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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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Animal Waste Updates

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

Initial 10-hour Animal Waste Operator Class (OIC)

on July 17 and 18 from 10am - 4pm. Location: Lenoir County Livestock Arena, 1791 NC-11, Kinston, NC 28504
 Cost: Manuals are \$20 and exam fee is \$25. Participants can take the September exam.
 To register: email Kaelyn Mohrfeld - kfmohrfe@ncsu.edu or call/text 252-560-6094.

Hold the dates: November 15 (9am-12pm) OR 30 (1-4pm) - 3 hour zooms for continuing education credit.

Zero Hog permits

If you lost a contract and currently have no hogs and are planning to not repopulate, you can request a zero hog permit from the Division of Water Resources (DWR) Animal Feeding Operations. Permit conditions include:

1. No annual permit fee.
2. The farm must maintain the lagoon and spray fields, so there will not be any adverse impacts on the environment and according to your permit and waste plan. Annual inspections will still occur.

How to request the permit? Send a letter stating that you wish to apply for a zero hog permit to Ramesh Ravella, PhD, (Program Supervisor, Animal Feeding Operations). Email Ramesh.Ravella@ncdenr.gov or mail to 1636 Mail Service Center, Raleigh NC 27699-1636.

Heat Stress

It's that time of year when temperatures are hot and there is an increased risk of heat related illnesses. The chart below shows the difference between heat exhaustion and heat stroke in English and Spanish.

HEAT EXHAUSTION	OR	HEAT STROKE	AGOTAMIENTO DEBIDO AL CALOR	O	INSOLACIÓN
<p>Faint or dizzy</p> <p>Excessive sweating</p> <p>Cool, pale, clammy skin</p> <p>Nausea or vomiting</p> <p>Rapid, weak pulse</p> <p>Muscle cramps</p>		<p>Throbbing headache</p> <p>No sweating</p> <p>Body temperature above 103° Red, hot, dry skin</p> <p>Nausea or vomiting</p> <p>Rapid, strong pulse</p> <p>May lose consciousness</p>	<p>Mareos</p> <p>Sudor excesivo</p> <p>Piel pegajosa, fresca y pálida</p> <p>Náuseas y vómitos</p> <p>Latidos del corazón rápidos y débiles</p> <p>Calambres</p>		<p>Dolor de cabeza</p> <p>Piel no sudorosa</p> <p>Temperatura corporal por encima de 103° Piel caliente, roja, y seca</p> <p>Náuseas y vómitos</p> <p>Latidos del corazón rápidos y fuertes</p> <p>Pérdida del conocimiento</p>
<ul style="list-style-type: none"> Get to a cooler, air conditioned place Drink water if fully conscious Take a cool shower or use cold compresses 	<h2 style="margin: 0;">CALL 9-1-1</h2> <p style="margin: 0;">• Take immediate action to cool the person until help arrives</p>		<ul style="list-style-type: none"> Descanse en un lugar fresco y sombreado Tome mucha agua y otros líquidos Báñese con agua fría o utilice compresas frías 	<h2 style="margin: 0;">Llame al 9-1-1</h2> <p style="margin: 0;">• Tome acción inmediatamente para enfriar su temperatura corporal hasta que llegue la ayuda necesaria</p>	

Sandspur Control

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

There is nothing that can ruin a pretty hayfield, or a healthy pasture, as quickly as a thick stand of sandspurs. Not only do they spread at an incredible rate but unlike most other pasture weeds, there is no way to control them with one application of herbicides. This is part of the reason why Sandspurs are without a doubt one of, if not the most difficult weed we deal with.

Successfully eradicating sandspurs requires manual control, plus chemical control for 2 if not 3 years before you can tell yourself your fields are "sandspur free".

Sandspurs emerge in the spring, normally around mid to late April. Like most grassy weeds they are tough to identify until they get several inches tall. In fact, most farmers don't even realize they are there until they form their distinctive spurred seedhead in August. From there these new seeds wait patiently on the plant stalk until something comes along (a tractor tire, a horse fetlock, or maybe a bushhog) and moves them to another spot of the field where it will fall off and form a new sandspur plant the following summer. They can also sit there for as long as three years waiting for the proper conditions to germinate.

