I hope everyone enjoyed a relaxing, fun filled holiday season with family and friends. Of course none of us ate too much, right? This is the time of year that we get concerned with our waistlines and the bathroom scales, worrying with gaining a few too many pounds and making resolutions to lose them. Ironically, it is also the time we often tend to worry about our livestock getting too thin. With the decreased temperatures and decline in forage growth, comes an increase in calories needed to maintain weight, keep warm, and in many instances, raise young. For these reasons, it’s a good idea to be familiar with body condition scoring systems, and to recognize when there’s a need to increase condition to individuals in the herd. Unfortunately, livestock body condition score (BCS) charts are not uniform. It would be nice if they were, but the bottom line is to recognize when an animal is in condition, too thin, or too fat. Beef cattle and horses are scored on a 1-9 system, while hogs, goats and dairy cattle are scored from 1-5. Condition not only affects nutritional status, but also influences rebreeding after calving, foaling, kidding, etc. If reproductive efficiency is important to you, then maintaining BCS should be a primary goal of your management scheme.

Body condition can be evaluated in an number of locations on the body. The shoulder, neck, back, ribs, hooks or hip area, pin bones, and tail can be evaluated, in addition to the brisket in cattle. A visual evaluation of these areas is useful, although a hands-on technique to feel for fat cover is preferred, especially in the winter when hair coats are thick and long. The following nine point system is described for beef cattle, but is very similar for other animals as well:

| BCS 1: | Extremely thin and weak. Severe muscle wasting. Animal is near death. |
| BCS 2: | Extremely thin, but not weak. Muscle wasting is evident. |
| BCS 3: | Very thin. All ribs and backbone easily visible and no apparent fat deposits. |
| BCS 4: | Thin. Ribs and backbone easily visible. No muscle wasting. |
| BCS 5: | Moderate condition. Last two or three ribs are visible and little fat is evident in the brisket or around the tailhead. |
BCS 6: Smooth appearance. Ribs not easily visible. Only a small amount of fat deposition is evident around the tailhead and in the brisket.

BCS 7: Fleshy appearance. Brisket and tailhead have considerable fat deposition and the back has a flattened appearance.

BCS 8: Obese. Neck is thickened and appears short. Back is flat with dimples at the backbone.

BCS 9: Extremely obese. Appearance is similar to that for a score of 8, but more exaggerated. Brisket is extremely full of fat, and large pockets of fat are evident in the tailhead and over the entire body.

Livestock should be scored frequently enough to make changes and see a difference before the next scoring if animals are out of condition. At a minimum, score animals as the seasons change or when handling for vaccination, pregnancy testing, and other procedures. A good rule of thumb would be to score at least once a quarter. For cattle, the ideal BCS is a 6, but can increase to 7 when forages are abundant, or fall to a 5 when they are low quality and quantity. Condition scores should not be allowed to fall under a 5 or above a 7. Target condition scores for all livestock vary slightly according to reproductive, growth, and activity status, but for the most part, the moderate condition range of a BCS score of 4–6 is ideal when using the 1–9 scale. Animals that are out of this condition range are prone to several problems. Underconditioned animals will have problems conceiving when re-bred. Milking adequately and providing the nutritional needs of their young will also be affected. Underconditioned animals may also have milking problems and will generally have problems calving, kidding, or foaling.

For a more detailed BCS chart, illustrations, and guidelines for cattle, goats, or horses, contact your extension office. We have publications for body condition scoring of each species. Best wishes for a happy, successful new year, and to keeping all of our body condition in check for the rest of the winter.

PRUSSIC ACID POISONING IN FORAGES

Eve H. Honeycutt, Livestock Agent, Lenoir and Greene Counties. Adapted from an article by C.L. Rhykerd and K.D. Johnson, Purdue University

By the time you read this article, we will have had several good hard frosts and probably even more rain. While frost is a natural part of our climate, it can cause reactions in some forages that can be fatal to livestock.

Sudangrass, forage sorghums and sorghum-sudangrass crosses are the plants that can cause the most problems. While these are summer forage crops, if they are left in a pasture during times of frost livestock can consume them and suffer from the prussic acid. Death can result from prussic acid poisoning, most commonly when livestock have fed on plants that are either very young, stunted by drought or frosted. Cattle and sheep are more susceptible than swine, since they are more likely to consume large quantities of the poison.

Also present in the sorghums is a material called emulsion, which under certain conditions can react with other chemicals present to form prussic acid (also referred to as hydrocyanic acid). If plants are damaged, such as by freezing, chewing or trampling, the emulsion-dhurrin reaction is enhanced, freeing sufficiently larger quantities of poison (cyanide) to cause a potentially hazardous condition.

Prussic acid is extremely poisonous. A concentration greater than 0.1 percent of dry tissue is considered highly dangerous.

