Dallisgrass poisoning (also known as Dallisgrass staggers) occurs several days after cattle ingest a significant amount of dallisgrass seedheads infected with an "ergot-like" fungus called Claviceps paspali. As the seedheads begin to age, they are infected with the fungus in the fall. The infected heads have gray to black swellings that have a sticky sap material on them, rather than the normal flay looking seeds on the head. It is not typical that the whole herd becomes affected; it appears that some animals develop a preference for the tips of the seedhead.

The infected seedheads contain three primary toxins, paspalinine, and paspalitrem A and B, which are tremorgenic alkaloids. The affected animals show neurological symptoms including trembling of the major muscles and the head, jerky uncoordinated movements, they also are spooky and sometimes aggressive. When the animal is startled and begins to run, they will often fall in unusual positions. In bad cases the animals will go down, and may stay down for several days. Convulsions and death can occur in extreme cases. There is no treatment except to get the cattle off the affected grass and provide them with high quality forage. If possible they should be put in a field with no ponds, steep slopes, etc. as they commonly stumble around and end up becoming injured or drowned. Usually cattle can completely recover from the poisoning.
In late summer we often have reports of dallisgrass poisoning, and it seems to be getting more common now because there is more dallisgrass in pastures in North Carolina. Toxicity usually is reported on farms with rank dallisgrass seedheads and the fungus present. In many cases producers had stayed off the pastures hoping to let the grass get a little more growth on it, and as a result the seedheads got old. In other cases, there are only a few cattle in large pastures, so the Dallisgrass grew faster than the cattle could consume it.

Dallisgrass is becoming a more important part of many pastures in the piedmont and coastal plain. It is a very good quality warm season perennial that provides great benefits to pasture systems; the only major drawback is the dallisgrass poisoning. If the seedheads do become infected, clipping them off at about 12” before grazing should help prevent the problem. Hay with high amounts of seedhead can also be a problem, so feeding Dallisgrass hay along with other hay is advised, especially if infected seedheads are present.

Eve H. Honeycutt, Livestock Agent, Lenoir and Greene Counties. Referencing an article by Munkvold, Hurburgh, and Meyer; “Aflatoxins in Corn”; Iowa State University

Aflatoxins are a group of chemicals produced by certain mold fungi. These fungi, Aspergillus flavus and Aspergillus parasiticus, can be recognized by yellow-green or gray-green, respectively, on corn kernels, in the field or in storage. Although aflatoxins are not automatically produced whenever grain becomes moldy, the risk of aflatoxin contamination is greater in damaged, moldy corn than in corn with little mold. Aflatoxins are harmful or fatal to livestock and are considered carcinogenic (cancer-causing) to animals and humans. Aflatoxin levels are highest during hot, dry summers and prime conditions for the fungus to produce toxin are warm nights in a period of drought.

It seems like most summers are prone to at least a few very hot, dry spells in Eastern North Carolina. Grain elevators will not accept corn with 20 ppb or more aflatoxin due to FDA rules regarding interstate commerce. Because of this regulation, a lot of contaminated corn ends up in the livestock feed market. Eastern NC is full of livestock, so we typically have a lot of high aflatoxin feed around. Every livestock owner should be aware of the risks of feeding high aflatoxin feed to animals, and how to avoid them.

Aflatoxins are very potent compounds that cause a variety of human and animal health problems. On rare occasions, livestock can die from ingesting aflatoxin-contaminated feed. Most commonly, aflatoxin reduces the feed efficiency and reproductivity of livestock. It can suppress the immune system of animals, leading to more frequent occurrence of infectious diseases. Unfortunately, the most abundant aflatoxin, aflatoxin B1, is a carcinogen. This raises human health concerns because aflatoxin can appear in the milk of dairy cows fed contaminated corn.

FDA guidelines for acceptable aflatoxin level in corn based on intended use.