If you find yourself with a field of sandspurs, your job starts in February/March with a good controlled burn. Years ago, everybody with bermudagrass burned their fields off like clockwork. This practice has somewhat fallen out of favor but if you have a field full of sandspurs from last year you need to burn. What this will do is help eliminate the fresh spurs that are still on the surface. Make no mistake you will still have sandspurs to deal with the coming fall, but this will help. At the least you can run equipment through these fields without spreading these spurs even more.

Now you're ready to evaluate your herbicide options. There are two choices: pre-emergent (Prowl H2O & Rezilon) and post-emergent (Pastora & Plateau).

Pre-emergent options

Pre-emergent products (Prowl H2O & Rezilon) will give good control, but you must be timely in your application and have favorable weather conditions. Both Prowl and Rezilon must be applied *before* the sandspurs germinate in the early spring. There is no exact date when this occurs but with our increasingly warmer Spring temperatures, I would say March 1st is about as late as you want to apply for maximum control. If time gets away and you're debating if you can still spray into April save your money and move onto trying to kill them post-emergent. Again these pre-products (Prowl H2O and Rezilon) will work fine as long as you are timely. Also critical is that both of these products must have rain to work. Without a decent rain shower these products will

not get into the soil to work. Prowl especially needs rain within 72 hours of being applied so if there is no rain in the forecast then wait. Pre-emergents work by stopping the annual sandspur seeds from germinating. However, this will only work for a few months. It is not uncommon for these products to work great for the first half of the summer then lose effectiveness in September/October. To prevent late germination a second application may be necessary to get full season control. Shoot for June or early July or right after your first cutting of hay. This is no doubt expensive but will work much better to avoid a late season flush of sandspurs than just a single late winter application.

Post-emergent options

Pastora is the most commonly used post-emergent option available for Sandspur control in bermudagrass. Like the pre-emergent products, timing is critical. Pastora will only control freshly emerged sandspurs up to 3" tall. This will traditionally be from April 1st through the middle of May. Waiting until June or July when the plants are 4-5" tall will not work. Farmers have a natural tendency to want to delay the Pastora application later in the spring until they start to see more summer weeds emerge. Because of this they often wait too long and spray the sandspurs when they are too big to kill.

The other post option is Plateau (Imazepic) which does a pretty good job on controlling sandspurs prior to seed formation. Imazepic does have a downside in that it causes significant stunting & yellowing of bermudagrass for 2-3 weeks. A reduction of up to a full cutting of hay is not unusual for bermudagrass while it recovers from an Imazepic application.

Fall Management

Often with a major sandspur infestation no matter how effective your herbicide program is you will still see some spurs emerge here and there by September. If you do nothing else, *don't spread them*. Don't mow them or drive you 4-wheeler through them. If possible, physically removing them is your best option. Carefully digging the plants up (without knocking the spurs off!) and removing them to a burn pit or a dump site away from your fields is your only option to keep them from re-seeding over the winter. I have also seen people burn the standing plants and the spurs with a large propane torch. Anything that will kill the plants and keep the spurs from getting spread is preferable than doing nothing.

Sandspur control takes patience and dedication on treating your fields before the problem occurs. Staying the course, spraying on time, and not spreading the surviving spurs each fall takes patience but will work in time. Otherwise, you will never be rid of them.

Heat Stress in Sheep and Goats

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

Summers in North Carolina can be brutal between our high temperatures and high humidity. This combination is hard on people and animals alike. Did you know that cattle can start seeing the effects of heat stress at 70 degrees Fahrenheit? Water intake doubles between 70 and 90 degrees Fahrenheit. Heat stress can reduce reproduction performance, lower meat quality, slow growth rates, and even lead to death.

