

The Forager

THE NORTH CAROLINA FORAGE AND GRASSLAND COUNCIL
IN COOPERATION WITH
THE GRAZING LANDS CONSERVATION INITIATIVE

FORAGE ID: BROADLEAF SIGNALGRASS (*BRACHIARIA PLATYPHYLLA*)



Broadleaf signalgrass is a spreading summer annual that is commonly found growing in pastures and disturbed areas. Considered a weed in most cropping systems, signalgrass is readily grazed animals when it is in the vegetative stage of growth. It is eaten well when found in properly cured hay.



Identification: The first emerging leaf blade is linear and opens parallel to the ground. Leaves are rolled in the bud, lack auricles and have no ligule. Leaf sheaths are often maroon-tinged and hairy. Leaf blades are without hairs, except for leaf margins. The ligule is a narrow membrane fringed with hairs, 1/2 to 1 mm long. The lower stem nodes often sprout roots when they come in contact with moist soil.

The relatively broad and short leaves of this grass help to distinguish it from other grasses. Additionally, the lack of hairs on the leaf blades, rooting stem nodes, and flattened spikelets help to identify broadleaf signalgrass from most other grasses found in similar environments. Broadleaf signalgrass is similar to Texas Panicum (*Panicum texanum*) in growth habit and appearance. However, the leaves of broadleaf signalgrass are not covered with short, soft hairs like those of Texas Panicum or Crabgrass. Another difference between signalgrass and crabgrass is the size of the ligule; crabgrass has a large membranous ligule.



Photographs 1 and 3 from University of Tennessee; Photographs 2 and 4 from Virginia Tech.



Your Last Free
Printed Issue!

Join the NC Forage
& Grassland Council

UPCOMING EVENTS

- ⇒ JUNE 29: ANNUAL FIELD DAY AT SOUTHERN PIEDMONT AG RESEARCH & EXTENSION CENTER, 434-292-5331 EXT 240
- ⇒ JULY 11: WEED MGMT IN ORGANIC GRAINS WORKSHOP AT CEFS (919) 513-0954
- ⇒ JULY 20: HAY DAY AT THE WAYNESVILLE MOUNTAIN RESEARCH STATION, (828) 456-7520

IF YOU WOULD LIKE TO ANNOUNCE AN UPCOMING FIELD DAY OR EVENT, SEND AN EMAIL TO FORAGER@CROPSCLNCSU.EDU

COMMON QUESTIONS ABOUT WEED MANAGEMENT IN SPRAY FIELDS

Is it satisfactory to mow spray fields for weed control without baling the clippings?

Clippings that fall back to the soil recycle nutrients, much the same as a grazing animal recycles nutrients through manure and urine. Baling any clipped vegetation and removing it from the site transports nutrients away from the site. Weeds often contain the same concentration of nutrients as forage plants so nutrient transport can be significant.

Leaving heavy windrows of clipped weeds or the target crop in place for more than a week can cause death of the underlying vegetation. The heavy

windrow acts like a shield preventing sunlight from reaching the underlying growing plants.

Clipping of weeds may be helpful in situations when the weed is several inches taller than the crop, and the crop is too short to provide a reasonable amount of forage for harvesting. However, evaluate the cost:benefits of the impact of compressed vegetation from tractor wheels as compared to the shading of the unclipped weeds.



(cont'd on page 3)

INSIDE THIS ISSUE:

FENCING LIVESTOCK	2
QUESTIONS FROM THE FIELD	2
TALL FESCUE RESOURCE	2
RESEARCH HIGHLIGHTS	3
WEB RESOURCES	4

FENCE LAW & ANIMAL LIABILITY

North Carolina farmers and landowners often have questions about their rights and responsibilities concerning fences. A related area of concern is the potential liability for animals that stray from the landowner's property.

North Carolina law requires keepers of livestock to "fence in" their animals. Livestock is broadly defined as any bovine, equine, swine, sheep or goat. As a "fencing in" state, North Carolina is distinguished from areas where cattle grazing is predominant and landowners who want to keep livestock off of their property are forced to fence them out.

There is no law in NC regulating the type of fencing that must be used to restrain livestock but the livestock keeper must take "reasonable" precautions to keep the livestock within the fence. "Reasonable" is determined by the type of livestock, the terrain, customary practices and past experience. The NRCS has very specific fence standards for controlling various types of livestock. Livestock keepers who do not act reasonably to keep their animals properly fenced are liable for damages caused by stray animals. This potential liability could range from damage to a neighbor's vegetable garden to a fatal traffic accident. In addition, a livestock keeper in

NC who knowingly or recklessly fails to keep his animals "fenced in" can be charged with a misdemeanor.



