Hurricane Preparedness Guidance for Livestock Owners
Charlotte Krugler, Livestock Poultry Health

With the predicted higher than average tropical activity for the 2017 Hurricane Season, it’s time to dust off your farm-specific emergency response plan.

Preparation:

The most common threats affecting herds are flooding, downed fences, fallen trees, collapsed structures and barbed wire fence-induced injuries. Early preparation can help you mitigate losses should your farm be in the path of winds, storm surge, flooding, or tornadoes.

1. Review your insurance coverage and inventories. Keep all important papers, including emergency phone numbers, accessible.

2. Examine your property for any structural defects or hazards. Reinforce barns and outbuildings, remove dead or weak trees, and repair fences. Secure tin roofs to prevent them from becoming flying debris. Construct berms adjacent to low-lying, flood prone areas to allow livestock to move to higher ground.

3. Develop arrangements with neighboring farms to assist one another with animal care. Clearly post evacuation plans, contact numbers and animal feed and care instructions.

4. Ensure your animals’ good health. Confer with your veterinarian to update vaccinations and for recommendations about dietary adjustments to reduce stress for your animals in the event that regular feed sources are temporarily cut off following the emergency.
5. Identify your animals to prove ownership should they become displaced. Maintain photos and descriptions. Examples of permanent ID: tattoos, ear tags, microchips. Temporary ID methods include livestock marking sticks, brands, and tags braided into manes.

6. Prepare emergency kits both for farm use and possible evacuation. Perform required generator maintenance throughout the year.

If you are considering evacuation with some or all of your animals, maintain names and requirements of potential destinations. Keep trailers, tires, and hitches in ready condition and practice loading animals. Consider back-up plans including professional animal transporters.

**When a storm is imminent:**

Put in place any recommended temporary feeding plans to reduce stresses on your animals.

**If you evacuate:**
Do it early. Closed bridges, lane reversals, bumper-to-bumper traffic, and high winds are likely if you wait. Comply with animal movement requirements: horses need current negative Coggins’ test when co-mingling, all animals need current Certificates of Veterinary Inspection (CVI) when crossing state lines (although some states may waive this for evacuation purposes). If you plan to set up a paddock at the temporary stable site, place it away from decorative/toxic plants and mark the top of the portable fencing with visible cloths every 4 – 6’.

**If you stay:**
Fill your gasoline tank and grab extra cash. Place feed in waterproof containers, cover hay with plastic tarps and store on pallets or other high, dry, areas. Secure agricultural chemicals and fuel and remove or secure objects that could become flying debris.

Implement temporary animal ID measures as described above. Determine the best place for your animals to go through the storm. Examine your property and decide whether to move them to shelter or turn them outside.

Consider sheltering in your barn if it is secure and not in a flood prone area. Remove loose items from the aisles. Provide access to food and clean water. Trash cans filled with water can be secured inside stalls.

Animals turned out to pasture will follow their instincts to seek natural or manmade shelter.

**Post-landfall:**

Human life and safety will be the first priority but there will be systems in place at the county and state level to assist people with animals and agricultural businesses affected by the storm. The first place to contact is your county EMD. If they are unable to provide resources to assist you they will request help from other counties or the state.

1. Document damages, with photos, and report to appropriate parties including your Clemson Extension agent.

2. Check to determine if missing animals may have been collected and transported to a holding facility where you can claim them. You can also search via flyer, newspaper ad, or social media sites.

3. Examine your property for hazards, including damaged fences and waste systems, downed power lines, flooded areas, gas and utility leaks, debris, looters, strange animals (including wildlife), and toxic plant parts (such as downed cherry tree leaves) that may have blown in. Report any livestock found on your property so they can be checked or scanned for ID and returned to their owners.

4. Check animals for injuries, including their feet and skin in animals with prolonged exposure to flooded areas, and for wire or string wrapped around limbs. If animals have been off regular feeding schedules, move back to regular diets slowly. Allow free access to water gradually, especially to pigs. Expect that animals may be temporarily disoriented and even fractious following the event in their changed surroundings. Animals may fight to reestablish hierarchy and may need to be separated. Use familiar personnel and protocols to assist them to re-acclimate.

If you have suffered storm-related animal deaths, review and implement your farm carcass management plan.

