NC COOPERATIVE EXTENSION

ROBESON COUNTY CENTER

Livestock News

September 2020

IMPORTANT INFORMATION

Fall Virtual Beef Cattle Series

Join us online for this three-part webinar series to learn about feed supplementation based on hay quality, managing first-calf heifers, and freezer beef 101. This series will take place on October 15, November 19, and December 17 from 6:30 - 7:30 p.m. You can choose to register for one, two, or all three sessions. These webinars are FREE!

These ONLINE events can be accessed from any computer, laptop, tablet, or smart phone with internet access via Zoom, an online video communications platform that is free for users. Mobile devices such as tablets and smart phones must download the free Zoom app from the Google Play Store or Apple App Store prior to use. If you cannot join by mobile device or computer, you can call in and listen from any phone. *Long distance charges may apply through your phone service provider.* Once registered, you will be provided with the information needed to join the webinar session(s). To register, go to the following link: https://go.ncsu.edu/fallbeefseries

Inaugural Southeast Regional Egg-cellent Egg Contest

This contest is for 4-H members with a flock of chickens that are currently laying eggs. If you are not an active 4-H member, contact your county agent to get enrolled. Participants may submit up to two dozen eggs in different categories, which will be judged for uniformity, exterior and interior quality. Participants will also complete supplemental project components based on their age which is part of their final score. To register, go to the following link: https://www.eventbrite.com/e/southeast-regional-4-h-egg-cellent-egg-contest-tickets-118702710001

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.

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

Inside This Issue

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Fall Recertification Classes for Animal Waste Operators

By: Eve Honeycutt, Extension Livestock Agent, NC 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 (24 or participants and one Extension Agent)
- Attend two (3 hour) statewide Zoom session (online)

We are asking that those of you who do not HAVE to have your credit hours by December 31, 2020, please attend the online training or wait until another year. The dates and topics for the online classes are below. Each session is worth three (3) hours Continuing Education Credits.

November 10, 5 - 8 p.m.
https://november10cec.eventbrite.com

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

December 3, 9 a.m. - 12 p.m.
https://december3cec.eventbrite.com

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

December 16, 1 - 4 p.m.
https://december16cec.eventbrite.com

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

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

Challenging Times for the Pork Industry

By: Eve Honeycutt, Extension Livestock Agent, NC Cooperative Extension, Lenoir and Greene County Centers

As you know, the pork industry has also been affected by the events of 2020. There are several reasons for the challenges facing the industry right now:

- Not as many people eating pork - the slow down of the food service industry (due to COVID-19) pushed demand for pork products way down.
- Since 2014, the total number of hogs and pigs have increased by 20 million head. This is due to increased productivity in the industry.
- Because of the increase in numbers, we have more pigs than we can physically process. We increased numbers but did not increase slaughter capacity.
- Even with the new trade deal with China, they have not met the target for phase one of the deal.

The result of this increased supply and decreased demand, is extremely low prices. This creates a serious and long term decrease in returns for the industry overall. Since the United States is a low cost producer of pork, it makes sense that this supply and demand curve will balance back out, but that time frame is unknown.

Most of the companies that own sows have decreased breeding considerably. Some companies have had to make exceptionally hard decisions for the future of their business. This has created a slow down or complete shut-down of supply for contract growers. Understandably, growers affected are very concerned for their livelihood and the future of their farms.

Once their contract runs out, the growers who find themselves without hogs have to consider a few options.

Patience- New opportunities will become available in the industry. The ability for a grower to wait for an upturn is a very personal decision, and can be affected by the amount of debt owed.

Stand empty- If you choose to get out of the industry, you must remember that the lagoon and spray-fields must still be maintained as stated in the permit. As along as the farm has a lagoon (and permit), it still has the value associated with a hog farm in N.C. A farm that stands empty for less than 5 years can repopulate with no additional requirements. This 5 year clock can be reset by populating the farm with at least 10 percent of the steady-state live weight or 250 hogs, whichever is fewer, for a period of at least 45 days. Farms empty for more than 5 years have considerable requirements to meet before repopulating. Farms empty for more than 10 years can not repopulate.

Close farm - Closing the farm means also closing the lagoon and rescinding the permit. This means confined hogs (over 250 head) can never be placed back on this site. Closing the lagoon also involves quite a bit of planning as well as covering the expenses associated with closure.