<table>
<thead>
<tr>
<th>Intended use</th>
<th>Aflatoxin level (ppb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk (Dairy Feed)</td>
<td>None detected</td>
</tr>
<tr>
<td>Corn of unknown destination</td>
<td>&lt;20</td>
</tr>
<tr>
<td>Corn for young animals</td>
<td>&lt;20</td>
</tr>
<tr>
<td>Corn for dairy cattle</td>
<td>&lt;20</td>
</tr>
<tr>
<td>Corn for breeding beef cattle, swine, and mature poultry</td>
<td>≤100</td>
</tr>
<tr>
<td>Corn for finishing swine</td>
<td>&lt;200</td>
</tr>
<tr>
<td>Corn for finishing cattle</td>
<td>&lt;300</td>
</tr>
</tbody>
</table>

It is important that a good estimate of the aflatoxin level is obtained so that informed decisions can be made about feeding. Sampling the available corn can be a great indicator of the level of aflatoxin present. The NCDA lab offers a free sample for aflatoxin tests only. A good representative sample should be taken of the corn, since the mold does not occur uniformly throughout a lot of grain and is usually localized in a small area. If a sample comes back at a level over those recommended in the table above, the grain is not useless, but should be used carefully and mixed with other feeds to dilute the mold. After mixing, samples should be taken again to test the aflatoxin concentration.
For more information on aflatoxins or other mycotoxins in feed, contact your local Extension office.

**THE IMPORTANCE OF BIOSECURITY ON YOUR GOAT FARM**

Margaret Bell Extension Agent, Craven and Jones Counties
Adapted from “APHIS Biosecurity on U.S. Goat Operations.”

Have you ever thought about biosecurity on your farm? What is biosecurity? Biosecurity is various different practices you can implement on your farm to reduce the risk of introducing disease into your herd. This is a very important part of your herd’s health. Even one animal having a disease on your farm could affect the rest of your animals. Read on to learn more about how to make biosecurity improvements to your herd and your farm in general.

**Herd Additions**

Every time you add a new animal to your herd, you run the risk of introducing disease. There are three good practices to fend off disease from new animals. First, you can choose to have a closed herd, meaning the only way you add animals is through kidding on your farm. Obviously, this is not ideal for all farms because there is no way to add new bloodlines or improve genetics in a closed herd. Second, new animals should be quarantined and checked for signs and symptoms of disease for at least 30 days. Lastly, health management practices are a good way to help ensure your herd stays healthy. These may include: veterinary exams, deworming, vaccinations, and testing for disease.

**Usage of Needles**

By reusing needles between animals, you greatly increase your risk of disease transmission. The best practice would be to not reuse needles. However, if this is not possible, you can reduce your risk of disease transmission by disinfecting needles between each use.

**Veterinarian – Patient – Client Relationship**

It is very important to have a veterinarian who has a good client-patient relationship with you and your goat herd. Veterinarians are a good source of information about the goat industry as well as goat health. Regular farm visits by your veterinarian may help improve your herd, genetics, and provide a great opportunity for you to ask questions about your herd.

**Farm Visitors**

When visitors come to your farm, it is very important that they take precautions not to spread disease. Disease agents can be spread through various locations such as clothing, hands, boots, vehicles, or instruments. You can require that visitors take any and all of the following precautions: change into clean boots, use shoe covers, wash hands before touching the animals, don’t park near the goat area, and use a footbath before entering goat area.

**Kidding Management**

It may be a very good idea to keep does that are kidding for the first time away from the rest of the herd because if they become infected with bacterial pathogens while pregnant, they could abort, have abnormal kids, or kid early. Also, it is important to promptly remove placentas and aborted fetuses because they can hold infectious organisms that could possibly spread to other goats.

You should also consider taking precautions with your goats having physical contact with other animals including raccoons, skunks, and opossums. These animals can carry disease and infect your herd. Also, it is very important to make sure your animals are properly identified with an identification number, such as a Scrapie tag. Various forms of identification are required by the U.S. Department of Agriculture when animals are sold or moved from the farm.

These are just a few ways you can make your farm less susceptible to disease. Follow these steps to help raise biosecurity at your farm: work closely with your veterinarian, isolate new animals, disinfect or do not reuse needles between animals, limit outside animal contact as well as visitor contact, use proper animal identification, and properly manage kidding areas to reduce disease.
transfer. If you have any questions about how biosecure your farm is, feel free to contact your local Cooperative Extension agent.

PROTECT YOURSELF IN THE HEAT!

Eileen Coite, Livestock Agent, Wayne County

As the summer heats up, it’s never too late to review ways to protect yourself from heat exhaustion and heat stroke. Whether your outside baling hay, checking water in a pasture, or loading out hogs, remember to be careful as the days heat up. To help with this, the following information has been supplied by the US Department of Labor Occupational Safety and Health Administration (OSHA):

When the body is unable to cool itself through sweating, serious heat illnesses may occur. The most severe heat induced illnesses are heat exhaustion and heat stroke. If left untreated, heat exhaustion could progress into heat stroke and possible death. When temperatures exceed 85 degrees and 30% humidity we should be cautious, but once they exceed 95 degrees and 60% humidity, the danger escalates.