*Your Clemson Extension agent can direct you to USDA Farm Service Agency (FSA) and other resources that may offer disaster assistance.*
Winter Annual Establishment
Lee Van Vlake, Area Livestock and Forages Agent

For many cattle producers in the state the first killing frost means grazing has ended and hay feeding starts. It is common to hear discussion on how much it costs to feed hay, and since hay is such an expensive forage, cattle producers look for ways to extend the grazing season and feed less stored forage. One common way to extend the grazing season and lower input costs is to plant small grains, ryegrass, and legumes, or a combination of these. Winter annuals are an excellent option because of their ability to provide adequate nutrition for lactating cows. High forage quality and yield can easily be obtained with good soil fertility and cooperation from Mother Nature. Ryegrass and annual ryegrass are the most commonly planted winter annuals. Wheat and oats are also relatively common in livestock forage production. Each of these species differs in forage production distribution, disease tolerance, forage quality, and seeding rate.

Several different methods are used to plant winter annuals. Some of the planting methods include broadcast, no-till, and clean till. Consider the type of land, type of forage, and availability of equipment when deciding which planting method(s) will work best. Most producers utilize no-till equipment and will sodseed into bermudagrass or bahiagrass. These pastures must be closely grazed or mowed short. Planting into short sod decreases shading, increases establishment rate, and improves early season forage production.

Good soil fertility is one of the crucial keys to obtain the desired forage production for winter annuals. Cutting corners on fertilizing will lead to decreased production and likely a disappointing experience with winter annuals. By providing adequate fertility it is also possible to decrease the amount of winter annual acreage needed. Please refer to your soil sample and local county extension office for more specific information on fertilizing needs for winter annuals.

Varieties

Rye
Rye is the most popular small grain for winter pastures in South Carolina. It is the earliest maturing and most cold-hardy small grain species. In South Carolina, ryegrass generally matures by late April. Rye works best when planted into a clean-tilled field; however, no-till will also work well. Rye should be planted at two bushels to the acre for a pure stand.

Wheat
Some years seed costs can be less than rye but this varies from year to year. Wheat is also cold hardy and matures later than rye. Wheat will produce less fall forage than rye or oats, but because of later maturity, can be grazed longer into spring. Wheat should be planted mid-September through October 1st at 2-2.5 bushels to the acre for a pure stand.

Oats
Oats are the least cold hardy of all winter annuals. Stands can be thinned or lost in severe winters making this option a little more risky than the others. Oats are similar to wheat in maturity. Oats should be planted by mid-September through October 1st at 3-4 bushels to the acre for a pure stand.

Annual ryegrass
Annual ryegrass will perform better than other winter annuals on wet soils and will produce high yield and excellent quality forage from early March through May. Annual ryegrass will provide little to no fall grazing. To ensure success be sure to buy high quality seed.

(Continue reading on next page)
Paying a slightly higher price for seed with a certified germination and good disease resistance will pay big dividends later. Be aware when planting ryegrass that it can delay green up of bahiagrass and bermudagrass pastures. If this is the case it is important to either graze or mow ryegrass very short to give bahiagrass or bermudagrass a chance to green up in late spring. Ryegrass may produce a small amount of forage in late fall when planted on clean-tilled land, but this forage production is highly dependent on rainfall and temperature. It will typically produce higher quality hay than wheat, oats, or rye, but can be difficult to cure in wet spring months. Annual ryegrass should be planted by mid-September through October 1st at 25-30 pounds to the acre for a pure stand.

Grazing winter annuals can be a challenging practice. We must be patient and allow them to establish by delaying grazing until plants are 6-8 inches tall and are beginning to tiller or produce shoots. This allows the plant to produce a vigorous root system to help prevent plants from being pulled up by grazing cattle. Although plants can tolerate close grazing, great forage production will be reached by maintaining 4-5 inch stubble heights. Plants established in dormant warm-season sods can be grazed slightly earlier than those in clean-tilled pastures because losses from uprooting, trampling, and overgrazing are decreased.

Another consideration to make is to incorporate cool season annual legumes. Cool season annual legumes are an excellent source of forage quality, can be utilized to mix with other winter annuals to extend the grazing season, and can also provide nitrogen for our summer perennial pastures. These follow the same planting schedule as other winter annuals which make them an easy addition to winter annual forage production. Winter annual legumes can be broadcasted, no-tilled, or established on a prepared seedbed. Consult your local Livestock and Forages Agent for differences in seeding rate depending on method(s) used.

