncsu.edu. For accommodations for persons with disabilities, contact Cooperative Extension no later than five (5) business days before the event.



Taylor Chavis
Extension Agent
Agriculture - Livestock



Fall Recertification Classes for Animal Waste Operators

By: Eve Honeycutt, Extension Livestock Agent, N.C. Cooperative Extension, Lenoir and Greene County Centers

This year, Extension is planning to host animal waste recertification classes in a variety of ways due to COVID-19. Currently, the Governor's order says we can have no more than 25 people gathered inside. With that in mind, we have two options for those that need their credit hours before December 31, 2020:

- Attend a small face-to-face class offered by Extension (one Extension agent and 9 participants or less)
- Attend two (3 hour each) statewide Zoom sessions (online)

We are asking for those of you who are not REQUIRED to have your credit hours by December 31, 2020, please attend the on-line trainings or wait until another year. The dates and topics for the on-line classes are below. Each session is worth 3 hours CEC.

November 10, 5-8pm:

<https://november10cec.eventbrite.com>

- Best Management Practices for Sampling Manures (30min) - Mahmoud Sharara, NCSU
- Weather: Hurricanes, Tornadoes, Flooding (1 hour) - National Weather Service
- Hay Production (30min) - Dennis Hancock, formerly UGA
- Proper Tissue Sampling (30min) - Steph Kulesza, NCSU
- Nutrient Management Planning and Cropping Systems (30min) - Steph Kulesza, NCSU

December 3, 9am-12pm:

<https://december3cec.eventbrite.com>

- Sludge Management and Utilization Opportunities (1 hour) - Mahmoud Sharara, NCSU
- NC Pork Council- Legislative Updates (1 hour) - Angie Maier, NCPC
- What to Expect on a DEQ Inspection (30min) - Megan Stilley, Washington Regional Office
- African Swine Fever update (30min) - Jon Holt, NCSU

December 16, 1-4pm:

<https://december16cec.eventbrite.com>

- Using Animal Waste in Forestry (30min) - Colby Lambert, NCSU Extension
- Bermudagrass Fertilization and Issues (1 hour) - Georgia Love, NCDA Regional Agronomist
- Crop Production (30min) - NCSU Crop Science Department
- Research on Identifying DNA of Waste Products (1 hour) - NC Pork Council cooperation

Registration is open for these events. Use the links provided above to register for the class. After you register, a zoom link will be sent via email a few days before the class.

End of Year Reminders

By: Amanda Hatcher, County Director and Livestock Agent, N.C. Cooperative Extension, Duplin County Center

Don't forget, there are a few things you need to check off your list – don't wait too late!

1. Sludge surveys are due each year unless you have an up to date exemption on the lagoon.
2. Calibration on irrigation equipment is due every other year.
3. Soil testing on each application field is due once every three years.
4. Your \$10 animal waste certification renewal fee is due by December 31, 2020, to keep your OIC license valid. Remember to get your hours by your deadline.

To prepare for your annual inspection, here are a few reminders to help you get ready:

- Ensure all records are up to date and in a legible and chronological format.
- Ensure the year end items listed above have been addressed. If you haven't done them, make a plan now to get them completed before the end of the year.
- Waste testing is to be done within 60 days before or after irrigation. Earlier this year due to Covid-19, the NCDA&CS waste lab was closed. To address your analysis needs during this time, NC DEQ issued a waiver March 20 - June 1, 2020, and put in the following options for a sample during this waiver period: 1. Use the most recent waste analysis; 2. Use the waste analysis from the same time last year; or 3. Average the analyses of the past three years. Producers should make a note of which option they choose. Once the lab reopened, sample submissions could resume being sent to the NCDA&CS lab.
- Freeboard recordings are done weekly and precipitation events are recorded as they occur.
- Stocking and mortality rates are recorded weekly.
- Check that all required records are in their proper place so they're easy to access at inspection.

