Sorghum – Can I graze it?

Amanda Hatcher, Duplin County Livestock Agent

Well, more importantly, can your cows graze it? What is sorghum anyway? Can I plant it on my sprayfields?

Sorghum was brought to the United States from Africa in the early 1600s, and began to be grown here extensively in the 1850s. Primarily grown as a sugar source, sorghum became used as a drought-resistant forage crop and by the 1950s, the majority of sweet sorghums were grown as forages. Sorghums are now being grown for grain, forage, and biofuel in North Carolina.

There are five major types of sorghum grown – grain sorghum, forage sorghum, sudangrass, sorghum-sudangrass hybrids, and sorghum-almum.

Compared to grain sorghum, forage sorghum produces more dry matter tonnage, is coarser stemmed, so is more suitable for silage or forage. Sudangrass is a fine-stemmed forage with a short growing season. Sorghum-sudangrass hybrids are crosses between sudangrass and forage sorghum with intermediate yield potential and are often used for pasture, hay or silage. Sorghum-almum is also called sorghumgrass.

One big advantage to growing sorghum is its drought-tolerance, which allows development and growth delay under heat and drought stress. When looking at grain sorghum especially, this is beneficial because early or late drought has little affect on grain yield. Sorghum does require management in planting date, variety selection, insect, disease and weed management, as well as other factors.
According to the Forage Planting Guide for North Carolina, best planting dates for the Coastal Plain are: forage or silage sorghum and sorghum-sudangrass hybrids – May 1 to May 15 with possible dates at April 20 to June 30. The guide recommends planting forage sorghum in rows at 4 to 6 pounds seed/acre and sorghum-sudangrass with drill at 20 to 25 pounds/acre or broadcast at 35 to 40 pounds/acre.

For grain sorghum, North Carolina State University recommends 0.84 to 1.12 pounds of nitrogen per bushel with 25% at planting. They recommend increasing this by 40 pounds if the crop is grown for silage. Sorghum also needs 35 to 40 pounds of phosphorus per acre and 50 pounds of potassium per acre.

Forage sorghums can be planted with a legume to increase protein content of feed, in the event that the pasture is not under irrigation from swine effluent. Sorghum harvested at soft dough stage (this stage means about 50% of the grain dry weight has accumulated; about 70 days after emergence) has about 52 to 65% digestibility, 8 to 12% crude protein, on a dry matter basis when stored as silage. The higher the grain content of the forage, the higher the digestibility. When comparing yield to corn silage, in general, forage sorghum yields are about the same as corn but forage sorghum contains less grain and is higher in fiber. Although forage sorghum’s protein content is comparable or slightly higher, it is less digestible than corn silage. Most publications will suggest adding a protein, mineral and/or vitamin supplement to forage sorghum.

Sorghum is very compatible as a crop to receive animal waste. You must amend your animal waste plan to accommodate the change and I recommend farmers discuss the plan with a technical specialist before making a decision to be sure your plan will allow the change. Expected yield and nitrogen rate will vary according to soil type on animal waste application fields.

As an average comparison of forage sorghum to other crops, sorghum-sudangrass hay yield is about 4% less than hybrid bermudagrass hay yield. When comparing nitrogen rates, sorghum-sudangrass hay nitrogen rate for waste plans is about 4% higher than for hybrid bermudagrass hay. The differences are greater when comparing grain sorghum to corn (grain). Remember that if you are grazing the sorghum, your plan will only allow you to apply 75% of the nitrogen rate versus haying because of manure applied back to the application field.