If a property owner does not keep livestock, he has no duty to fence his property and he has no obligation to share in the cost of building or maintaining a division fence that a neighboring livestock owner may wish to build. However, a landowner who keeps livestock may want to rely upon the fence already constructed by his neighbor but the livestock owner should reach an agreement, set forth in a written contract, with the neighbor about responsibility for maintenance and possibly some payment for the value of the fence, or else he or she will be liable to his or her neighbor for damage the livestock cause to the fence or if the livestock escape through the fence.

Excerpts from the article 'Fence Law & Animal Liability' by Theodore A. Feitshans and Allain Andry from the NCSU Department of Agricultural and Resource Economics. First published in the NC State Economist, May 1993. For the complete article email us at forager@cropsci.ncsu.edu.

QUESTIONS FROM THE FIELD

"WHAT CAN I DO TO KEEP MY BERMUDA HEALTHY?"

Q: Do I have to take my cows off the pasture after I spray 2,4-D?

A: Only if they are dairy cows or beef cattle within 14 days of slaughter.

Q: What can I do to keep my Bermuda stand healthy? I overseeded it with rye in the winter and in May bush-hogged the field but did not remove it from the field.

A: The rye thatch is preventing sufficient sunlight to the basal canopy. Harvest your winter crop earlier and remove it from the site. If the Bermuda is still thin the following September, do not overseed.

Information Resource on Tall Fescue

The 'Tall Fescue On-line Monograph' is a compilation of papers from experts around the world covering a range of topics important in the establishment, management, and utilization of this important grass. Tall fescue is the most important cultivated pasture grass in the USA, occupying over 35 million acres, and its agronomic characteristics make it suitable for use in many climate and soil conditions globally. This on-line approach is intended to make use of current communication technologies allowing for frequent updates.

<http://forages.oregonstate.edu/is/tfis/monograph.html>

For a pdf version of NC Fescue bulletin 317 entitled "No Till Establishment, Defoliation, Growth Distribution, Yield, Stockpiling Management and Nutritive Value" email the forager.

Tall Fescue
on-line
monograph

Q: Is June too late to apply fertilizer to orchardgrass (in a hay field)? What is the latest date to apply fertilizer to orchard grass or fescue? Is nitrate poisoning a problem if we head into a drought?

A: June is late to apply N, but P, K and lime may be applied anytime. If the grass is showing N deficiency because of low application in spring or excessive leaching one may apply 30 lbs/acre just to maintain the health of the plants; do not try to encourage rapid growth during the summer as it can actually result in death of plants because of increased respiration rates under the warm temperatures. Nitrates will not likely be a problem except where high N rates have been applied from excessive applications of animal wastes.

Q: Is hogwort toxic to livestock?

A: Fresh growing hogwort is not very palatable so ingestion is limited although it may cause skin irritation if eaten. It is more likely eaten when found in hay; if ingested it can lead to gastrointestinal irritation, purgation and colic.

SPRAY FIELDS CONT'D

Grassy weeds (except for Johnsongrass, vaseygrass, and fall panicum) are not likely to get above bermuda early enough to justify clipping between hay harvests. Other summer grasses may get taller than fescue and prairiegrass (matua) in the summer, but chances are there will not be enough difference to justify trying to clip without harvesting the whole canopy for hay.

Crop /Weed	Vegetative	Boot	Mature
	% N in tissue		
Sickle Pod	3.5	2.2	2.7
Prickly Sida	2.7	2.8	1.9
Redroot Pigweed	3.8	2.7	1.7
Jimson Weed	4.0	3.3	2.7
Fall Panicum	3.0	1.4	1.1
Yellow Foxtail	2.9	1.9	2.2
Crabgrass	2.2	1.3	1.0
Crowfoot Grass	2.5	1.3	1.4
Millet	2.7	1.0	1.2
Bermuda	2.5	1.1	1.2

How do I know if weed control is needed?

Weeds are often a concern, and it is not always crystal clear when control is actually necessary. If the ground is covered with growing plants and the production is remaining high, then the types of herbaceous plants may not be so important from a nutrient uptake standpoint. However, the RYE is set based on a target crop, and when the mixture of plants gets “too far” out of range it can cause some concern about what to do. Weeds take up nutrients in much the same way and concentrations as all other plants (see Table). Weeds may actually contain similar levels of nutrients as forage crops, and they may produce as much dry matter per acre as the target crop for a portion of the year. If the crop/weed mix is being harvested and removed from the site, then nutrient removal may be acceptable. If the mixture can be used in some way, then having some weeds may not be such a bad thing. Weed growth and yields are unpredictable and undocumented therefore managers have to be aware of how to control them.

The table to the left indicates the Nitrogen content of several weeds and crops at three stages of growth; what the table does not show is the wide variation in the annual dry matter yields of the various plants.