Raising Your Own Freezer Beef

By: Randy Wood, County Director and Livestock Agent, N.C. Cooperative Extension, Scotland County Center

Since the COVID situation this spring, a lot of people suddenly realized their dependency on grocery stores and restaurants for their supper every night. As a result, I have been asked many questions lately from my non-farm clientele about growing and slaughtering your own beef. For many of us that grew up on farms some of these questions are very elementary, but other times I have been asked questions that I have never given much thought to. In this article I will go over some of the basics of growing and finishing a beef animal for personal consumption.

What makes good freezer beef? For starters, you can eat just about any type of reasonably healthy beef animal. From 2 months of age to 15-years-old, as long as it is able to walk off the trailer and does not show any signs of Bovine Spongiform Encephalopathy (BSE or Mad Cow Disease) a local packer can legally kill, process, and package it for you. Of course, what is not said is the difference between edible beef you have to cut with a chainsaw and really good tender beef you look forward to at the supper table every night. So, what does it take to make a really good, tender beef animal for slaughter?

Steers vs Bulls and Heifers

Steers (castrated males) make the best beef when it comes to quality cuts such as steaks and high-end roasts. The hormone changes that occur in steers when they are castrated, coupled with male animals having more edible muscle cuts versus females, just makes steers a better choice. Bulls, due to their hormone levels, generally have leaner meat that is tougher and less flavorful when compared to steers. Heifers can also be fattened and slaughtered and give reasonably good beef under the right conditions, but heifers generally have a less consumable volume of meat. Also heifers, if they are cycling while they are being fed, will have reduced weight gains due to the monthly hormone changes.

What does the term “finished beef” mean?

Finished beef is a term that means an animal has been fed to a targeted weight and degree of fatness to ensure maximum tenderness, flavor, and pounds of beef at slaughter. You can feed an animal as long and as much as you want to, but at some point, you will get diminishing returns on feed and the quality of the beef will start to deteriorate.

Beef has intra-muscular fat seams that form as the animal ages. This fat, known as marbling, is what gives beef its flavor and tenderness. It also varies in the meat based on numerous factors; the age of the animal, the fatness of the animal, sex, breed, and the nutrition level of the animal prior to slaughtering are just a few of the factors that affect this marbling in the meat on the animal. United States Department of Agriculture (USDA) quality grades, such as Prime or Choice, are determined largely by the amount of marbling in the beef at slaughter. Marbling is intra-muscular fat, or fat running throughout the layers of muscle. So on a living, breathing animal that is looking at you, obviously this is impossible to tell. Fortunately, intra-muscular fat goes hand-in-hand with external fat, which is easier to tell with your eye. Beef animals deposit fat along their backbone, in their rear flank, in their brisket, and in their tail head. So when all these areas on a steer's body start looking full and the animal takes on a more filled-out and bulky appearance, he is getting finished.

At what weight should I slaughter?

That is a difficult question to answer in general. The biggest factor in trying to pre-determine this will be the mature size of

the steer's parents. Smaller bulls and cows will produce smaller calves that will reach lower mature weights and, hopefully, finish quicker. Bigger bulls and cows will produce bigger calves that will probably take longer to feed out but will also give more beef when processed. It is a bit of a trade off when it comes to smaller versus bigger animals when you are feeding a steer out. I have seen finished animals range from 900 pounds to 1500 pounds, with most steers being in the 1100-1300 pound range.

At what age should I slaughter?

Most finished animals will be slaughtered between 15 - 20 months of age. Regardless of the size of the steer's parents, or the breed, or the degree of nutrition, it is almost impossible to get a steer finished in less than 12 months. On the other hand, you'll want to get the animal processed before he is 2 years old as the beef will start to become mature (tough) by 24 months.

How long will it take to feed a calf out?