Prussic acid poisoning and nitrate accumulation is a concern of sorghum plants, but it can be properly managed to avoid toxicity. Prussic acid builds up mostly in young plants or plants harvested just after a frost or drought-ending rain. For example, regrowth of sorghum plants killed by a frost is high in prussic acid. Prussic acid dissipates during harvesting and ensiling, so sorghum silage is rarely high in prussic acid. Penn State University recommends waiting four days after a killing frost before harvesting forage
sorghum and that after four weeks of ensiling, prussic acid is no longer a problem. Sorghum plants tend to accumulate nitrates in the base of the plant, and as a precaution, it is generally recommended to wait until plants have reached 18 inches in height before grazing and maintaining that height. Nitrates tend to accumulate excessively when the plant is under stress, such as during droughts or frosts. Ensiling sorghum also lowers nitrate levels. Avoid nitrogen fertilization during droughts and time harvests so that nitrates have degraded by harvest time.

Here are a few things to remember. First, if you are thinking of adding sorghum (grain or forage) to a waste plan, talk to a technical specialist first to make sure your plan will allow the change in nitrogen rates – the rates for the sorghum may be lower or higher depending on your current plan and realistic yields and nitrogen rates for your soil types. Before buying the seed and setting your plans, make sure your plan will work with sorghum. Second, if you are grazing or haying sorghum or a sorghum type, be mindful of prussic acid and nitrate toxicities and manage around it. Don’t graze or hay too closely and don’t harvest when the plant is under stress. Third, plant at the right time to maximize yield potential and work with your Extension Agent if you have management concerns. Fourth, if you are concerned about whether or not sorghum meets the nutritional needs of your livestock, you can have the feed tested to check for content and you can also add supplements. No crop is a silver bullet to drought or dry conditions but sorghum may be an additional choice for your farm.

Sources:
Sorghum Production in Mississippi, Mississippi State University.
Forage Sorghum, Agronomy Facts 48, Penn State University.
Dr. Ron Heiniger, North Carolina State University.
Realistic Yield Expectations for North Carolina Soils, North Carolina State University

Update on Swine Transport Law

By: Lynn Stillwell, Sampson County Livestock Agent, Swine

In 2011 House Bill 432 was passed. In that law contained an act of legislation on the transport of swine in North Carolina. The new law, which came into effect in October of 2011, addresses a need for identification of swine if they are transported off the farm, penalties for unlawful transportation without identification, and penalties for misuse of identification. The fines go up to $5,000 per violation, so if you are hauling ten pigs without proper identification that’s a possible fine of $50,000. It was designed to cut down on the transportation of feral swine into NC for the purposes of hunting. The basic synopsis of the bill is that any swine that leave your premises (including, hogs for slaughter, sale, or for show) must have a NCDA approved form of identification.
So here’s the real question, who does this law apply to and what is considered “approved” identification? This law does not apply to contract swine growers whose integrators handle the identification of pigs that go on and off of all farms. This law applies to independent operators, pastured pork producers, youth who show pigs in competition, and any person who has one or more hogs that plan on leaving their property via a public road. Meat processing facilities and sale barns are now requiring identification prior to accepting any pigs.

So what counts as proper identification? Ear tags bought from your local feed stores do not count as proper identification for transport. Pigs that are being shown and sold at the NC State Fair are given tags early in the summer to identify them, so no further identification is necessary. For pastured pork growers who have a farm facility id and assign tattoos to pigs, that counts as proper identification. Pigs raised on the ground for sale or meat and pigs shown at local county fairs where only minimal identification is necessary need to get a NCDA Farm Facility tag. Like the one shown below.

These numbered tags are assigned to a farm (free of charge) after filing an application. They are not to be used on any other pigs from any other facilities! The Sampson County Extension office has a set of tagging pliers available for demonstration of tagging methods. For information on obtaining an application for swine id tags, please contact the Sampson County Extension office at 910-592-7161.

Announcing PQA and TQA Classes for the Spring

Duplin and Sampson Counties will be offering both the Pork Quality Assurance and Transport Quality Assurance classes in May and June of 2012. If you have PQA and/or TQA and need recertification, feel free to come to which ever session fits your schedule best. The exams for both classes will be offered for those who don’t currently have the certification and need it. May 22 in Sampson County and June 7 in Duplin County. For both dates PQA will begin at 9 am with the exam to follow; a break for lunch with TQA beginning at 1:00 pm and the exam to follow. If you just need recertification you may leave at the end of the class before the exam is given.