**Symptoms of heat exhaustion** include headaches, dizziness or lightheadedness, weakness, mood changes such as irritability, confusion or the inability to think straight, upset stomach, vomiting, decreased or dark colored urine, fainting or passing out, and pale, clammy skin. To minimize and prevent heat exhaustion, the following steps should be taken:

1. Act immediately. If not treated, heat exhaustion may advance to heat stroke or death.
2. Move the victim to a cool, shaded area to rest. Don’t leave the person alone. If symptoms include nausea or upset stomach, lay the victim on his or her side.
3. Loosen and remove any heavy clothing.
4. Have the person drink cool water (about a cup every fifteen minutes) unless sick to the stomach.
5. Cool the person’s body by fanning and spraying with a cool mist of water or applying a wet cloth to the person’s skin.
6. Call 911 for emergency help if the person does not feel better in a few minutes.

**Heat Stroke** includes the same symptoms as heat exhaustion, but may also include dry, pale skin with no sweating, hot red skin that looks sunburned, seizures or fits, and unconsciousness with no response.

In addition to the above steps for heat exhaustion, **during heat stroke you should also:**

- Lay the victim on his or her back in a cool, shaded area and move any nearby objects away from the person if symptoms include seizures or fits. If symptoms include nausea or upset stomach, lay the victim on his or her side.
- Cool the person’s body by fanning and spraying with a cool mist of water or wiping the victim with a wet sheet.
- Place ice packs under the armpits and groin area.

Anyone who works in the heat should protect themselves and coworkers through the following tips:

- Learn the signs and symptoms of heat-induced illnesses and how to respond.
- Perform the heaviest work during the coolest part of the day.
- Build up tolerance to the heat and the work activity slowly (usually over two weeks)
- Use the buddy system, with people working in pairs.
- Drink plenty of cool water, about a cup every 15-20 minutes.
- Wear light, loose-fitting, breathable clothing, such as cotton.
- Take frequent, short breaks in cool, shaded areas to allow the body to cool down.
- Avoid eating large meals before working in hot environments.
- Avoid alcohol or beverages with caffeine. These make the body lose water and increase the risk for heat illnesses.

There are other factors that may put you at risk for heat injury. These may include wearing personal protective equipment such as a respirator or
protective suit that will retain heat, having a previous heat-induced illness, and taking certain medications. When on medications, check with your healthcare provider to see if any medicines you are taking affect you when working in hot environments.

Hopefully these tips will serve as a reminder to us all to slow down and cool off as we go through this last hot summer month. Stay cool and hydrated every chance you get!

**FLY CONTROL TIPS**

Written by Kim Woods, Livestock Agent – Person Co.  
www.nchorse.blogspot.com

Fly season is on us, and the swishing of horses' tails trying to fight off these pests can be heard everywhere. Here are some tips that may help you control flies this season:

1. Practice good sanitation! Good sanitation around your barn is the single most effective method of fly control. In order to reduce fly breeding location, you need to remove wet bedding and manure from stalls and areas where horses often stand often – normally at least once a week, but during peak fly season, it should be removed at least once every 2-3 days. This material should be land applied within a few days or composted. Composting areas should be covered and well drained. Remove water bucket that are not in use. This will keep the water (especially water that has become dirty!) from becoming a breeding ground for flies and mosquitoes. Don't just pile up the manure “out back” – compost it. Keeping the manure dry can help prevent flies laying eggs since they prefer to lay eggs in moist manure. Composting the manure raises the temperature high enough so that any eggs laid in the manure are destroyed.

2. Provide deep shade or a barn for horse to go into during the day. Flies generally do not like dark places, especially pesky blood sucking horse flies.

3. Use fly masks for horses. These meshed masks, which prevent the flies' access to the eyes and face, are placed on the face of the horse. These work particularly well if the horse is sensitive to flies around the eyes or they won't tolerate sprays or wipes on their face. However, these masks do have a disadvantage in that they can be pulled off by snagging on brush, fence, or by the horse scratching its face.