Signs of Prussic Acid Poisoning

The signs of prussic acid poisoning appear suddenly—i.e., within 15–20 minutes after animals consume the "tainted" forage. These visual symptoms include staggering, labored breathing, spasms and foaming at the mouth. Affected animals then often lie prostrate and thrash about. Treatment must be administered quickly to prevent death.

Factors Affecting Prussic Acid Content In Plants

Species. The vegetative portion of all sorghums contains prussic acid. Generally,
however, prussic acid content in sudangrass is about 40 percent less than in most other sorghums. As a group, the sorghum-sudangrass hybrids have more prussic acid than sudangrass. Crosses have now been developed, however, that contain extremely low quantities. As a precaution, plant those hybrids known to be lower in prussic acid.

Johnsongrass, shattercane and sorghum almum could contain dangerous levels of prussic acid, and may be hazardous in pure stands or as contaminants in sudangrass or sorghum-sudan cross pastures. Fence rows contaminated with these weedy species might also be hazardous. Plants of the Prunus genus, such as wild black cherry trees (P. serotina), chokecherry (P. virginiana) and pin-cherry (P. pennsylvanica) are potential problems and should be eliminated from grazing areas.

Pearl millet, another summer pasture crop, does not contain toxic levels of prussic acid.

Plant Parts  In the sorghums, leaf blades normally contain higher prussic acid levels than leaf sheaths or stems, the heads are low in prussic acid, and the seeds contain none. Upper leaves have more prussic acid than older leaves. Tiller branches ("suckers") have the highest levels, because they are mostly leaves and not stalk material.

Maturity. Highest prussic acid levels are reached before the boot stage. As plants mature, the stalks make up a greater proportion of the plant, causing prussic acid content in the total forage to decrease. However, the hazards associated with poisoning may decrease only slightly with age if animals selectively graze those plant parts that are high in prussic acid.

Drought. Severe drought is probably the most common cause of prussic acid poisoning. Drought-stricken plants are hazardous to feed because they are mostly leaves. Sorghum grazed or fed as green chop in the heart of a drought may retain high levels of this poison.

Freezing. Cold weather may kill only the tops of sorghum plants, leaving the lower portion alive. The unbound prussic acid in this forage does not decline until wilting begins. The forage is usually considered safe to pasture or feed as green chop 5-6 days after a killing frost. New shoots emerging from unkilled portions of the plant are apt to be high in prussic acid. Therefore, this forage should not be used until that new growth reaches a height of 2 feet.

Fertilizer. The excellent yield potentials of sudangrass, sorghum-sudangrass crosses and forage sorghums can only be attained by applying high rates of nitrogen fertilizer (e.g., 200 pounds per acre or more). However, if high N rates are applied to soils deficient in phosphorus and potassium, prussic acid levels usually increase.

Therefore, to reduce the hazard of prussic acid poisoning, maintain phosphorus and potassium levels according to soil test report recommendations. Also consider split-applying heavy N rates into 2-4 applications.

Herbicides. 2,4-D may cause prussic acid content to increase in forages. The effect may last several weeks.

Safe Feeding of Potentially Hazardous Forages

Pasture. The risk of prussic acid poisoning can be reduced by feeding ground cereal grains to the animals before turning them out to graze. Carbohydrates in the grain tend to inhibit the emulsion from hydrolyzing dhurrin, which causes prussic acid formation.

Deaths on pasture are partially caused by cattle selectively grazing leaves and shoots. These plant parts may contain 2-25 times more prussic acid than stems. Cattle may also avoid frost-damaged leaves and shoots, grazing instead the young suckers lower on the plant that could contain lethal levels of prussic acid. Therefore, if new shoots develop after a frost, the crop should not be grazed until this new growth is 2 feet tall.

In most cases, grain sorghum stubble can be safely pastured because cold weather is likely to have killed the plants before they are grazed. However, the stubble should be observed carefully for dangerous suckers that may develop after the main stalks have been killed. Sorghum that has wilted and dried 5-6 days after being killed by frost is considered safe for grazing.

Hay. The prussic acid content of sorghum hay decreases as much as 75 percent while curing and is rarely hazardous when fed to livestock.

Treatment For Prussic Acid Poisoning

If large quantities of forage high in prussic acid are consumed rapidly, death can occur within a few minutes. However, the usual situation is that the animals consume smaller quantities of the forage over a longer period, causing first salivation, then a gradual increase in respiratory rate, followed by staggering, falling, severe convulsions and finally...
death within 45 minutes. Generally, animals that survive 2 hours after the onset of symptoms will recover.

Obviously, immediate treatment by a veterinarian is necessary to save the animals. Treatment includes administering sodium nitrite and sodium thiosulfate.