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<th>Species</th>
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<td>Pure Stand</td>
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<td>Triticale</td>
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<td>Single Clover</td>
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Fall Weather Outlook

Chris Justus, Certified Broadcast Meteorologist at WYFF News 4 in Greenville, SC

All eyes are on the tropics this fall as we are in the midst of a very active hurricane season. September 10th is the peak of hurricane season and statistically speaking activity begins to gradually drop after that date through the end of hurricane season on November 30.

Our weather patterns are best summed up by 3 major cycles: El-Nino, La-Nina and neutral. Currently we are in the neutral setup which promotes hurricane activity. The jet stream is generally further north which doesn't allow the strong winds to destroy tropical systems which often happens during strong El-Nino years when the jet stream is further south.

The current outlook for fall is for above average tropical activity which can make for big impacts in the Carolinas if we get a storm to near our coast. If Hurricane Matthew in October 2016 taught us anything, it is to not let our guard down even as hurricane season winds down.

Aside from tropical activity, the outlook for the fall is for near normal temperatures and rainfall. We do not expect widespread dry streaks.
The season's first frost will soon come to mind, ending the growing season. On average the first frost in the Upstate of South Carolina is in late October, for the Midlands early November and for the coast early December.

Overall, the pattern looks to remain in the neutral category into winter. For snow lovers, that's not necessarily a bad thing. El-Nino promotes a wet, rainy winter and La Nina means a dry and warm winter. With our pattern being directly in the middle we don't expect extremes either way.

With an extreme drought across the state just a year ago, being near normal for winter is a good thing. It will enable us to start the spring growing season without a huge deficit.

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ABOUT THE AUTHOR:
Chris Justus is a meteorologist at WYFF News 4 in Greenville, South Carolina. Chris grew up on an apple farm in Hendersonville, NC and knows all too well the impact weather can have on a farmer's crop. Chris still helps out on the farm when he's not tracking the weather. You can follow Chris on Facebook and Twitter.

Clemson University’s Edisto Forage Bull Test

Scott Sell – Coordinator

*Bull Test Station, Research Herd, and Forages - Edisto REC*

The bulls at the Edisto Forage Bull Test had another successful year and are ready for sale day. We will have 42 bulls in this year’s sale on the second Saturday of October. We will also be selling a select group of 10 bred heifers from the core of the Edisto REC Research Herd. These heifers are really nice and will be guaranteed safe in calf.

The Edisto Forage Bull Test (EFBT) is one of two Central Bull Test Stations that Clemson operates. The test is housed at the Edisto Research and Education Center in Blackville, SC. The EFBT is unique, being the only one of its kind in the nation. The test is a 168-day all-forage test. What this means is, unlike traditional grain fed bull tests, the bulls consigned to the EFBT are grazed on forages with absolutely no supplement being fed during the 168 days of the testing period. Only a regular free choice mineral is provided (along with water, obviously) to the bulls outside of the forages they consume. This provides an opportunity to evaluate bulls on how they will grow and gain in a “real world” environment.

The test starts with a two week warm up period around the first week of December and the bulls go on test around the middle of that month. The test usually ends, calendar dependent, the last week of May or first week of June. For all but the final 30 days of the test the primary forages are ryegrass, wheat and/or oats, both alone or planted together. Arrowleaf clover is also added to the mix depending on what broad leaf weed pressure we have from year to year. To make the test successful ryegrass planting begins the first week of September. Remaining plantings occur in 30 day intervals, the first week in October and the first week in November. The early plantings sometimes present challenges such as pressure form warm season grasses and weeds still actively growing, and some occasional army worm and plant disease issues. Luckily though in the last few years the broadleaf weeds, particularly, pig weed has been the only real challenge.

In early April new hybrid pearl millet varieties are seeded, followed by another round of millet planting in early May and late May. For the 2017 test we exclusively used a new brown-mid-rib pearl millet variety, Exceed. This was a departure from many years of planting the old stand-by variety of Tif-Leaf III. We have been pleased with Exceed’s ability to withstand not only wet weather, but drought as well. While we have not statistically analyzed the weight gain differences between the two varieties, the bulls seem to perform better on the Exceed.

