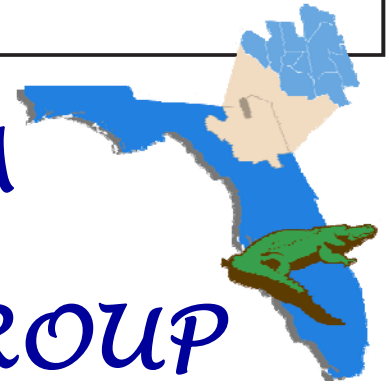


# NORTHEAST FLORIDA BEEF & FORAGE GROUP



December 2011

In This Issue:

Winter Weed Control for Pastures and Hay Fields Page 1

Mineral Supplementation for Cattle Page 3

Basic Principles to Maximize Grazing Page 4

Plant Nutrients and Soil Testing Page 6

## Season's Greetings!



*Tim Wilson*

Northeast Florida Beef & Forage Group, Chair

**UF** UNIVERSITY of FLORIDA  
IFAS Extension



### Winter Weed Control for Pastures and Hay Fields

Michael A. Davis, Ph.D., County Extension Director & Agriculture Agent, Baker County Extension

As temperatures finally begin to cool down across Northeast Florida it's time to start thinking about winter weed control in your hay fields and forage areas. There are many types of winter weeds (annuals, biennials and perennials) which can cause problems with the quality of forage and hay. Winter weeds that are annuals typically germinate from the seed during the fall and grow during the winter months.

Biennials are plants that take two years to complete their growth cycle. These plants do not produce seeds during the first year, but they do ex-

hibit vegetative growth during the winter months. While perennial weeds are rare, there are a few that

*(Continued on page 2)*



*(Continued from page 1)*

are of concern. These weeds are harder to eliminate as they typically have a large underground root system. Examples of winter annuals include fireweed, chickweed and wild radish. Thistles are one of the most common biennial weeds seen in Northeast Florida, while red sorrel is a permanent plant that has a long underground root.

The best time to control winter or cool season weeds is when they are small in size and growing actively. Larger weeds tend to require more herbicide and plants are harder to eliminate when they are not in an actively growing phase. There are many herbicide options for winter weed control. Choosing the

right one for the types of weeds that you have and your production schedule will help to save you money and potentially increase yield. The following herbicides are commonly used in Northeast Florida and the table provides specific information on specific winter weeds that we commonly see in our area.

**Glyphosate** – this herbicide can be used in areas where bermudagrass goes completely dormant during the winter. It provides control of winter grasses (except ryegrass) and broadleaf weeds. Make sure that the bermudagrass is dormant before use. If there is any green tissue present, do not use. Note that glyphosate can struggle with some common broadleaf weeds such as henbit, primrose and gera-

