

The Forager

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

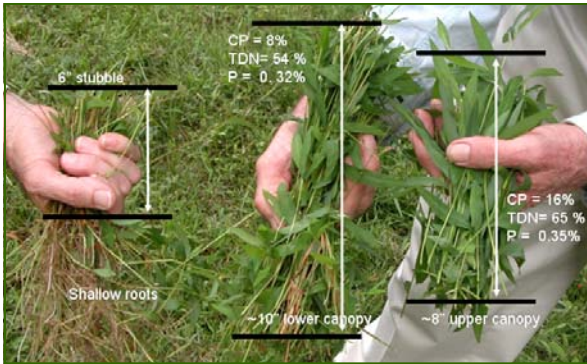
FORAGE ID: JAPANENSE STILTGRASS (*MICROSTEGIUM VIMINEUM*)



Japanese stilt grass is an annual warm season plant that grows slowly through the summer and can reach heights of 2 to 3 feet. The leaves are pale green, lance-shaped, asymmetrical and have a distinctive shiny midrib. In August/September the slender stalks will have tiny flowers. It spreads by rooting at stem nodes that touch the ground. It has very shallow fibrous roots. Stilt grass reproduces only by seed and individual plants may produce up to 1,000 seeds. Seeds are transferred through hay, soil and heavy rain events. The seed

remains viable in the soil for at least 5 years and germinates readily. Stilt grass is especially adapted to low light areas and spreads to form extensive patches to the point of displacing native species.

Nutritive value is similar to many forage plants, but animals do not normally choose to graze it. Goats and cattle can be trained to graze it by confining them into small areas for short graze periods.



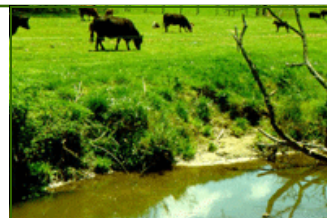
To control stilt grass, one should mow or graze in late summer (Aug – Sept) when plants are flowering but before seed is produced. Plants cut early in the summer regrow and flower soon after cutting, much earlier than they would normally flower. For extensive infestations, use a systemic herbicide such as glyphosate. Take care if managing wetlands or mixtures with non-target plants.

NUTRIENT MANAGEMENT FOR GRAZING LIVESTOCK

Fertilizing pastures can be very expensive. A rotational grazing program helps to minimize these costs by distributing manure from grazing animals more evenly over pastures rather than concentrating it in certain areas, such as around shade trees and water tanks. It is common to fertilize grazed pastures at a lower rate than hayland or other cropland because of the recycling of nutrients through the manure and urine of grazing animals. In addition, nutrients brought onto the farm as purchased feed can contribute additional nutrients via animal waste. In pasture-based farming systems, the products that are sold and exported from the farm (milk, meat,

leather, and wool) represent a very small percentage of the total nutrients that were consumed by the animal during its production phase.

For example, more than 90 percent of the nitrogen consumed by beef cattle is excreted in manure and urine, compared to 75 to 85 percent by dairy cattle. Other nutrients are excreted at similar levels. Only 4 to 24 percent of the total nitrogen consumed by animals leaves the farm in the form of livestock products.



(cont'd on page 2)

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[forager@
cropsci.ncsu.edu](mailto:forager@cropsci.ncsu.edu)

UPCOMING EVENTS

- ⇒ JULY 20: HAY DAY AT THE WAYNESVILLE MOUNTAIN RESEARCH STATION, (828)456-7520
- ⇒ JULY 22: NC MEAT GOAT ASSOC ANNUAL SUMMER FIELD DAY, MORGANTON, NC (336-626-6670)
- ⇒ SEPTEMBER 15: DEADLINE FOR SUBMITTING HAY SAMPLES FOR CHEMICAL ANALYSIS FOR NC FAIR HAY SHOW

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

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NUTRIENT MANAGEMENT CONT'D



Do you use manure effectively as a source of nutrients for forage species?

Cattle defecate up to 12 times per day and urinate eight or more times. One key to controlling nutrient distribution in pastures is to manage the deposition of manure and urine near shade, watering tanks, working facilities, feeding areas, lanes, and loafing areas.

For best use and control of animal manure, utilize all the forage within a pasture in a short time period—1 day or less. This practice promotes a more even distribution of manure over the pasture than long grazing cycles where animals have time and room to lounge around. Earthworms and dung beetles can improve nutrient cycling in pastures. These organisms can help increase infiltration, enhance vegetative growth, reduce runoff, and improve the nutrient and moisture filtering of the area.