The bulls also graze red river crabgrass that has been established at the bull test for many years and 4-year-old stand of Tift 85 hybrid bermuda grass. Although the heat and lower quality of summer forages result in lower daily gains than on cool season plantings, the bulls still consistently gain between 1.5 and 1.75 lbs. per day on the summer forages.
Two years ago, we implemented a plan to supplement the bulls with a soyhull/corn gluten feed based ration at the rate of 1% of their body weight, during the 4-6 weeks leading up to the sale. This gives the bulls just the touch of bloom they need, coming off of summer forages, which are beginning their decline in late August and early September. When the bulls reach sale day, they are great shape. They are neither too thin nor “gobby” fat as I like to say. Probably the most positive feedback we receive from buyers is that the bulls never seem to “melt” when they turn them out and seem to hold up better. The fact the bulls are approaching 18 to 24 months of age also contributes to the hardiness at the time of sale.

So, join us this Fall for the sale or as a consignor. Entry forms for the 2018 test are at the website mentioned below and the sale is Saturday October 14, 2017. To request a catalog email us at gsell@clemson.edu. We can send you one electronically or via regular mail or both. We would love to have you and your bulls.

For more information on entering a bull in the EFBT, the sale, or to request a sale catalog contact Scott Sell at gsell@clemson.edu or 803-284-3343. Information and entry forms and a catalog request link are also located at our website at: www.clemson.edu/extension/bulltest/edisto/

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**Grumpy Grazer**

*Longing for a better weed crop this year? Follow these easy steps for a plethora of pasture weed woes:*

**Step 1. Always Assume fertility and lime are always adequate.**

If your most current soil samples are from when gas was 89 cents, then you're right on track. Rest assured your hay crops have mined much of the NPK over the past decade; therefore, that last analysis is as useless as the “G” in gnat. Disregard that for only $6 you could remove this pasture postulation.

**Step 2. Cut it close.**

Overgrazing is the premier weed establishment tool. Make certain your livestock consume every blade to maximize harvest efficiency and parasite uptake. If the cattle and goats aren’t cutting it close enough, pack in a few horses. After all, they are kings in the world of pasture decimation. Then if you’re lucky, your neighbor will offer to test out his new discine, furthering the fescue annihilation as he drops the deck onto the “putting green” setting. Try not to cry as you watch the cloud of dust trailing behind the mower. At least they were able snuff the life out of all those shallow roots. We wouldn’t want to risk any re-growth coming back to shade out those weeds. Continue to step 3 to further prepare your seedbed.

**Step 3. Put all your N in the spring.**

Suppose you’re bad at following instructions and skip step 1. Instead you decide to apply urea to your grandaddy’s fescue patch on a hot day in May. While you’re at it, go ahead and put down an entire growing season’s worth at once. Fall is for football, not fertilizer. Then if you’re lucky, armyworms will move in while you’re away at Williams-Brice on game day. These pests are only slightly more efficient than a horse at grass blade removal.

**Step 4. Ride the tractor.**

If you’re compelled to use your new tractor, be sure to wait until the weeds have produced seeds before spraying a herbicide. This will ensure that those seeds stick around for next year’s crop. Also, these mature and likely-strong-enough-to-survive weeds may get a good laugh out of that puny dose of “weed killer.” Still concerned you’re not doing enough? Go ahead and drag that pasture to get those seeds spread over the entire field. If you’re feeling generous, you’ll offer to do your neighbor’s too. They’ll thank you next year.

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Unfortunately, last year, many of us unwittingly practiced our hand at several of the aforementioned steps. Couple this with a severe drought, and it’s no surprise this year’s pastures have seen more weeds than Willie Nelson.
All joking aside, many of us have made good use of broadleaf herbicides and have maintained a good offense on thistles, horse nettle, and pigweeds. However, the grass weeds have been particularly abominable this year. They stepped in and eagerly filled the gaps left by our dearly departed fescue and bermudagrass.

So, what can you do about these grass weeds? Some grasses are pretty easy to kill without harming our bermudagrass stands. However, it gets a little more complicated in fescue fields. The go-to sulfurons that control grass weeds and numerous broadleaves can quickly damage your fescue when applied at the necessary rate to control the obnoxious offenders such as johnsongrass, bahiagrass, and spurge. But let’s not be too quick to throw all the non-bermuda/fescue grasses into the same category. How many cows got their groceries from bahia, crabgrass, or johnsongrass last summer?