RESEARCH HIGHLIGHTS: CATTLE PERFORMANCE STRIP GRAZING FESCUE



A 5-yr winter grazing study (Dec-Feb of 2001-2005) was conducted in Butner, NC using 3 types of Jessup Tall Fescue. The objective of this study was to evaluate animal performance and agronomic persistence of non-toxic endophyte-infected (EN) fescue, endophyte-

infected (E+) and endophyte-free (E-) tall fescue in a system that included a stockpiling phase and a spring grazing phase.

The endophyte fungus is associated with poor animal performance but is also associated with strong persistence and competitiveness when compared with endophyte-free tall fescue. Non-toxic endophyte infected fescue does not produce the ergot alkaloids but does produce other alkaloids which increase the plant’s resistance to pests and disease. Angus-cross tester cattle, with average initial body condition score of 5, were grazed on the three treatments. Cattle were given a daily allotment of forage, under strip-grazing management, with a target residual height of 2 inches. Total pre-graze forage mass was determined in mid November using a falling plate meter. Forage samples were taken every 2 weeks and hand separated for species composition.

Average daily gain on pasture did not differ among treatments but

did differ by year. In the stockpiling system, cattle gained the same regardless of treatment. This may be due to the combination of alkaloid concentration decreasing in the winter and cool ambient temperatures. In late spring the heifers on the non-toxic endophyte and the endophyte free had higher average daily gains than the heifers on the endophyte infected.

Total pre-graze forage mass did not differ between E+ and EN but was lower for E-. Stand persistence (% fescue in the paddock) was lower in the E-stands (82.5%) than for the E+ (90.7%) and EN (88.4%).



Data suggests that non-toxic endophyte infected fescue has the agronomic persistence and growth similar to that of endophyte infected fescue. Grazing endophyte infected fescue in a stockpiling system during the winter in the piedmont of NC does not lower animal gains. The non-toxic endophyte-infected fescue appears to have the positive agronomic qualities of endophyte infected and the animal performance similar to the endophyte free. In a system that includes stockpiling, EN seems to be a viable alternative to E+ having persistence and yield similar to that of E+ even after intensive winter grazing. For more information contact [Matt Poore@ncsu.edu](mailto:Matt.Poore@ncsu.edu).

Did You Know?? Broomesedge (*Andropogon virginicus* L.) The Catawaba Indians boiled the root and used the solution for backaches. The Cherokees made a tea from the leaves for diarrhea and an external wash for frostbite, sores and itching. It has also been used for piles and Poison ivy rash. (Source: A Field Guide to Medicinal Plants and Herbs by S. Foster and J.A. Duke. 2000)



THE FORAGER

2228 North Main St.
Fuquay Varina, NC 27526
Phone: 919-552-9111
Fax: 919-552-9216

If you would like to receive **The Forager** via email or postal mail, submit a question or upcoming event, or let us know how much you like the Newsletter contact us at

forager@cropsci.ncsu.edu

N.C. Forage & Grassland Council Membership Form

Name _____ Name of Operation _____
Address _____ City _____ State _____ Zip _____
Phone _____ Occupation: Farmer ___ Industry ___ Agency ___ Other _____

- Individual** — \$25.00 (open to producers, professional agricultural and industry personnel, etc.)
- Individual** — \$75.00 (membership for 3 years)
- Associate** — \$100.00 (open to farm supply dealers, formulators, distributors)
- Supporting** — \$300.00 (open to basic suppliers of chemicals, equipment, plant food, seed, etc.)

Make check payable to: N.C. Forage and Grassland Council
Mail to: 2228 N. Main St., Fuquay-Varina, NC 27526

* You must be a member of the NCFGC to receive a **printed** copy of The Forager in your mailbox

WEB RESOURCES: FORAGE INFORMATION SYSTEMS



The **Forage Information System** (FIS) is a comprehensive global information resource for forage-related topics, including Extension, Research, and Teaching. It was developed by Oregon State University, contains over 5,000 pages and is an amazingly comprehensive resource that is continually updated. All materials on the website, including photographs and text, are freely available for non-commercial purposes. There are four main sections of the website.

The **Forage Information** section contains the latest in world news and research. Read the new paper from Iceland on Timothy Productivity and Forage Quality. Take a course or get some materials for your next field day from the online National Forage and Grassland Curriculum. Learn the difference between Korean, Sericea, and Striate Lespedeza from the searchable Forage Topics section. Want to design a discussion group among you and your neighbors modeled after the highly successful farmer discussion groups in New Zealand? Check out the websites from local groups through the World Web Links section.

The **Educational Opportunities** section provides information on designing curriculums and university courses on forage related topics. It also provides information on national and international workshops, seminars and conferences.

Want to get price quotes to fence that new pasture you just leased? Check out the Vendor Search link in the **Professional Resources** section to locate the top fencing vendors. Find job opportunities, links to forage and grassland councils all over the US and specialists in every forage related field.

<http://forages.oregonstate.edu/index.cfm>