Sludge Survey and Sprayer Calibrations

Your lagoon must be surveyed once every year and your sprayer, whether solid set or traveler, must be calibrated once every two years. Now is the time to sign up for your free sludge/lagoon survey and sprayer calibrations. Contact Lynn Stillwell at the Sampson County office to sign up for this free service. 910-592-7161
Hay Directories
There are two website directories for people selling or buying hay. It is free to list your hay for sale.

1. North Carolina Department of Agriculture’s Hay Alert is at: http://www.agr.state.nc.us/hayalert/
   Producers can call the Hay Alert at 1-866-506-6222.
2. You can sign up to list your hay on-line. The Southeastern NC Hay Directory is available at:
   http://onslow.ces.ncsu.edu/files/library/67/HayDirectory.pdf. Call your Extension Agent to learn how to include your farm on the list.

Forage Management Tips
From Production and Utilization of Pastures and Forages in North Carolina.

April
• Fertilize cool-season grasses if not already done so.
• Watch for symptoms of grass tetany.
• Fertilize warm-season grasses as dormancy breaks.
• Establish hybrid bermudagrass unless irrigation is available.
• Plant bahia grass, crabgrass, switchgrass. Plant seeded varieties of bermudagrass at the end of the month.
• Graze cool-season grasses down to 2-4 inches. Harvest for hay if growth is too rapid to maintain grazing pressure.
• Completely graze or harvest all winter annual pastures before grazing on other pastures or pastures which may be harvested as hay.

May
• Plant summer annuals at 2-week intervals to stagger the forage availability.
• Fertilize warm-season grasses with nitrogen after each cutting or every 4 to 6 weeks on pastures.
• Spray pasture weeds while they are small (3 inches) for most effective control.
• Do not apply nitrogen to fescue pastures from April until August.

Upcoming Events

April & May
• *Important* Waste Sample Collection Day has been moved to Wednesday April 11th from 8:30 to 5:00 pm
• April 12th - Sampson County Livestock Association Meeting
  Must pre register by April 6th
• April 17th - Sorghum Management and Weed Management in Summer Pastures and Sprayfields at Sampson County Livestock Facility 2-4 pm. 2 Hours Waste Credit. Call Patricia to register 910-592-7161
• April 18th & 19th - 10 Hour Initial Animal Waste Operator Certification. Bladen County, Contact Becky Spearman to register 910-862-4591
• April 19th - Water Quality and Sanitation in Duplin County from 3-5pm. Speaker is from Ivesco. Pending 2 hrs of credit. Contact Amanda Hatcher to register 910-296-2143
• **May 5**\textsuperscript{th} - Community Ag Day at Sampson County Office. Bring your family out for a day filled with fun and information about agriculture in Sampson County.

• **May 15**\textsuperscript{th} - Animal Waste Continuing Education Class. Mt. Olive a variety of topics to be covered 3-4 hours of waste credit. Contact Eileen Coite in Wayne County for more information 919-731-1520

• **May 22**\textsuperscript{nd} - PQA/TQA training offered in Sampson County. Exam will be offered for new certifications. Call the office to register 910-592-7161

• **May 25**\textsuperscript{th} - Emergencies and Disaster training in Duplin County. Training starts at 1pm waste credit pending

Dear Reader,

If you have any questions about any of the information in this article or any upcoming events with Extension please contact the Sampson County Cooperative Extension Office at 910-592-7161. This newsletter and more information are also available on our website: [http://go.nCSU.edu/sampsonswine](http://go.ncsu.edu/sampsonswine)

And my blog: [http://go.ncsu.edu/sampsonhogblog](http://go.ncsu.edu/sampsonhogblog)

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Thank you,

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LS/pb

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