Poisoning caused by prussic acid is somewhat similar to nitrate poisoning. In fact, the treatment for prussic acid involves the inducement of a degree of nitrate poisoning (methemoglobinemia) by administering sodium nitrite. Simultaneous treatment with sodium thiosulfate converts the newly formed cyanmethemoglobin to thiocyanate and hemoglobin, which permits the blood to again transport oxygen normally.

AIR EMISSIONS CONSENT AGREEMENT UPDATE
For Permitted NC Hog Farms

Eve H. Honeycutt, Livestock Agent, Lenoir and Greene Counties

Many of you may remember the reporting you had to do in January and February of 2009 regarding ammonia emissions on your farm. You had to estimate your ammonia emissions based on the number of animals you had, then send a certified letter to your State and Local Emergency Manager. I hope you kept a copy of those forms, because you will need them again in a few weeks.

Sometime in January 2010, you will get a similar letter from EPA regarding CERCLA/EPCRA reporting requirements because you emit ammonia from your farm. Basically you need to confirm that nothing has changed, unless your farm size has changed. The air emissions study by EPA is still ongoing, so no other concrete data is available yet.

The information given by EPA states: “On the first anniversary date of the initial written notification, you need to reassess and confirm the accuracy of your calculations to your SERC (state emergency response commission) and the LEPC (local emergency planning committee) in writing.”

Tommy Stevens with the NC Pork Council is working on creating a letter or form that all farmers can use to report this data. Be on the lookout for some information from you Extension office or Integrator regarding this important reporting requirement.

MARKETING YOUR GOATS AND SHEEP

Emily Herring, Livestock Agent, Pender County

Trying to sell your sheep? Looking to purchase some goats? Not too sure about the graded sales or the newspapers? Well, the North Carolina Department of Agriculture and Consumer Science has a great marketing website for goats and sheep called the North Carolina Goat & Sheep Directory.  
http://www.ncagr.gov/markets/livestock/goatandsheep/index.htm. At this website you can find different breeds of sheep and goats including meat and dairy goats. The farms can be searched by county or by breed and if you desire to look at all of the listings in North Carolina you can do that too. Contact information is provided by the owner as well as any notes or important information they think a buyer would need to know.

Now if you are a seller and would like to add your farm to the listing, just click on the link at the bottom of the home page that states, “If you would like to be listed in the NC Goat & Sheep Directory, please click here.” At this page, fill out the contact information. Be sure to remember to write your password down because once you create your listing this password and the account number will be your only way to update your listing. Once your contact information is filled out hit submit and you will then be added. This service is a free service provided by the NCDA&CS Livestock Marketing Division for the producers in North Carolina. It is a great resource to find sheep and goats, but be sure when you enter your information in the listing, KEEP IT UP TO DATE! Nothing is more frustrating to consumers than to find a great website and a desired product just to have their expectations brought down when the information is incorrect. Remember, everyone is a consumer and misinformation can be frustrating, so when something changes on your farm, be sure to update your listing. It is good public relations to think about these things and consider them when conducting your farm business; the key is to be consistent.
Agriculture tends to work in a domino effect – when one industry is hurting, it usually affects the health and productivity of another industry. This is precisely the case with the US Pork Industry right now, and NC’s pork industry hasn’t been spared from the current economic conditions. Several of NC’s pig producers have already or are in the process of filing for bankruptcy. One of these is Coharie Farms, based out of Clinton. So why is this industry in distress and how is it affecting our local pork producers?

One of the main areas of concern is corn prices. Corn prices have skyrocketed in recent years, topping out between mid-2006 and mid-2008 at $6.50 per bushel and $8.00 per bushel on futures markets. The price for August 2010 is expected to still be between $3.35 and 4.15 per bushel even with the second largest corn planting on record in US history. This price increase is partially caused by a federally mandated fuel ethanol program that is expected to consume 4.1 billion bushels of corn between September 2009 and August 2010. Approximately 12 bushels of corn are fed for each pig marketed, which has cost producers $26.40 per hog marketed between October 2007 and June 2009. In addition to the price of corn, the weather has played havoc with the 2009 corn crop. Although we have had record corn yields this year, much of this corn has been rendered useless in livestock feed because of mold and mycotoxins that have been created in the corn due to the wet weather or due to the additional (and very expensive) drying processes needed to make the corn useful in feed. In addition to corn, soybean meal is also a large component of swine feed. Soybean prices rose as a result of land being converted to corn production in 2007 and prices have remained high through June 2009 as a result of reduced global supply. The additional $143 per ton expense in soybean meal equates to an additional increased cost of $11.58 per hog since 2007.