Do you use soil tests to determine which nutrients forage species need?

Nutrient management in grazing systems can reduce production costs and environmental impact. These impacts depend on the con-

trol of grazing patterns, loafing areas, and livestock drinking water locations. Testing the soil every 2 to 3 years will help determine nutrient and lime requirements for optimal forage production. Pastures with shade or other loafing sites must be sampled so that the results fairly represent the pasture. When sampling, try to divide pastures according to slope, soil type, and animal grazing patterns.

Did you know?

The nitrogen in urine is immediately available to plants and most plants are overwhelmed with the high concentration of this nutrient beneath a urine spot. Some of this nitrogen may be lost to the atmosphere, especially when temperatures are above 85° F. In contrast, the nitrogen in manure is released more slowly. The ability of plants to take up this much nitrogen is limited—they simply cannot use such heavy rates of nitrogen efficiently. A manure pile may cover less than 1 square foot and a urine spot may cover 3 to 7 square feet, therefore the soil under each cow urine spot may receive the equivalent of 500 to 1000 pounds of nitrogen per acre.

Explore the Farm*A*Syst Resource at:
<http://www.soil.ncsu.edu/assist/grazing/>

QUESTIONS FROM THE FIELD

Q: Can hay windrows kill bermuda or fescue stands?

A: If plants do not receive sunlight for 3-7 days, the leaves and stem bases begin to turn yellow and utilize “reserve energy” carbohydrates for survival. This makes the plant “weak”, and if the light and other factors continue to be limiting or stressful, it may result in death. If you have seen fields following hay harvest with 2-ft wide streaks of dead or “poor doing” plants, it’s often the result of thick windrows remaining in place for several days. If rainy weather prevents baling for a few days, it’s best to leave the cut forage in a wide swath rather than leaving it in a thick windrow. Raking or tedding can help prevent shade damage. Bush hogging often leaves a thick windrow that should be spread out to prevent shade damage.

Q: I have some soybean fields next to my pasture that are not going to yield much. They are extremely drought stressed. What precautions should I take in grazing this field? I have beef cattle with 2 month old calves. Will cattle bloat on soybeans? Are there any other precautions with grazing soybeans? Can I just turn the cows out on it, or must I strip graze?

A: You can graze the beans and MOST DEFINITELY strip graze them to minimize the trampling damage. Bloat risk is highest on young immature bean plants. To be safe you could dilute the mixture with whatever other forages are nearby, crabgrass, fescue, or hay. Try filling the animals with hay in a morning feeding and then strip them onto the beans in the afternoon. Watch for the first couple hours to make sure they do not bloat. Over a period of a few days gradually re-

duce the hay and increase the grazing time.

Q: What is best way to control spiny amaranth in dairy heifer pastures?

A: Herbicides are most effective if applied when plants are young and less than 6-8 inches. Mowing or grazing close can help. Cattle will actually eat spiny amaranth when it is immature, especially if animals are stocked at high density and they graze down to 2-4 inches in one to day days. Goats actually prefer such plants and can assist in control. Thick stands of grass, frequent grazing at high stock density and allowing for reasonable rest periods for the forage to regrow can be effective in making the forage more competitive. Such weeds often dominate where heavy animal traffic and overgrazing has occurred causing the desirable species to die.



Stand death following windrows that were not baled promptly



“WHAT IS THE BEST WAY TO CONTROL SPINY AMARANTH?”

2005 MASTER HAY MAKERS AT THE NC STATE FAIR (BLUE RIBBON WINNERS)

Name and County	Crop Category	Visual Score (0-100)	Crude Protein (%)	TDN (%)
Robert K. Wise, Lincoln Co.	Alfalfa	84	20	63
Ellis L. Johnson, Harnett Co.	Bermudagrass	83	13	60
Russ Hanes, Ashe Co.	Fescue	85	12	66
David Walker, Orange Co.	Orchardgrass	85	26	69
Brian Choate, Alleghany Co.	Grass-Legume Mix	75	12	62
Leonard Farm, Franklin Co.	Other Warm Season Grass (Millet)	88	12	66
Jeff Walker, Ashe Co.	Other Cool Season Grass (Mixed)	74	12	64

MULTISPECIES GRAZING:

TRUE / FALSE QUIZ

Multispecies grazing can often optimize pasture use because of different grazing preferences and patterns. Test your knowledge below. False answers on page 4.