Timing the feeding out process to a projected kill date is one of the most difficult things about feeding out freezer beef. Knowing your start weight on your steer is critical in this process. No matter how much feed you pour out to them every day, or even how good the feed is, they can only gain so much weight per day. Most finishing steers on a good, balanced ration designed for a growing beef animal will gain between 2 to 3 pounds per day during the bulk of the feeding process. This weight gain will fluctuate from start to finish of course, but that will give you a place to start. For example, you start a 700 pound calf on feed and you are estimating he will finish around 1200 pounds. That will be 500 pounds he will need to gain. At 2.5 pounds of gain per day, that equates to 200 days on feed, or 6 - 7 months. Is this a bit of a guess and a lot of hoping on your part? Yes, it is, but it gives you a starting point for estimating how much feed to buy and when to plan on processing him.

Grain vs grass

There has been a lot of talk in the last few years on grass-finished beef. Environmental concerns, health benefits, and the difference in flavor are all some of the reasons we have seen such an interest in grass-fed beef lately. I could write an entire newsletter on the pros and cons and how-to's of grass-fed beef, but here are just a couple of brief thoughts to consider when grass-finishing beef.

Genetics need to be considered in a grass-finishing situation. Large continental breeds, such as high percentage Charolais, Limousin, and Cheyenne, generally do not perform as well in a forage finishing situation compared to smaller British breeds. It simply takes longer to get the animal up to weight on grass. You will not hit 3 pounds of weight gain per day on grass. Also, you have to consider your pasture situation. You will need good, green forage for as many months as you can get it to keep the nutrition level high enough. In our sandy soils, this is a lot harder to do than in the mountains or the piedmont.

Shortage of packers

This is perhaps the biggest problem in our area when it comes to processing your own beef. We do not have many custom packers or abattoirs. It is not uncommon for our local slaughterhouses to have booking dates in excess of a year. So, planning out a projected kill date, and feeding accordingly is critical so you do not waste feed or sacrifice beef quality waiting on a kill date.

Livestock and Prussic Acid Poisoning

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

Believe it or not, we're done with October and have moved into November. We will have our first frost of the season soon, and many producers are concerned about grazing forages with 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 anytime the plant is stressed, after a drought, or after 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, like pigs. The main grasses that pose a problem are sorghums, sorghum-sudangrass crosses and sudangrass. Other plants that may contribute can include, but are not limited to, arrowgrass, johnsongrass and cherry trees. Plant parts that are especially high in prussic acid include the leaves and young or new growth, so new growth after a stressful period is extremely dangerous.

Allowing the plants to rest after frost reduces the risk of poisoning because it allows the cyanide levels to 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. I always err on the side of caution and tell producers to wait a full 10 days before turning their animals back onto pasture.

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
- Have the plants tested for toxicity levels before grazing
- Do not graze hungry livestock on sorghum or sorghum-sudangrass hybrids. Potential for poisoning increased with the amount of this high-risk forage that is consumed.
- Select grass varieties that are low in prussic acid

What should you do if you think your animals may be suffering from prussic acid poisoning?

Call your local vet if you suspect your animals have prussic acid poisoning 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 your other animals getting sick. Avoid plants that can cause prussic acid poisoning and monitor animals.

Sheep and Goats: Compare and Contrast

By: Becky Spearman, County Director and Livestock Agent, N.C. Cooperative Extension, Bladen County Center

Bladen County has an annual ag school field day in October, but this year we went virtual. One of our 4-Hers made a video and discussed some differences between her lamb and kid. I thought I would share this resource from The University of Maryland Extension AGsploration - The Science of Maryland Agriculture (used with permission). More in-depth information can be found on Sheep 101 from Maryland at <http://www.sheep101.info/sheepandgoats.html>



SHEEP

Grazers - prefer to graze close to the ground
Prefers weeds
Likes grass and clover

Tails hang down
Tend to be bigger, fatter, and heavier
More heavily muscled
Grow faster
Deposit fat externally (over bones)
Most are polled (naturally hornless)
Horns are more circular
Some rams have throat manes
Wool has lanolin (grease) in it
More genetic diversity (more breeds)
Has 54 chromosomes
Estrus cycle averages 17 days
More sensitive to copper toxicity