Horses are also heavily affected by heat! When deciding to ride your horse in the summer it is important to account for the Heat Index. This is calculated by taking the temperature and adding humidity. When the Heat Index is between 130 and 150 you should use caution and monitor your horses frequently. Do NOT ride if the Heat Index is over 180.

Sheep and goats tend to be more tolerant than horses and cattle. They evolved in desert climates. Hair sheep are more tolerant than their wool counterparts. However, they have less tolerance when stressed. A prime example of this is when being worked.

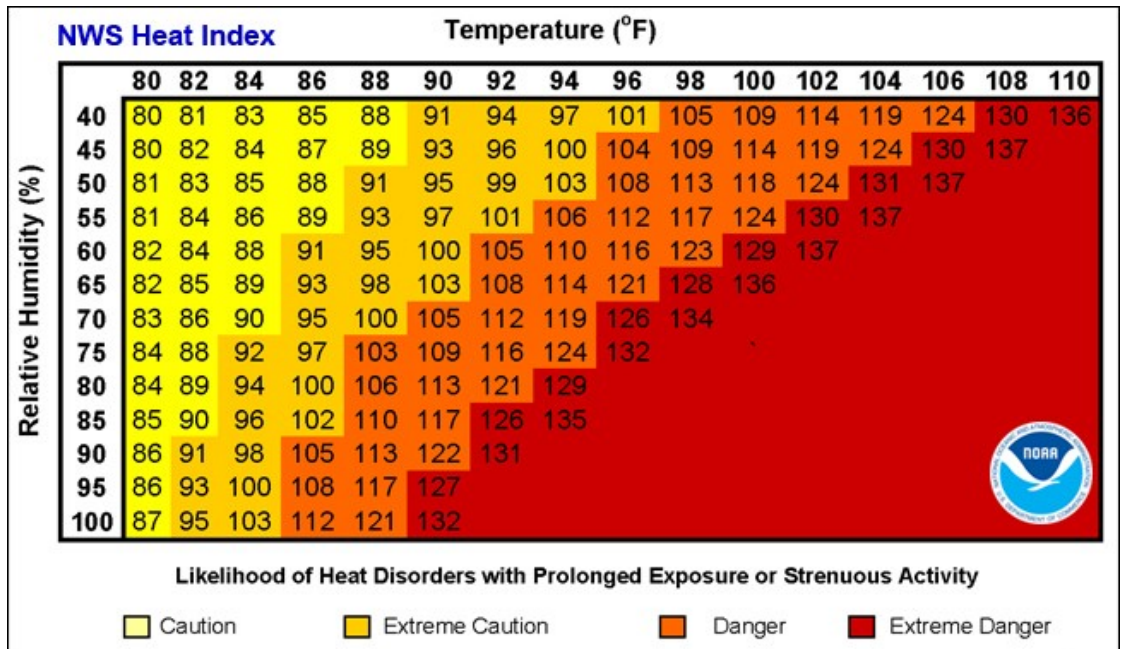
We can't forget our companion animals and livestock dogs. They are also affected by the heat. One of the leading causes of death in livestock dogs is heat stress from working and their high drive. Make sure to provide your companion animals and livestock dogs extra water and shelter during hot days. Avoid using working dogs in temperatures above 90 degrees. When taking companion animals for walks during the summer, walk them on dirt or grass. Asphalt and concrete hold heat and will burn the paw pads of your companions.

Here are some tips on how to prevent stress and the signs to look for in your animals.

- Monitor watering systems more frequently
- Provide shelter or shade if there is no natural shade
- Feed pasture instead of hay when possible
- Avoid working, moving, or riding animals between the hours of 10:00 am and 4:00 pm
- Do not haul animals on trailers between the hours of 10:00 am and 4:00 pm

Signs of Heat Stress

- Excessive panting
- Excessive saliva
- Increased sweating
- Laying down
- Labored breathing



What to Do

- Treat heat stress as an EMERGENCY
- Call your veterinarian, heat stress often needs to be treated with IV fluids
- Provide electrolytes

Keeping Cattle Cool

By: Aaron Blackmon, Livestock Extension Agent with N.C. Cooperative Extension in Columbus County

We're finally into summer and after having a pleasantly mild spring I thought it would be good to revisit ways to mitigate heat stress in beef cattle as temperatures heat up this summer. Heat stress can affect production in many different ways, it can reduce milk production, feed intake, weight gain, and reproduction efficiency. Compared to other animals' cattle do not dissipate heat effectively, plus they have added heat from the fermentation process in their rumen. Beef cattle are most comfortable between 41°- 77° F. But it's important to take heat and humidity indexes into consideration when evaluating cattle's potential for heat stress.