Independent production - There are niche markets that are interested in buying more pork. However, being an independent producer can be quite challenging. If you are interested in discovering more about producing pigs independently, we have a team of specialists and economists at NCSU that can assist you by providing information to help you make an informed decision.

Please let us know if Extension can help you in any way. We can find answers to your questions at any time.

Don't Ignore Hybrid Vigor

By: Paul Gonzalez, Extension Livestock Agent, NC Cooperative Extension, Sampson County Center

Many producers have gotten away from planned crossbreeding systems. I see this as an issue everywhere I go, not just in Sampson County. It is due partly to the ready availability and ease with which an Angus bull can be purchased and partly to the ease of management when using only one sire breed; but, is mainly due to the market demand for black cattle. I know some people will not like what I have to say and I will come across looking like I am Angus-bashing! While that is not my intent and I am not anti-Angus, it will be the main focus of this article due to the fact that Angus is at the center of this dilemma. Keep in mind however, that what is said here applies to any breed of cattle, not just Angus.

I will start by saying that more and more producers are, whether knowingly or unknowingly, moving toward cow herds that are basically purebred Angus. Year after year, Angus bulls are turned in with the cows, and heifers from those bulls are kept for replacements. If replacements aren't retained, Angus-sired heifers or cows are usually purchased to enter the herd. These females are then bred to an Angus bull and the pattern is repeated. Assuming I started with a different breed initially, after using Angus bulls and keeping heifers for four years, I have some heifers now that are 93.75 percent Angus. This percentage is considered to be purebred by breed associations that allow breeding up. As you can see, in a few more years as you cull older cows and replace them with heifers, you have a herd that is considered purebred Angus. Again, keep in mind the same will be true if you use any breed in the manner described above.

I stated in the opening paragraph that the main reason for this is the market demand for black cattle. The easiest way to assure yourself of getting black cattle is to use an Angus bull. There is very little chance that a black Angus bull carries the red gene anymore so you don't have that concern like you would using a black bull of another breed. However, I would also like to point out that there are homozygous black bulls available in other breeds these days. Another reason is the ease of management. You only have to have one breeding pasture, you don't need more than one bull, and you don't have to keep up with parentage on heifers or how long you have been using a bull if you never switch breeds. A simple rotation of bull breeds every four years will make a big difference in your herd while still keeping management fairly simple. Or you can make life even simpler by using a composite bull. Choose a composite breed and stick with it. You won't get the same amount of heterosis as an initial cross but will stabilize around 67 percent of the potential gain.

Now to the point of the article. By the continued use of the same sire breed, you are losing the effects of heterosis and giving up what are essentially free pounds. Heterosis, or hybrid vigor, is the improvement shown by crossbred animals over straight bred animals. How much improvement varies depending on the breeds used, but for weaning weight will average about 4 percent for crossbred calves over straight bred calves that are both nursing straight bred cows. This means you would get another 20 pounds on each 500 pound calf just for switching bulls. If you have 25 cows, it is like selling another calf. Not only do the calves weigh more but you also get added survivability in the crossbred calves so you get another 3 percent heterosis advantage in weaning percent. Let's look at an example.

Say breed A calves average 480 pounds at weaning and breed B calves average 520 pounds. Calves sired by breed A out of breed B cows have weaning weights of 540 pounds and calves by breed B sires out of breed A cows average 520 pounds. The amount of heterosis from the crossbreeding would be figured by subtracting the straight bred average (480+520)/2=500) from the crossbred average (540+520)/2=20) and dividing that amount, 20 in this example, by the straight bred average, then multiplying by 100 [(20/500)*100=4], which yields a 4 percent heterosis value.

The advantages become even greater if you use a third breed on crossbred cows. You get the added pounds from the calf heterosis in the example above. You also get greater weaning percentage from the crossbred cows, due to higher conception rates, and even greater weaning weights due to increased milk production. In a study conducted at the Fort Robinson Research Station (Cundiff and Gregory, 1977; Gregory and Cundiff, 1980), crossbred cows raising crossbred calves weaned 23.3 percent more calf weight per cow exposed than straight-bred cows raising straight-bred calves. Two-thirds of the advantage was attributed to the maternal heterosis of the cow and one-third to the individual heterosis of the calf. Other studies have show increases of up to 28 percent. Experiments using Brahman/European crosses have demonstrated even greater total increases over the straight-bred parents.