*(Continued on page 3)*

**Table 1. – Common Winter Weeds and Control Measures**

| Common Name                       | Description   | Control Measures   |
|-----------------------------------|---|--|
| Florida Betony (rattlesnake weed) | Recognized by white or tan tuber root. Square stems with white, pink or blue flowers. The tuber resembles a fat grub.   | Difficult to control because of tuber root. GrazonNext or Weedmaster at 2 pts/ac will achieve acceptable control.  |
| Cudweed (rabbit tobacco)          | Grow from a basal rosette. Purple cudweed has hairy, dull gray leaves, while shiny cudweed has bright green leaves with white hair on the underside.                            | Control before plant produces seed. Remedy (1 – 2 pts/ac) and GrazonNext (2 pts/ac) provide control.   |
| Thistle                           | Many varieties in Florida, but control is the same. Recognized by the rosette during the 1 <sup>st</sup> year and by bolting during the 2 <sup>nd</sup> year.                   | 2,4-D provides effective control during the rosette stage, but GrazonNext is the only control option if the plant has begun to bolt.                                       |
| Red Sorrel (sourweed)             | Long underground roots with arrowhead shaped basal leaves and red flowering stems.  | Adjust soil pH and fertility. Metsulfuron at 0.25 oz/ac.   |
| Chickweed                         | Plant grows level to the ground with opposing light green leaves. Flowers are small and white with 5 deeply lobed petals.   | Weedmaster (2 pts/ac) or GrazonNext (2 pts/ac) will provide control.   |
| Wild Radish                       | Leaves grow at lower base of the plant only and are covered with thick hairs. As weather warms, leaves lengthen and a flower stem forms at the top. Flowers are usually yellow. | For plants less than 6 inches, 2,4-D provides control. Effectiveness of 2,4-D drops as plants grow higher than 6 inches. For larger plants, use Metsulfuron at 0.25 oz/ac. |
| Fireweed                          | Square stems with leaves that resemble strawberry plants. Singing hairs are on the stems and leaves.  | GrazonNext HL at 24 fl oz/ac will provide control. Mowing is not effective.  |
| Cutleaf Geranium                  | Red to pink hairy stems. Leaves are divided into deep segments and attached to long stalks.   | 2,4-D (2 – 4 pts/ac), Weedmaster (1.5 – 2 pts/ac) and GrazonNext (2 pts/ac) provide control. Metsulfuron is also effective (0.25 oz/ac)                                    |

Note: GrazonNext HL is the High Load formulation of GrazonNext, thus the use rate is less. In places where original GrazonNext is recommended at 2 pts/ac, you can use GrazonNext HL at 24 fl oz/ac for the same results.

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nium.

**2,4-D** – this herbicide is one of the least expensive and most commonly used herbicides for broadleaf weed control. It is effective on wild radish and small thistles, but may need to be used in larger quantities if the radish is blooming or if thistles are larger than 1 foot in diameter.

**Metsulfuron** – this herbicide was formerly sold only under the trade name Cimarron, but it is now available under other trade names as well. Metsulfuron is inexpensive and provides control of many broadleaf weeds, including wild radish, red sorrel and chickweed. An advantage of metsulfuron

over 2,4-D is that metsulfuron will easily kill weeds that 2,4-D can miss, such as wild radish and henbit. There are also no haying or grazing restrictions with metsulfuron.

References:

Hall, D.W., Vandiver, V.V. and Ferrell, J.A. Weeds in Florida, SP 37, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication date: May 1991. Revised: March 2006. Reviewed March 2009.



## Mineral Supplementation for Cattle

Basil Bactawar, County Extension Director & Agriculture Agent, Union County Extension

Forages grown in North Florida do not provide enough of some of the minerals that are required for reproduction, optimal growth and health for beef cattle. Some of the forages are deficient in macro-minerals such as phosphorus and sodium. Macro-minerals are required in relatively large amounts. They are expressed as percentage (%) on the labels of mineral supplements. In addition, forages are deficient in some micro-minerals such as copper, cobalt and selenium. These are generally expressed on the labels as milligrams per kilogram which is the same as parts per million. They are required in very small amounts.

There are interactions among minerals in the body of an animal. Consequently, minerals are dependent on one another to maintain the health of an animal. If one of these minerals is lacking in the diet, this deficiency can affect the health of an animal despite the adequacy of the rest of the required minerals in the diet. Consequently, all the required minerals must be present in the mineral supplement in the right proportion. Commercial mineral mixes offered free choice should meet the daily mineral requirement for beef cattle. You may wish to consider the following

before purchasing commercial mineral mixes:

- Mineral requirements vary with different stages of production of beef cattle. For example, growing and lactating cattle need more calcium than dry cows.
- The preferred calcium to phosphorus ratio may range from 1:1 to 2:1. Cattle can tolerate a ratio of up to 7 to 1. The ideal ratio is considered to be 2:1 or 2 parts of calcium to 1 part of phosphorus in the final dry matter intake.
- Phosphorus is the most expensive ingredient

(Continued on page 4)



(Continued from page 3)

in a typical mineral mix, and so its level in commercial free choice mineral can vary from 0-12%. If one purchases a mineral supplement, based on price alone, it is possible that this may result in one's animal not getting enough phosphorus in the diet.