Instead, let’s all rally our energy against any good forage farmer’s worst enemy...foxtail. Although the grass itself looks unsuspecting enough, it’s easily identifiable, bristle-like seed head poses a mouth ulcer risk when consumed by our livestock. Furthering the assault, bermuda and fescue hay producers, alike, are often forced to sell contaminated crops at lower value. With South Carolina forage crops being assailed by several different annual varieties, as well as the perennial, Knotroot Foxtail, it’s no wonder this grazer is grumpy.

The herbicide, Pastora, offers some solace to those of us with bermuda stands. Pastora controls many grass species, including annual foxtails, and has shown some promise for knotroot in some Tennessee bermudagrass trials. Spraying glyphosate after a cutting is another option for bermuda fields, but sadly there’s no consoling the poor fescue grower. Regrettably, both of these options would cause certain damage to the South’s one cool-season staple. Currently, our best bet is to prevent seed head production through grazing management. Combine this with other good management practices, such as fertility monitoring, to help keep the fescue competitive. If infestation becomes severe, renovation may be considered to overdraw the weed seed bank. After all, it’s another excuse to ride that tractor.

Whatever your forage of choice happens to be, I hope you’ll consider complete deviation of the 4 previously mentioned “steps”, and join in on the path to a foxtail-free lifestyle.

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**National Farm Safety and Health Week – Putting Farm Safety into Practice**

September 17 – 23, 2017

Marion Barnes, Senior County Extension Agent - Distinguished
Clemson University

Each year since 1944 the third week in September has been recognized as National Farm Safety and Health week. This time is set aside to remind farmers and ranchers to take precautions to prevent farm related injuries and fatalities. Although National Farm Safety and Health Week last only 7 days, farmers are encouraged to practice farm safety 365 days a year. Farming and ranching is dangerous business. For the last 40 years agriculture has ranked in the top 3 most hazardous occupations in the U.S according to the National Safety Council. According to the latest published data, in 2015, agriculture, forestry, fishing and hunting had the highest fatal work injury rate with 22.8 fatalities per 100,000 full time workers.

This year’s theme is, “Putting Farm Safety into Practice”. It’s one thing to talk about farm safety, but is quite another to actually practice safety everyday on your farming operation. If you

"For the last 40 years agriculture has ranked in the top 3 most hazardous occupations in the U.S according to the National Safety Council."
Begin with the proper attitude. Be committed to making farm safety an integral part of your farming operation, just like record keeping, marketing, proper fertility practices, and scouting your crops for pests and diseases.

Develop a written farm safety plan. Design your farm safety plan to fit your particular farming operation’s needs. Update your plan as needed.

Implement and ensure that all family members and workers understand and follow safety rules on your farm. A sit-down, face to face meeting to discuss safety practices with everyone who works or lives on the farm is a good idea and should be done at least on an annual basis. Giving workers and family members the opportunity to “buy-into” the farm safety plan/program with suggestions, comments or setting goals will be helpful.

Identify, access, and correct the hazards. Be on the lookout for new hazards which may occur from changes in work practices or new equipment. Take a close look at the hazard and rate the risk. Hazards in the high to moderate category require immediate attention. Set a date to correct less hazardous situations. Correcting the hazard is the most important step in the process. Ask your-self, can the hazard be totally eliminated or will behavioral changes, or other practices make the situation less hazardous? Fix the problem now, don’t procrastinate!

Establish a hazard register. Use it to record identified hazards, hazard controls, and issues raised through hazard monitoring.

Provide the proper personal protective equipment (PPE’s). Make sure workers & family members are properly trained in the use of PPE’s.

Read the operator’s manual. Require everyone who operates machinery to read the equipment operator’s manual at least annually. This publication tells you how to safely operate and maintain the equipment.

Investigate and discuss all near misses. We have all had “close calls” while farming. Something can usually be learned from a near miss. Discussing and sharing these experiences with others on the farm can lead to safer farming practices or elimination of the hazard all together.

Lead by Example. By following all the safety rules you will set a good example for employees and family members.

Putting farm safety into practice on your farm may not seem easy at first. It takes a conscious commitment and a little extra effort, but by making it a part of your everyday routine and it will soon become a normal practice.

Information for this article was taken in part from Hazard Identification and Risk Assessment at Farm Safety Nova Scotia