It has been proven through research that hybrid vigor will add pounds to your calf crop. In high market price times it may not seem as significant, but when prices are low it is extremely important. This additional weight should not be dismissed to simply chase black hides. Again, let me emphasize that I am not in any way bashing, degrading, or opposing the use of Angus cattle. Angus cattle have made great contributions to the beef industry and absolutely have their place in a well planned and implemented crossbreeding system. It seems though that some producers see them as a silver bullet and have fallen into a straight breeding rut. As I stated earlier, homozygous black cattle are becoming available in all breeds. There are breeders of black Herefords with bulls on the market. I have even seen some registered black Charolais! So you can still meet the demand for black calves using a second breed of bull. One thing I should mention is to choose breeds which are similar and complement each other. I won't make breed recommendations here, but if you would like to discuss or debate breed choices and breeding systems, feel free to give me a call.

More Than Just Ryegrass

By: Kelly McCaskill, Extension Livestock Agent, NC Cooperative Extension, Moore County Center

Annual forages are not for every farm, but there are lots of folks that could benefit from including annuals in their pasture mix, even just for a season. Most people know about the use of ryegrass for over seeding a Bermuda pasture, but did you know there is a whole world of cool-season annual forages out there just waiting to be put to work on your property? Cool-season annual forages go way beyond just ryegrass!

Cool-season annual forages can be broken down into three main categories: grasses, legumes, and brassicas. Depending on your production goals and management style they can be planted individually or as a mix.

Grasses

Cereal Rye - the most common small grain planted as a forage, and for good reason. It is pretty forgiving of soil and weather conditions, establishes quickly, and produces tons of biomass. This forage does mature quickly and losses quality as it matures, so grazing is very timely.

Oats - this forage can be early fall or late winter planted but is most productive in the spring. The broad leaves provide excellent yield and quality. Just like cereal rye, this forage does lose quality as it matures, but not quite as quickly. Oats establish very quickly, usually being ready to graze in less than two months, making it a great "emergency forage."

Triticale - this is a hybrid forage, boasting the high yielding properties of wheat and the cold tolerance of rye, making this a well-rounded cool-season option.

Legumes

Clover - there are several types of clover that can be planted in combination with other forages to offer high-quality grazing while simultaneously improving your soil. Clover, as well as all other legumes, are nitrogen fixers - taking nitrogen from the atmosphere and adding it back into the soil. Crimson, Arrowleaf, and Ladino clovers are common planted varieties that provide a palatable, nutritious addition to grass systems. Clovers must be allowed ample time to establish before they can be grazed, so they are usually used for spring grazing following a fall seeding.

Peas - there are many pea varieties on the market that are great for grazing. Austrian winter pea, cowpea, and good ol' field peas are just a few that make excellent forages when in combination with grasses. Peas need to be seeded a little deeper than their smaller-seeded clover cousins, but they can still be used in a no-till system; just pay attention to the drill depth.

Vetch - this forage is one that will send a row crop farmer into fits because it has no place in a tobacco or corn field but makes wonderful animal food. Vetch should be planted in combination with other forages, such as grasses. Hairy vetch is the most common variety but there are others available that make good forage as well. Vetch is very palatable and has the highest nitrogen fixation potential of all of the legumes, but is also one of the latest forages to come on, usually not being grazable until mid to late spring.

Brassicas

Turnips - these forages make a great addition to any mixed forage system. They establish quickly and have the potential to produce tons of biomass. The have a tuber under the ground that will vary in size depending on the variety, as well as large, delicious leaves. All brassicas are high in protein and low in fiber so care should be taken not to overfeed to livestock, which can cause health issues. This can be avoided by using brassicas in a mix of other forages, such as grasses and legumes, which are higher in fiber and lower in protein.

Radishes - similar to turnips, this forage provides both above ground foliage as well as a tuber beneath the earth, varying in size depending on the variety. Some varieties of radish boast "tillage" properties due to the size of the tuber. These varieties are ideal for soil with compaction issues.

Kale - this brassica typically does not have a notable underground tuber but does produce a large amount of leaf matter above the ground. It is nutritious, delicious, and typically very winter-hardy. Just like the other brassicas, this is one that should be grazed in combination with grasses or a grass/ legume mix.