- Sodium is always lacking in forages and feed for beef cattle. The source of sodium is common salt. The term salt and minerals are sometimes used interchangeable. Please note that salt is sodium chloride, and a mineral mix consists of other required minerals including salt. Salt is not stored in the body. Daily feeding of mineral supplement is necessary if salt is not provided separately.
- Beef cattle can become deficient in magnesium especially when grazing lush pasture in

early spring. This deficiency is referred to as grass tetany, and can lead to death. You may wish to provide high magnesium mineral during late winter and early fall.

In conclusion, remember to buy the right mineral mix for your cattle by knowing which one (s) they need and by reading the label before purchasing them.



## Basic Principles to Maximize Grazing

Derek Barber, Livestock/ Natural Resources Agent,  
Columbia County

As we enter the late fall and early winter months, we need to look at developing a strategy to maximize our grazing program. The fall/winter feeding period for North Central Florida may be as long as 120 to 140 days and may account for more of the actual feed costs than grazing for the remainder of the year. The use of fall forages into your feeding program has the potential to decrease the number of days that hay has to be fed, hopefully reducing your feeding costs. To help with reducing costs, let's look at some basic principles.

### Soil

An important part to pasture management involves determination of soil fertility and soil pH. The three primary nutrients of concern for pastures in cool season grass and/or legumes are nitrogen, phosphorus, and potassium. With a soil analysis, a fertility pro-

gram can be structured for your pastures to determine the amount of nutrients needed. Contact your County Extension office on how to collect a soil sample.

### Match Cattle to the Forage

The animal's current nutrient requirements must match the type and stage of production of your forage. You should be able to match stocking rates with current forage dry matter production. It may be cheaper to use hay with proper supplementation for older cows and use high quality grazing for weaned calves and growing heifers.

### Legumes

Legumes can improve the production and nutritional value of pastures while reducing nitrogen fertilization requirements. It is important that a pH of

(Continued on page 5)



A. Example of Strip grazing program for a 30 head 1,100 lb cows<sup>1</sup> on 15 acres of annual ryegrass for 120 days<sup>2</sup>.

|   |   |
|---|---|
| <b>INPUTS</b>                           | One ton of 20-0-10 fertilizer at \$346/T<br>Apply 300 lbs/A of fertilizer to 15 acres (60 lbs/A of nitrogen)<br>Fertilizer cost per acre = \$51.90  |
| <b>FORAGE PRODUCTION</b>                | Assumes that after weeks of growth ryegrass is 12 inches tall<br>12 inches x 200 lbs of dry matter per inch = 2,400 lbs Dry Matter<br>Utilization rate is 70%<br>2,400 x 0.70 = 1,680 lbs Dry Matter in 15 acres<br>1,680 x 15 acres = 25,200 lbs in Dry Matter in 15 acres |
| <b>ESTIMATED NUMBER OF GRAZING DAYS</b> | Cattle consuming 3% of body weight per day of dry matter<br>1,100 lb cow x 0.03 = 33 lbs of dry matter per day<br>33 lbs x 30 cows = 990 lb of dry matter consumed per day<br>25,200/990 = 25.5 days of grazing OR 5 days per acre  |

1 Assumes that cows calve in the fall

2 Keep in mind that stocking rates might need adjustment in the spring with rapid forage growth

R. Lemus, MSU Extension

*(Continued from page 4)*

at least 6.0 is maintained. A good legume stand should be 30% to 40% clover in the pasture. Legumes have several benefits:

- (1) They reduce the need for nitrogen fertilizers (they can provide from 50 to 200 lb N/A/yr to the pasture).
- (2) They improve seasonal distribution of forage dry matter by boosting yields and extending the grazing season.
- (3) They improve forage quality by increasing protein levels and overall digestibility of the forage.