Strong flocking instinct
More easily frightened
Aloof and wary
Fight by charging
Avoid wet areas

Easier to keep in fences
Easier to handle
Tails are usually shortened (docked) to prevent accumulation of fecal matter on hindquarters



GOATS

Foraging Behavior

Graze plants from the top-down
Prefer taller growing plants: shrubs, vines, twigs, leaves, brush, and briars

Physical Traits

Upright tails
Tend to be leaner and more angular
Lighter muscled
Slower growing
Deposit fat internally (around organs)
More agile
Most have horns
Horns are more upright
Both sexes can have beards
Mohair and cashmere do not have grease
Male has strong odor, esp. during mating season
Less genetic diversity (fewer breeds)
Often have wattles
Has 60 chromosomes
Estrus cycle averages 21 days

Behavior

Weaker flocking instinct
Curious and independent
Fight by rearing up, then charging
Do not like to get wet
Seek shelter more readily

Management

Harder to keep in fences
Harder to handle

A quick way to tell sheep from goats is to look at their tails.

The lamb on the left - tail is down.

The kid on the right - tail is up.



Horse Deworming

By: Katie Carter, Area Livestock Agent, N.C. Cooperative Extension, Craven, Jones, and Pamlico County Centers

What is on your fall and winter preparation list for your horse? Stockpiling hay? Establishing winter forages in your pastures? Getting blankets ready? What about deworming? Just because the temperature starts dropping does not mean the parasites will drop off as well.

With any deworming treatment, a fecal count needs to be done first to determine parasite load and type of parasite. A fecal count is an estimate of the number of parasite eggs in a horse. Once we know the count and the type of parasite, we can treat it with the most effective dewormer to insure we are reducing the parasite load. The important deworming season in North Carolina is September – April. During the summer months of May – August, parasite egg numbers in pastures are much lower due to the hot summer temperatures and deworming is less of a priority.

Horses shed eggs differently. For example, yearlings tend to shed small strongyles at higher amounts than adult horses. It's important to know how heavy of a shedder your horse is. A low shedder fecal count will be <200 EPG (eggs per gram of manure). Moderate shedder fecal counts will be 200-500 EPG, and high shedder fecal counts will be <500 EPG.

Before starting any deworming regiment, consulting with your vet is important. They will recommend the best treatment course that will minimize parasite loads and avoid building a resistance to dewormers.



Low shedders (<200 EPG) can be dewormed twice a year, in the spring and fall seasons. In the spring Ivermectin (Equell®, Zimectrin®, Rotectin®, IverCare®) or Moxidectin (Quest®) can be used. In the fall Ivermectin with Praziquantel (Equimax®, Zimectrin Gold®) or Moxidectin with Praziquantel (Quest Plus®) are dewormers that can be administered.

Moderate shedders (200-500 EPG) may need to be dewormed frequently throughout the year. A spring deworming can be done using Ivermectin (Equell®, Zimectrin®, Rotectin®, IverCare, etc), moxidectin (Quest®) or double-dose Fenbendazole for 5 days (Panacur® Power-Pak). In late summer, Pyrantel Pamoate (Strongid paste®, TapeCare Plus®, etc), fenbendazole (Panacur®, Safe-Guard®) can be given.

In early winter, Ivermectin w/ Pra-ziquantel (Equimax®, Zimectrin Gold®) or Moxidectin with Praziquantel (Quest Plus®) can be administered.

High shedders (>500 EPG) may need to be dewormed with every season change. In spring again Ivermectin (Equell®, Zimectrin®, Rotectin®, IverCare®), Moxidectin (Quest®) or a double-dose of fenbendazole for 5 days (Panacur® Power-Pak) can be given. During the summer Pyrantel Pamoate (Strongid paste®, TapeCare Plus®), Fenbendazole (Panacur, SafeGuard®) or Oxibendazole (Anthelcide®) can be used. In fall Ivermectin with Praziquantel (Equimax®, Zimectrin Gold®) or Moxidectin with Praziquantel (Quest Plus®) will be effective. During the winter season Pyrantel Pamoate (Strongid paste®, TapeCare Plus®), Fen-bendazole (Panacur®, SafeGuard®) or Oxibendazole (Anthelcide®) can be administered.