These forages are just the tip of the iceberg as to what is available for annual winter grazing options. Contact your local extension agent to discuss what works best in a mix as well as what dates, depths, and rates to use for seeding.

Managing Internal Parasites in Sheep and Goats

By: Anthony Growe, Extension Livestock and Row Crops Agent, NC Cooperative Extension, Richmond County Center

As we near the end of the summer, small ruminant owners should be thinking about internal parasite management. Generally speaking, stomach worm populations, such as the Barberpole worm, accumulate over the summer grazing season. This buildup creates internal parasite issues in the late summer months, especially if there is adequate moisture. Based on recent weather conditions, I suspect we will see heavy parasite loads in our pastures. Most stomach worms like a warm, moist environment. Temperatures around 85 degrees Fahrenheit, coupled with high humidity and moisture, make an ideal environment for the eggs to hatch and develop into larvae. Since the Barberpole worm is one of the most significant internal parasites in small ruminants, this article will concentrate on managing this particular species.

Before we begin trying to manage internal parasites, it's important to understand their general life cycle. In our area the winters are not cold enough to kill all worm larvae, so stomach worms can overwinter in the ground or even in the animal's digestive system. The worms that are able to overwinter deep in the stomach of the animal are called arrested larva, which lay dormant until they are trigged by a stress such as kidding or lambing. After breaking dormancy, these arrested larvae mature into stomach worms and produce eggs. These eggs are shed from the animal and deposited to the ground in their feces.

About a week or so after worm larvae hatch from their eggs in a manure pellet, they climb up 2 to 3 inches onto grass blades that goats and sheep consume. When the animal ingests the larvae, they attach and feed on the true stomach and intestine linings, which can become damaged or irritated. This damage reduces the amount of nutrients that an animal can absorb during digestion. Additionally, some eggs are redeposited back to the ground in manure, continuing the infectious cycle.

If left unchecked, stomach worms will cause weight loss, stunted growth, anemia, poor conception rates, and can even cause death. To get an idea of how heavy a worm load is, periodically examine your animals. Things that usually indicate heavy worm infestations are: thin body condition, weight loss, rough hair coat, pale or white tongue and inner eyelids, and diarrhea. If you are properly feeding your animals but they exhibit these symptoms, you may need to implement some management options. Here are some tips goat and sheep owners can use to manage worm loads in their livestock:

- Provide your animals with a nutritious diet for a good immune system
- Divide up large pastures to allow for rotational grazing
- Graze above the worms by keeping pasture grass at least 4 inches high
- Reduce contamination by keeping feed elevated and off the ground
- Keeping water troughs and feed bunks clean will also reduce worm ingestion
- Monitor parasite loads by using FAMACHA or fecal egg counts
- Time dewormings around kidding and lambing season
- Refrain from using worm blocks (it's hard to measure a single animal's intake)
- Feeding copper boluses to goats may help reduce Barber Pole worm infestations
- When using recommended dewormers, rotate chemical classes and selectively treat animals to minimize resistance
- Work with a veterinarian who is familiar with internal parasite issues in your area to provide "extra-label" dewormer recommendations.

Internal parasites are a significant issue in small ruminant management. Adopting practices such as rotational grazing and good sanitation will help reduce infective parasites in your herds or flock. It is also important that producers employ these best management practices to slow internal parasite resistance to our dewormers so they can continue to be effective on our target parasites. If you have any questions concerning livestock management, please call your local Extension Livestock Agent.

Biosecurity During COVID-19 for Horse Owners

By: Taylor Chavis, Extension Livestock Agent, NC Cooperative Extension, Robeson County Center

The horse industry in all fashions has taken a hit because of Covid-19. Many horse shows canceled, trail locations closed, and boarding facilities under stricter regulations have horse owners "biting at the bit" (pun intended) to get back in the saddle. However, horse owners should take precautions to protect themselves and their horses.

According to the CDC, there has been no report of horses being infected with the SARS-coV-2 virus that causes Covid-19. However, biosecurity measures should be in place to prevent the spread of other potential equine diseases. Below are some tips for practicing biosecurity during a pandemic at horse shows, trail riding locations, barns, etc.