4. Use methods of mechanical control! Water traps (Terminator, Trap-N-Toss, etc) or sticky ribbons help reduce the need for pesticides. These should be hung in throughout the barn at about one per every 1,000 square feet of area that flies may breed. For increased success, hang the traps where they can be easily inspected and maintained but out of the way of traffic flow throughout the barn. Water traps and ribbons will probably need to be cleaned and recharged or replaced about once every two weeks. The traps and ribbons can be very effective in controlling flies if they are put in place early and maintained correctly.

Build a tabanid(horse fly trap). These traps are placed in the field about 15 to 20 feet from the wood line. As horses enter the dark shade of the woods, horse flies, deer flies, and black flies leave the horse and rest outside the tree line and move back to the horse once they leave the woods. The tabanid trap attracts the flies as they leave the horse and are trapped inside where they die. A Canopy Trap For Horse Fly Control can be found at http://alamance.ces.ncsu.edu/files/library/1/TABANID_Trap.pdf

5. Pesticide Use: Scatter baits containing methomyl (Apache or Blue Malrin) are very effective. The bait can be sprinkled in areas throughout the barn where flies tend to gather but where humans and animals won't be at risk for exposure to the bait. Avoid sprinkling the bait under the horse's feed trough or hayrack. It's not likely that the horse would eat enough of the bait to become sick, but it's better to be safe than sorry. The bait also works well when sprinkled over wet zones in the horse's stall after these areas have been cleaned and covered with fresh bedding. Pyrethrum is commonly used in fogging systems. Since it is non-residual, continuous misting or fogging periodically may be needed during the peak fly season.

There are some "feed through" type products (insect growth regulators or IGR's) also available. These IGR’s prevent the fly larvae from hatching in the
fecal patties. These products do not keep flies off of horses. They simply help reduce the overall fly population. If using this type of product, it is necessary to use fly repellants on the horse and for these IGR’s to be most effective should be fed continuously and to all horses in the barn. Adult flies will continue to be a nuisance for several weeks after treatment has begun. Fortunately, this type of treatment has little or no effect on beneficial insects that might feed on flies in the barn. In addition, if there are other horses on neighboring farms, they too should be on the product for best results since flies have a 5 mile flying radius.

Use of fly repellants. There are numerous fly repellants on the market. They include sprays, wipe ons, pesticide impregnated bonnets, etc. Each application method comes with several different types of pesticides. Some products work better than others and some cost more than others. Which one works the best? Horse owners must try different ones until they find the one or combination that works for them. It is advisable however, to look at the label to see the active ingredient and alternate pesticide types from year to year to prevent fly resistance.

If you use a premise spray to spray the walls of stalls, isle way, etc. Be sure to use a product that is labeled as a premise spray around livestock or livestock facilities.

6. Biological control: Release parasitic wasp. Parasitic wasps are effective in reducing the need for pesticides when used along with good sanitation practices.

Parasitic wasp feed on fly larvae which helps reduce the overall fly population. These wasps do not sting people or horses. They can be ordered and received in the mail to be released every 2-3 weeks during the fly season. In fact, pesticides should not be used, or must be minimized in areas where parasitic wasps have been released. Female wasps deposit eggs in fly pupae and when the wasp eggs hatch, the larvae consume the fly pupae from the inside out. Therefore a new wasp will emerge in about 14 days instead of a new fly. As in feed through larvacides, parasitic wasps work best if neighboring farms are using them also.

7. Last but probably one of the most important things for parasite control: Drag pastures to scatter and break up manure piles. Scattering the manure helps them to dry out which makes them undesirable for fly larvae hatch. Does dragging pastures also scatter internal parasite larvae? Yes, however, breaking up the manure patties also makes a less favorable environment for parasite larvae hatch also, especially if done in hot/dry weather. In addition, most horses are on a regular parasite control program which helps keep down the parasite load both on the pasture and in the horse.