When it comes to pregnant mares and foals that are two months old, consulting with your vet is important for proper care so they can help determine the best treatment plan.

There are other ways to lower parasite loads in horses in combination with deworming, one being rotational grazing. Rotating pastures is not only good for forage regrowth, but parasite eggs that are shed in the manure are not ingested as quickly by a host and die out. Cross grazing pastures with ruminants such as cows, goats, and sheep is also effective. Parasites that are common in equine are not found in ruminants and vice-versa. In the summer months spreading or dragging manure is beneficial both for parasite reduction and spreading of nutrients found in manure over the pasture. This also keeps nutrient buildup down in high manure concentrated areas. In winter months the removal of manure is also helpful in decreasing parasite numbers. Doing these things with a parasite control program approved by your vet can keep your horse healthy all year long.

The table below is a chart of active ingredients and the parasites they target.

Table 5. Deworming Products and Parasites they Control

Name	Ascarids	Adult Strongyles	Larval Strongyles	Tapes	Bots
Benzimidazoles	x	sometimes	no	no	no
Pyrantel	x	x	no	yes at 2X	no
Ivermectin	x	x	x	no	x
Moxidectin	x	x	x	no	x
5X Fenbendazole two days in a row (or 2X x 5d)	x	x	x	no	no
Daily pyrantel	x	x	x	x	no
Ivermectin + praziquantel	x	x	x	x	x

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.

Eastern Carolina Showmanship Circuit Winners

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

The 2020 Eastern Carolina Showmanship Circuit wrapped up in October and awards for each species were presented at the N.C. State Fair. Livestock Shows in the Eastern Carolina Showmanship Circuit were held in Kinston, Elizabeth City, Kenansville, Trenton, Wilson, and Goldsboro.

Participants in the circuit were required to attend at least four shows to be in contention for circuit awards, with their top five scores being counted towards their circuit total. The highest point winner in each age division will receive a championship belt buckle, with reserve winning an embroidered jacket. Third through fifth place exhibitors each received gift certificates from livestock supply vendors. There was also a raffle with several participants receiving a certificate for a free pair of Wrangler jeans.

Sponsors for the 2020 circuit included:

Signature Circuit Sponsor: Smithfield Foods-Hog Production Division

Platinum Sponsors: AgCarolina Farm Credit, Stallings & Stallings Farm

Gold Sponsors: JTK Livestock, NC Hereford Association, Mule City Feeds, and Greg & Lynn Barnes

Swine Showmanship Winners				
Placing	Novice	Junior	Intermediate	Senior
1	Lee Foster	Lilee Ann Estes	Hannah Cooper	Colby Mathis
2	Spate Sanderson	Regan Scott*	Logan Balance	Colton Meads
3	Arlee Fulcher	Gage Harris*	Travis Cox	Faith Kennedy
4	Eli Price	Mackenzie Cox	Justus Meads	Kacie Strickland
5	Eliza Twitty	Ella Twitty	Riley Scott	Madison Wooten

Goat Showmanship Winners				
Placing	Novice	Junior	Intermediate	Senior
1	Carson Norris	Katelyn Hewitt	Scarlett Denning	Josh Fletcher
2	Anderson Lee	Taryn Reams	Hattie Jo Powell	India Young
3	Sadie Parks	Kennedy Lee	Anna Wells	Alicia Bateman*
4	Massey Cassel	Andrew Roberts	Taylor Askew	Conner Mills*
5	Zioe Bright	Mary Grace Baker	Lillie Stallings	Rylee Harris