- Horses should not be co-mingled. One carrier animal can not only potentially infect the other horses at an event, but those pathogens can be taken home and shared with the rest of the horses at the home farm if precautions are not taken.
- Be sure the trailer used to haul the horses is clean, as well as all equipment and tack.
- Talk to your veterinarian about any concerns of horse health - make sure vaccinations are up to date, discuss any disease concerns in the area(s) to be traveled through, and any other health concerns.
- Don't share tack, grooming supplies, feed pans, or water buckets. Most equine diseases are spread by direct contact. Direct contact not only includes nose-to-nose contact, but contact with surfaces that may have gotten saliva, respiratory secretions, or manure contamination from an infected horse.
- Keep the area around your horses clean. Fully clean and disinfect any stalls to be used before putting your horses in. Do this even if the event host has already promised the stalls were cleaned and disinfected.
- Keep an eye on your horses for any sign of illness. Check for fever, and keep track of feed and water intake while away from home.
- When returning from an equine event, isolate the horse that has traveled for at least a week. Monitor for any symptoms like fever, off-feed, etc. If symptoms are seen, veterinary care can be given.
- Clean and disinfect the trailer, tack, and equipment when returning from events.
- Keep your horse's stress level as low as possible. Stress can cause the horse's immune system to become compromised. Continue a familiar feeding regimen to keep your horse on schedule and avoid stress and colic. If your horse is not used to being in a stall and gets stressed when they are in one, taking them out frequently and hand-walking them can help decrease their stress level.

The CDC recommends the tips below for persons organizing livestock shows:

- Split classes to limit the number of animals in the show ring.
- Limit the number of people and/or animals in a ring to ensure that at least 6 feet is kept between an animal and its handler, and other people and animals, including judges. The number of exhibitors and animals that can safely fit in a show ring or exhibit area may limit the number of animals that can be shown at one time.
- Provide separate entry and exit points for visitors so they do not need to pass close together while coming into and going out of the ring.
- Stagger activities in washing and grooming areas or other shared spaces so that animals from different farms or households do not interact unnecessarily.
- Stagger animal move-in/move-out times to reduce contact between people and animals.
- Consider a "show-and-go" with animals stalled at a trailer and leaving immediately after the show if this will not compromise animal welfare (for example, because of weather conditions such as high temperature and humidity.)

Lastly, horse owners should take precautions to protect not only their horses, but themselves. The CDC recommends that persons should:

- Wash their hands frequently for at least 20 seconds with soap and water
- Use a hand sanitizer that has at least 60 percent alcohol
- Avoid touching eyes, nose, and mouth with unwashed hands
- Avoid close contact with other persons
- Maintain at least 6 feet of distance
- Cover your nose and mouth with a mask
- Clean and disinfect frequently touched surfaces
- Monitor your health daily for symptoms

If you have any questions about biosecurity for horses, please contact your local extension agent. Happy riding!!

Virtual Livestock Options for NC Youth

By: Jamie Warner, Extension Livestock Agent, NC Cooperative Extension, Montgomery County Center

As if closing down the school system, churches, gyms, restaurants and more weren't enough, hundreds of youth livestock showmen across the state (and the nation, for that matter) were even more disappointed to learn that many of their favorite shows would also be canceled this year. In these times of uncertainty, these young people look to Showing as their "constant" and now that's not the case.

Enter North Carolina Cooperative Extension. . .

NC Cooperative Extension Agricultural Agents realized these young showmen already had so much taken away from them this year they did not want to see anything else canceled, **IF** they could help it. Agents, in cooperation with the NC State Youth Livestock staff, put their heads together and transformed many of the planned events into Virtual Events that let youth participate, all the while maintaining social distance.

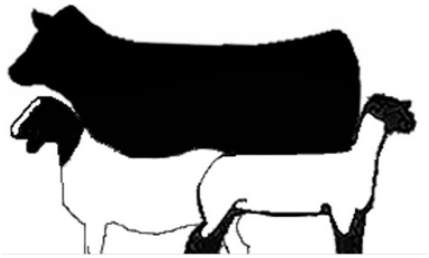
Programs like "How to Photograph Your Livestock", "Virtual Livestock Skillathons", "Virtual Livestock Judging" and more transformed into online platforms in order to allow young showmen to participate without the fear of getting exposed to COVID.

Showmanship Circuits were also impacted by the pandemic. Agricultural Agents from the South Central, North Central, and Southeast Extension Districts worked together to turn the annual 4-H Farm Credit Showmanship Circuit into a "cyber circuit".