Here are some links that may provide additional information:

INSECT CONTROL FOR LIVESTOCK AND POULTRY
- NC Ag Chemical Manual - http://ipm.ncsu.edu/agchem/5-toc.pdf

HORSE FLIES AND DEER FLIES http://www.ces.ncsu.edu/depts/ent/notes/Urban/horsefly.htm


INSECTS FOUND IN FORAGE AND PASTURE http://www.ces.ncsu.edu/depts/ent/notes/forage/past&for/past&for.html

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**Forage Management Tips**

**July**

- Stick to a four to six week schedule of nitrogen applications on summer grasses. Do not delay application because of dry weather unless it has not rained at all since the previous application.
- Maintain harvesting frequency for quality hay.
- Hot, dry weather can result in nitrate poisoning of animals grazing stunted, highly
fertilized summer annuals.
- Sample soils and apply lime on fields to be planted in the fall, if not already done.
- Decide which fescue pastures will be stockpiled for winter grazing.

**August**
- Sample soils and apply lime to pastures with pH below 5.8 to be overseeded next spring.
- Fertilize warm-season grasses.
- Fertilize fescue and keep cattle off of the pastures to be stockpiled for winter grazing.

**September**
- Fertilize and lime cool season grasses.
- Keep the grazing pressure on the summer grasses and completely use them before grazing cool season forages.
- Continue to watch for armyworms on established and seedling stands of forages.
- Overseed or no-till winter annuals onto summer perennial grass after they have been closely grazed.
- Make a winter feed supply inventory so deficiencies can be avoided now (by purchasing hay or planting more winter pasture).

Recommendations for the use of chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by the North Carolina Cooperative Extension nor discrimination against similar products or services not mentioned. Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage and examine a current product label before applying any chemical. For assistance, contact an agent of the North Carolina Cooperative Extension in your county.

The use of brand names in this publication does not imply endorsement of the products or services named or criticism of similar ones not mentioned.

**Upcoming Events**

**July 24** – Backyard Chicken Management Meeting
6:00 – 8:00 pm
Jones County Extension Center
RSVP to Regina Gardener or Pam Brylowe at (252) 448-9621.

**SPOTLIGHT**

A Little Something About Soils…

What is soil? What makes it a “good” soil or a “bad” soil? What can homeowners do to help their soil? Questions…questions…questions! Here is a brief intro to try to provide some answers.

First, what is soil? The Soil Science Society of America’s definition of soil is “the unconsolidated (loose) mineral or organic material on the immediate surface of the Earth that serves as a natural medium for the growth of land plants.”

Over the years, soil scientists have worked to define and categorize soil characteristics. One important characteristic is texture. Quite simply, soil texture
is the relative proportion of sand, silt, and clay in the soil. As shown in the figure, there are 12 textural classes:

Sand, silt, and clay are defined by particle size. Sand is the largest (.05-2.0 mm), next is silt (.05-.002 mm), and clay is the smallest (less than .002 mm). Loam is the combination of sand, silt, and clay such that they feel to be of equal proportion. The ideal proportion is typically 40% sand, 40% silt, and 20% clay. The addition of organic matter (such as compost) to loam makes for a productive, well-draining soil.

Soil scientists tend not to think of “good” or “bad” soils; instead, they look to see if the soil is suitable for a particular use. For example, the desired soil characteristics of a site for a pond would be quite different than for a septic system drainfield. In a garden or lawn situation, homeowners may find that their soil has either too much clay or too much sand. To improve a clayey soil, both sand and organic matter would be added. There are many clayey and sandy soils in the North Carolina Coastal Plains.

Submitting soil samples to the NC Department of Agriculture (NCDA&CS) is a great way to learn about your soils and what they may need. Different plants have different requirements; it is not “one size fits all.” For example, many of our soils are acidic (low pH) and require lime to be added to grow lawns and vegetables; however, some plants like a lower pH. Nutrient requirements, such as nitrogen and phosphorus, also vary.

Samples may be brought to your local NC Cooperative Extension office in a one-quart baggie, for transfer into the soil sample boxes. There is also a form that needs to be completed. We will then ship your samples to NCDA&CS for you. After you get your soil results, agents and Master Gardeners at your local Cooperative Extension office will be happy to decipher them for you.

Diana Rashash, PhD, EI
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(910) 455-5873

Soil Word Find:
loam organic compost analysis
sand nitrogen texture suitable
silt phosphorus nutrients pH
clay mulch moisture roots
coastal plain plants sun

m c e r u t x e t m r
s i s y l a n a c u t
b n s d g a f p l l s
l a t n o n t g a c o
o g n s i l i s y h p
a r e d i t o a a t m
m o i s t u r e l o o
s u r o h p s o h p c
a s t n a l p m g n a
n s u i t a b l e e r
d f n a r o o t s u n