Lamb Showmanship Winners				
Placing	Novice	Junior	Intermediate	Senior
1	Carter Jennings	Zade Jennings	Emma Raynor	Kadence Overby*
2	Charley Jennings	Mackenzie Cox	Travis Cox	Kalen Barwick*
3	Kensi Barwick	Lexi Barbour	Emma Britt	Hailee Whitehurst
4		Kennedy Lee	Lane Markham	Jacob Hinson
5		Annah Claire Sullivan	John Owens	Hope Latta

Heifer Showmanship Winners				
Placing	Novice	Junior	Intermediate	Senior
1	Molly Sullivan	Caleb Davis	Lydia Crocker	Schylar Crocker
2		Mackenzie Cox	Travis Cox	Mary Wood
3		Makayla Davis*	Mazie Bunn	Kadence Overby
4		Abbi Blakenship*	Charlotte Wood	Shane Kendall
5		Grayson Blankenship	Daniel Haines	Hope Latta

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

New Poultry Resources Available

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

With everything going on in the world right now, we know there is a lot of uncertainty about many things. At NC State Extension, we have created new poultry resources and collaborated with other organizations to bring you information on various poultry topics.

Many of you may have decided to start your own backyard flock with new chicks. We have created a video called “Chick Brooding – Tips & Tricks” that discusses how to set up your brooder, what supplies and equipment you need, and what to expect with your new chicks. Here is the YouTube link for the video:

<https://youtu.be/IATZl6nQTog>.

This video is part of a larger project through NC Choices that can be found here:

<https://poultry.ces.ncsu.edu/pastured-poultry-webinar-series/>.

We have resources available for you on the following pastured poultry topics: management, nutrition, infrastructure, processing, and health. There are other species resources too!

We are also working on an on-going poultry processing project with NC Choices. We have added videos on how to cut up a whole chicken with our Family and Consumer Sciences agents and how to store bulk chicken from the many current chicken sales according to proper food safety and handling guidelines. You can check out the resources we have available here:

<https://poultry.ces.ncsu.edu/2020/05/poultry-processing-resources-from-nc-choices/?src=rss>

Resources currently include: Getting Started and FAQs, The Basics of Meat Processing, and Poultry Processing Resources. You can also find more in-depth resources here:

<https://poultry.ces.ncsu.edu/backyard-flocks-eggs/processing/>.

NC State Extension also has a social media presence. Many county offices have Facebook pages and YouTube channels, so be sure to search for your county’s Facebook page and YouTube channels to keep up with current events and view how-to videos on various topics. The Area Specialized Poultry Agents have a Facebook page you can find here:

<https://www.facebook.com/NCHenHouse>.

NC State Extension has many great backyard flock resources, but one you may find especially helpful is the Keeping Garden Chickens publication that can be found here:

<https://content.ces.ncsu.edu/keeping-garden-chickens-in-north-carolina>.

Below are some other available resources:

General Poultry Flock Resources: <http://poultry.ces.ncsu.edu/general-topics/>

National Poultry Improvement Plan: <http://www.poultryimprovement.org>

Small Flock Registration and Disease Tracking: <https://www.ncagr.gov/NCPREP/>

Poultry Licensing Forms: <http://www.ncagr.gov/vet/VetLicenses.htm>

NCDA Meat and Poultry Law: <http://www.ncagr.gov/MeatPoultry/packets.htm>

NC Egg Law: <http://www.ncagr.gov/fooddrug/food/egglaw.htm>

NC Egg Law information from NC State Extension: <https://content.ces.ncsu.edu/explaining-the-north-carolina-egg-law-for-producers-with-small-flocks>

NCDA Ag Review: <http://www.ncagr.gov/paffairs/agreview/>

NCDA Disease Laboratory System: <http://www.ncvdl.com/>

This article just covers the basics of our new and improved poultry resources available to you! If we can assist you with any of your backyard poultry questions or you would like to be added to the poultry listserv so you will receive information on upcoming poultry events in your area, please email me at Margaret_Ross@ncsu.edu.