In July, the Circuit opened registration online and had over 70 showmen register to compete. Participants were given their first video prompt on August 1st and were given two weeks to shoot their videos. Videos were submitted two weeks later to their County Ag Agents, and judges watched and evaluated the videos before placing them based on showmen's knowledge of the prompt topic, animal handling, and overall showmanship qualities. For prompt one, the showmen were tasked with introducing themselves, their animal, and giving reasons why they chose that particular animal to show. They ended their videos by leading the animal around, setting the animals up, and maintaining eye contact with the "judges" (through the camera). The second prompt was released to showmen on August 22 and were submitted on August 29.

There will be three more prompts issued for a total of five. Participants are encouraged to complete all five but are only required to complete three in order to finish the circuit. Videos of the week for each species (cattle, goat, and sheep) can be viewed on the Circuit Webpage at (https://randolph.ces.ncsu.edu/videos-of-the-week/).

Even though showing virtually isn't the preferred method of hands-on showing and learning, this virus epidemic has forced us all to think outside of the box, pulled us out of our comfort zones, and made us rethink program presentations. It has compelled us to "Make The Best Better" (the 4-H Motto). To all showmen, we wish you luck, and as always, if you need help please contact your local Cooperative Extension Office. We are here to help you!



Water Quality

By: Richard Goforth, Extension Area Specialized Poultry Agent, NC Cooperative Extension, Harnett County Center

When is the last time you checked the quality of water your birds drink? While it is common for producers to check their water when they dig a new well or construct houses, for many this is the last time they think about the source quality of their water. Most growers know they need to flush and clean their drinker lines regularly, even if they don't admit they sometimes forget those steps. Many also have injection systems that strive to maintain the needed level of sanitizing agents to prevent bacteria growth in those drinker lines, but few really know the quality of the water they start with. Understanding what is in your water is key to managing its use and delivery.

To understand water quality, first it is important to know it can change. If water quality changes then it must be monitored to make sure it falls within the ranges for optimum bird performance. Many factors can affect water quality, especially when groundwater is the primary source, which is often the case for most poultry producers. Droughts, floods, and construction can all have major impacts on water quality and quantity. Water is the universal solvent, so each time the water table changes the potential for new or greater levels of contamination to the ground water reservoir increase. New construction changes water runoff patterns, increases impervious surfaces, and provides potential direct access to the reservoir with each new well. Even if you have municipal water there can be changes in quality that may affect the performance of sanitizers and vitamins, as well as taste and bird acceptance. These often occur when switches are made in sanitizing agents or intake sources are changed.

Determining water quality starts with sampling your water for both dissolved minerals and bacteria. Your county health department can usually provide bacteria testing for well water. Contact your county for scheduling, cost, and procedures; many counties require a trained technician come out to take the sample to ensure there is no cross contamination. The presence of bacteria in water at the well can indicate issues with the well casing and often requires treatment to clear. Retesting will be required to assure the treatment worked, and a follow-up test within the year would be advised. An inspection of the lining should be considered, especially if the treatment fails to reduce the load to an acceptable level or there is recurrence of the bacterial load. Testing for dissolved minerals in water is pretty simple in North Carolina as the NC Department of Agriculture & Consumer Services offers the standard test for only five dollars. To submit a sample all you have to do is remove the label from an empty plastic soda or water bottle and rinse it several times (do not use soap) from the water source you want to test, then fill it to the top leaving no air space, and cap it. Be sure to label the bottle with the same descriptive code you use on the submission form and send it, along with the fee, to the lab promptly. Refrigerate the sample if it needs to be stored before submission. You can download the form and get more tips on sampling at https://www.ncagr.gov/agronomi/uyrsoln.htm.

Be sure to select the appropriate use code on the form to receive recommendations about acceptable levels of minerals in your water for poultry. Contact your Extension Area Specialized Poultry Agent, flock supervisor, or water specialist for additional assistance in understanding your analysis and possible mediation needs. Remember that water quality not only affects bird performance, it also has a big impact on equipment. Drinkers and cool cells may have different tolerances for contaminates than your birds. Consult your equipment manufacturer for recommendations and strategies to maintain equipment performance. To learn more, read ”Do You Know Your Water Quality?” at www.poultryventilation.com.