Here's Some Tips to Remember:

Water is the quickest way for cattle to reduce their core body temperature, ensure that cattle have clean water free of contaminants and that is easily accessible to adult cattle and calves. Rule of thumb cattle needs 3 inches of linear water space per head.

Avoid working and transporting cattle during the warmest parts of the day. We all know sometimes when we have to work cattle when the opportunity presents itself. Working cattle earlier in the morning is preferred because cattle's core temperature peaks 2-hours after the environmental temperature peaks and it takes 4-6 hours for their body to return to normal temperature.

Shade can be provided through natural, permanent or portable structures. If you are considering constructing a shade, consider the size, well-drained soil, grazing patterns, and wind orientation on your operation. Beef cattle require 30-40 square feet per head and a structure with a minimum height of 8 feet to allow for adequate ventilation.

Feed cattle later in the evening after environmental temperature has peaks, avoid grazing endophyte infected fescue which can raise body temperature. Beef cattle that are heavy fleshed cattle or more susceptible to heat stress.

Signs of Heat Stress:

Labored opened mouth breathing, head hanging low, drooling or foaming, isolated from the herd.

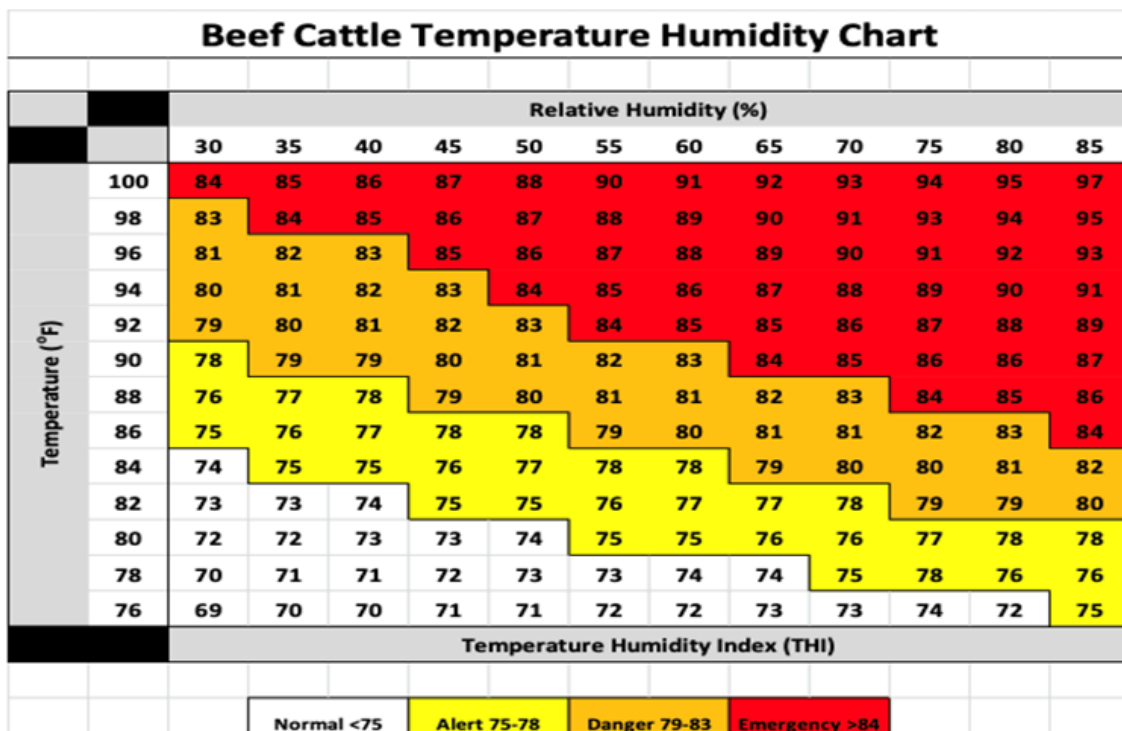


Figure 1: Cattle Temperature Humidity Index Chart

Equine First-Aid and Emergency Evacuation Plan

By: Brooke Zeleny, Livestock Extension Agent with N.C. Cooperative Extension in Craven, Jones, and Pamlico Counties

As summer months are around the corner, equine owners should begin preparing their emergency first-aid kits and evacuation plans for their equine companions. Hurricanes and flooding are major concerns for livestock and equine owners especially in our area. Having a proper evacuation plan and first-aid kit readily prepared can cut down stress and panic in emergency situations. Provided below is an inexhaustible list of items and scenarios for an emergency equine first-aid kit and evacuation plan:

Medical tool-kit:

- Have livestock and horses tagged and a way to identify if they get lost.
- Prepare a medical tool-kit for animals
- Medical supplies
- Needles
- Syringes
- Bandages, antibiotics, vet wrap, etc.
- Have the phone number to your vet in the tool-kit.
- **Keep records** of past medications, procedures, injuries, dewormers, vaccines, etc.

Feed and Water:

- What happens if electricity goes out?
- Generator
- Fuel
- Extension cords
- Portable water totes/buckets
- Pre-prepared feed
- Tarps to cover hay
- Pre-storm feeding of animals

Equipment Preparedness:

- Barn/equipment are prone to damage from flooding, trees falling or high winds.
- Move equipment to easily accessible, safe, open fields.

Pasture selection for animals:

- Move livestock and horses to the most interior pastures
- This provides a safety net for falling trees or water damage.
- The main goal is to safely keep your animals on your property
- Move livestock and horses to higher ground to avoid any potential flooding.

Look at an overview of the property and plan on moving livestock, horses and equipment to higher ground. The owner of the property is going to be most familiar with how their land works and flows. Know where flooding is prone to happen or where trees have the

potential to fall, weak fencing, and potential problem areas. Not only is it important to plan for the livestock and equine companions but it is also valuable to have storm preparedness for the human family as well:

- Create storm tool-kit for the family:
- Important documentation (ID, insurance, deeds, etc.)
- First aid kit
- Storm radio
- Water
- Electrolytes
- Flashlight
- Fire extinguisher
- Battery packs for electronics
- Blankets
- Medications
- Canned food
- Bug spray
- Sunscreen
- Personal PPE
- Pet needs

Keep all items in a waterproof container and make it easily accessible for anyone in the family to get a hold of. Have an evacuation plan in advance in case of fire. One with a meeting spot where the whole family can easily get to.

Linked below is the North Carolina Animal Emergency Response Manual. Here you can find even more information about first responders, biosecurity, animal behavior and handling, mortality management, and much more. While being knowledgeable about potential threats and arising problems when storms threaten pastures, livestock, and horses is important. Being able to think clearly in the moment, having the right phone numbers to contact such as first responders, veterinarians, and the county extension agents could be the deciding factor in preventing a negative outcome. **North Carolina Animal Emergency Response Manual Link:** <https://ncaerwg.org/documents/>

For any questions or concerns please contact your local Livestock Extension Agent.

Armyworms On the March

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

It's that time of year again...warm weather, the summer grasses and annuals are growing exponentially, and your cattle look fat and happy. Eastern NC producers are probably feeling good if their crop of hay is looking good; the problem is that there may be a problem just on the horizon. It's right around now, July-September, that our fields are often overrun with armyworms. Those crawling soldiers that are intent on going to battle, battle against you that is while they destroy your hay crop!