Due to a decrease in domestic pork demand, pork prices have dropped since mid 2007. During this same time, pork production also increased from 21 billion pounds in 2006 to approximately 23 billion pounds in 2009. The most recent declines in domestic pork demand have been attributed to the current decline of consumer welfare. The saving grace for the pork industry up until this point was a strong export market for pork products. Unfortunately, the recent emergence of the H1N1 influenza, also labeled “swine flu”, caused domestic and global concern in consumers about the safety of pork products. During a 10 week period in 2009 between April 22 and July 2, US producers received $22.73 less per head than futures markets had indicated due to the extensive media coverage of the H1N1 outbreak. The total loss from this drop was estimated to be $456 million and futures markets indicate an additional $1 billion in lost revenue. Unfortunately, the fallout from these market conditions is not limited to NC pork producers. The NC poultry industry is also facing tough market conditions due to high corn and soybean meal prices. Broilers (28.5%), turkeys (5.9%) and pig production (22.1%) accounted for 56.5% of total cash receipts for all of NC agriculture, so losses within these industries have major impacts on our state.

The only way for the pork industry to increase market prices is to cut production. This has a large trickle-down effect on jobs, the meat packing industry, and rural communities that rely on this industry. Each dollar of lost income in the swine industry has been estimated to equal $0.80 lost elsewhere in NC’s economy. Reduction of production in the swine industry means lost income, job losses, loss of capital investments due to farm foreclosures, and loss of tax base, and lost economic activity throughout the state. State and local taxes based on sales and income are impacted. Each job within the pork industry is estimated to support 2.43 jobs elsewhere in the state’s economy. A 5% reduction in production in the swine industry would be 1,370 jobs lost in North Carolina.

These statistics are unsettling and even depressing but it’s critical that we understand the factors involved in this industry’s downturn and how it impacts North Carolina. The agriculture industry in our state was worth $9.7 billion in 2008. Don’t let anyone tell you that agriculture isn’t important to North Carolina.
Forage Management Tips

January

• If winter pasture is limited, feed hay in the pasture or allow cows to graze every other day. The priority for limiting pasture is (1) calves by creep grazing, (2) stockers, (3) nursing cows, and (4) dry cows.
• Keep animals off newly planted winter annuals during wet periods to prevent damage. Allow calves first priority to graze.
• Sample hay bales which are stored outside that will be fed during the next four to eight weeks.
• Decide which fields will be re-seeded or overseeded during late winter and early spring; obtain soil test and supplies for planting.
• Lime may be applied during this off-season.
• Keep a record of winter weed problems so that control measures can be taken next fall. This is the latest month that some herbicides may be used on legumes.
• Determine animal feed requirements for the year (about 6 tons of hay equivalent/cow-calf pair) and outline a 12-month forage production and use plan to meet the needs.

February

• Apply nitrogen to cool-season grasses to stimulate early spring growth.
• Overseed legumes, such as ladino clover, into well-grazed (2 inches or less) grass pastures.
• Lime fields for spring plantings.
• Divide pastures to improve the quality and persistence of pasture plants.
• Locate sources of hybrid bermudagrass sprigs for planting.
• Burn warm-season grass residues in late February.
• Get herbicide sprayers ready to control weeds in dormant bermudagrass fields.

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.

Onslow County Master Gardener Volunteer Program

The Master Gardener Volunteer Program is a joint endeavor of the North Carolina Cooperative Extension Service and volunteers who wish to learn how to be better gardeners and help other gardeners by sharing their knowledge. The program is designed to recruit and train volunteers to help meet the educational needs of the citizens of Onslow County.

The term ‘gardening’ is used in a broad sense. It includes, vegetables, fruits, lawn grasses, shrubs, flowers and trees. The training focuses on developing diagnostic skills for insects and diseases of plants. Classes are also given on landscaping for water quality, soils, composting, propagation, wildlife control and much, much more!

As a Master Gardener, you will receive 40 hours of intensive horticultural training.

After graduation you will be expected to provide an equivalent amount of volunteer work in the community. Examples of the types of activities that you can choose to perform are: answering homeowner inquiries at the Extension Office; mailing out information bulletins to homeowners, conducting plant clinics, working with elementary school children on special horticultural projects, talking to Garden Clubs, advising on community beautification projects and writing newsletter articles.

The volunteer work is fun and interesting, and you will not be required to do anything with which you are not comfortable. Master Gardeners make ‘friends for life’ and enjoy working and learning together.

The 2010 Master Gardener course will begin February 16th and end March 18th. Classes normally will be taught Tuesday, Wednesday and Thursday mornings from 9:00 – Noon. Cost for the course is $100.00 which includes a comprehensive Master Gardener Manual that you keep.

If you would be interested in receiving an application for the 2010 course, please call the North Carolina Cooperative Extension – Onslow County Center at (910) 455-5873, and leave your name, address and phone number. Enrollment will be limited, so inquire early.