1. Cattle and sheep will generally graze apart.
2. Cattle and horses will often graze together.
3. Cattle will graze closer to sheep than horses will.
4. Goats will not graze near cattle dung and urine spots.
5. Sheep rarely suffer from bloat because they learn from their mothers to avoid eating too much of bloat-causing forages, like alfalfa.
6. Cows will eat less at night in the summer than in the winter.
7. Horses and cattle prefer grasses over legumes while sheep prefer legumes and forbs over grasses.



SUBMIT, SELECT & DELIVER For only \$10.00 you could be the next **North Carolina Master Hay Maker!** **Submit** a core sample for chemical analysis to the NCDA Forage Testing Lab by **September 15**. **Select** a 6 inch hay flake from a round or square bale for the bulk sample. Tie it with twine, tag it and **deliver** it to the Jim Graham Building on **October 11**.

Win Fame and Fortune! (sort of) For complete details visit: <http://www.ncstatefair.org/2006/index.htm>

RESEARCH HIGHLIGHTS: PASTURE BASED PIG PRODUCTION?

There is growing interest among small farmers to manage small outdoor swine operations, often as part of a diverse farm enterprise. Many of these producers are seeking assistance on how to manage to protect soil and water resources. NRCS has recently developed a Technical Note entitled "Conservation Technical Assistance Guidelines for Outdoor Port Production Operations" (where is this available?). There are many challenges to managing swine in outdoor systems, and regardless of the merits related to animal welfare, profitability and independence, the availability of documented guidelines on how to minimize natural resource degradation in smaller-scale swine production is limited.

In an effort to explore the potential for alternative systems of pig production (including pasture-based systems), the Center for Environmental Farming Systems (CEFS) in Goldsboro has recently opened an Alternative Swine Production Unit, a hoop house based research and demonstration unit.

Hoop houses utilize a deep-bedding system that is different from standard confinement facilities. The deep bedding, generally straw, corn stalks, or hay is spread approximately 14-18 inches thick and provides a comfortable environment for the animals which allows

rooting and other natural behaviors. Deep bedding also helps control odors and decreases the risk of manure runoff affecting water quality.

The CEFS alternative swine is a farrow to processing operation. Feeder pigs are farrowed

and raised to market weight in a single hoop house. Throughout this period, bedding is added as needed. After pigs are removed, the house is cleaned of all bedding, and straw and waste are then composted for use in crop production. Initial research at the Alternative Swine Unit will focus on antibiotic use and resistance, alternatives to antibiotics with the unique herd that has been antibiotic free for more than 30 years, and optimal management of bedding. Future expansion will include outdoor farrowing and pig production where research is needed on appropriate pasture management and rotational systems and integrated crop/animal production systems. **For more information contact Morgan_Morrow@ncsu.edu**





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@croppsci.ncsu.edu

3 – Horses actually graze closer to sheep than cattle; 4 – Animals tend to graze closer to feces of other species; 6 – Allocate more forage at night during hot season because heat stress reduces intake during day

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: WINROCK INTERNATIONAL

"A society's most valuable resource is its people and knowledge transfer is the key to making that resource sustainable. When you mix your own experience and time with the financial and logistical support of Winrock International, something magical happens the moment you shake hands with a rural farmer in a place that you never even knew existed. It is at this moment that my translator is not needed to convey the warmth, acceptance and excitement of the farmers standing before me." - Sarah P. Morgan, Swine Production in Kazakhstan



(Photo: Hoop House system in Karaganda region when bedding is in short supply)

Winrock International is a nonprofit organization that matches US volunteers with projects all over the world to increase economic opportunity, sustain natural resources, transfer skills, and protect the environment. Winrock volunteers work with farmers, businesses, organizations, and governments worldwide on short-term assignments (2-6 weeks), sharing their expertise and improving lives. Volunteers come from all walks of life - men and women, working adults, or retirees. They have in common a desire to share their experience and help people help themselves. Since 1991, Winrock volunteers have traveled to 45 countries and completed nearly 4,000 assignments by January 2005.

The **Farmer-To-Farmer program** places US farmers and technical specialists in contact with farmers from other countries. You can read about Pennsylvanian Dairy Farmer John Rodgers who has made 14 trips to Kazakhstan in an effort to share his lifetime experience as a dairyman and improve milk production in this former Soviet country. Access the **Volunteer Opportunities** link to review the current projects seeking assistance. Read the **Innovations Newsletter** to learn more about Winrock's impact in developing countries.

Contact a past volunteer in North Carolina by emailing The Forager (forager@croppsci.ncsu.edu). WWW.WINROCK.ORG