Armyworms are larvae and the fall species can green, brown, or black. Their head capsule is marked by an inverted "Y", four black dots on the abdomen and they have a black stripe along each side of their body, which makes them easy to distinguish from other caterpillars. Development from egg to fully grown caterpillar takes about 2-3 weeks; the moths then emerge in about 2 weeks. Fall armyworms are predominantly seen in July-September but you may have seen the "true" armyworms in earlier summer. These armyworms have 3 dark strips and yellow or greenish-brown in color.

Armyworms often focus their attacks on pastures or hayfields, but can impact turfgrass and various crops—peanuts, soybeans, potatoes, tomatoes, cotton, and tobacco to name a few. They are most active in the early morning or late in the evening, making those the perfect times to scout your fields. Damage varies depending on your infestation and can start out looking like a thinned out stand of grass or dead, brown appearance. Initially, the caterpillars are too small to eat an entire leaf so they eat the underside, leaving a "windowpane" appearance on the grass blades. Armyworms can wipe out entire fields in a very short span of time; 3-5 medium sized worms per square foot justifies some sort of control!

During hay season, always be on the lookout for armyworms. The sooner you realize you have an infestation, the quicker you can begin to control them. This may just save your hay crop! If it will be time to harvest soon anyways when you see the armyworms signs, it may not be a bad idea to cut a little earlier. If you still have a week or two to go, and armyworms are taking over, it could be time to spray!



Fall Showmanship Circuits

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

Showmanship circuits consist of multiple youth livestock shows at various locations and dates across a region. In our readership area of North Carolina there are two showmanship circuits: The Eastern Carolina Showmanship Circuit and the 4-H Farm Credit Showmanship Circuit. Each has different rules and procedures, but the concept behind all is that both circuits have several participating shows, and a child may compete in as many of the shows as he/she likes. Awards are given for each individual show, but participants also become eligible for circuit awards by competing in a minimum number of the shows. Circuit winners are recognized at the NC State Fair (Eastern Circuit) or at a year-end banquet (Farm Credit Circuit.) Following is a bit more information about each circuit. Even if you don't have children showing, please consider attending and supporting a show in your area.

Eastern Carolina Showmanship Circuit

This circuit began in 1992 for heifers and lambs. Some years later, separate circuits for meat goats and swine began in the same area. In 2019, the meat goat and swine circuits combined into the ECSC, resulting in one organizing body for all four species. Shows in this circuit are all east of Raleigh. Updates can be found at the Eastern Carolina Showmanship Circuit Facebook page.

County	Lamb Show	Goat Show	Swine Show	Heifer Show
AGR (Johnston)	8/12	8/11	8/12	8/12
Jones (@ Kinston Arena)	8/19	8/19	8/19	8/18
Halifax	8/20	8/20	N/A	8/20
Lenoir	8/26	8/25	8/26	8/26
Elizabeth City	9/2	9/1	9/2	9/2
Edgecombe	9/9	9/8	9/9	9/9
Duplin	9/16	9/15	9/14	9/16
Pitt	9/21	9/24	N/A	9/19
Wilson	9/22	9/21	9/20	9/23
Sampson	10/1	10/1	9/30	9/30
Wayne	9/30	9/29	9/28	10/1

4-H Farm Credit Showmanship Circuit

This circuit is sponsored by Carolina Farm Credit and Cape Fear Farm Credit. Shows in this circuit are held in the Central region of North Carolina. Updates are posted to the 4-H Farm Credit Showmanship Circuit Facebook page.

County	Heifer Show	Goat Show	Lamb Show
Randolph	8/5	8/5	N/A
Guilford	8/12	8/12	8/12
Stanly	8/19	8/19	8/19
Anson	8/26	N/A	N/A
Montgomery	8/26	8/26	N/A
Cumberland	9/8	9/2	9/2
Richmond	9/9	9/9	N/A
Chatham	9/9	N/A	9/9
Lee	9/14	9/13	N/A
Union	9/16	9/16	9/16
Moore	9/23	9/23	9/23
Robeson	10/7	9/30	10/7