Management

When planting a cool-season pasture, using a mixture of species (wheat/rye/annual ryegrass) stretches the supply of high-quality forage over a longer period when an early-maturing species is grown in combination with a later-maturing one. This will extend the grazing time and prolong the productivity of the pasture. Inclusion of legumes in the mix is also a good idea. Before grazing, the forages should be 8 to 12 inches tall. Livestock should graze till forage decreases in height of 3 to 5 inches, with the rest period being 1 to 2 weeks (7-15 days).

*(Continued on page 6)*

B. Steer performance on wheat-ryegrass pastures in the spring (Aiken, 1998)

| Grazing system | Stocking Rate (lbs body wt / acre) | Avg. Daily Gain (lbs/steer/day) | Live Weight Gain per acre |
|----------------|------------------------------------|---------------------------------|---------------------------|
| Continuous     | 1461                               | 2.07                            | 428                       |
| Rotational     |                                    |                                 |                           |
| 3 paddocks     | 1878                               | 2.36                            | 599                       |
| 11 paddocks    | 2028                               | 2.21                            | 618                       |

Sources:

<http://agronomy.ifas.ufl.edu/ForagesofFlorida/index.php>

<http://edis.ifas.ufl.edu/AE289>

<http://msucares.com/crops/forages/index.html>

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To improve the efficiency of fall grazing, use temporary fencing to divide fields into smaller units (paddocks) or narrow strips. Rotational grazing requires more management than continuous grazing. A producer must decide when to rotate based on:

- (1) How many animal units a rotation can maintain
- (2) When to move to another pasture
- (3) When and how much additional nitrogen to apply
- (4) How long to rest pastures before grazing

## Plant Nutrients and Soil Testing

Barton Wilder, Agriculture and Natural Resource Agent,  
Alachua County Extension

A nutrient is any element that that a plant must acquire in order to complete its life cycle. Nutrients are categorized as either macronutrients or micronutrients. Plants require macronutrients in high quantities. Most of the time, the soil by itself cannot supply enough macronutrients for the crop to maintain proper growth. Therefore, the macronutrients must be supplied through fertilizer. Nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), and sulfur (S) are classified as macronutrients. N, P and K are the most important of all the macronutrients. Micronutrients are also important for plant growth, but they are needed in far lower amounts compared to the macronutrients. They are made up of iron (Fe), manganese (Mn), zinc (Zn), copper (Cu), boron (B), molybdenum (Mo) and chlorine (Cl).

Liebig's law of the minimum states the plant growth is not determined by the total amount of nutrients available to the plant but rather by whichever nutrient is in shortest supply. A barrel with unequal staves can help to visualize Liebig's law of the minimum. The barrel can only be filled as high as the lowest stave. The heights of the other staves make no difference on the capacity of the barrel. N will always be the most limiting nutrient for forage grasses in Florida. For example, bahiagrass that is N defi-

### Fertilization

After Emergence (2 to 4 leaf stage): 30 – 45 lb N/A

After First grazing: 45 – 60 lb N/A

After each subsequent grazing (or monthly intervals): 30 – 45 lb N/A

### Stocking Rate

This is a critical factor in the success of cool season pastures. Stocking rate will vary according to the productivity of the particular pasture and the amount of nitrogen applied, but should carry 600 pounds of beef per acre. The minimum ADG for profitable stocker cattle production is 1.5 pounds per day.

cient will still have poor growth regardless if it has an optimum supply of potassium. N can only be stored in organic matter in soil. Most of Florida's soils have very low amount of organic matter and therefore have virtually no N storage capacity. As a result, N must be reapplied to pastures every year. It is not recommended to apply N before heavy rains because most will be lost due to leaching. For hay and other crops that need N in high amounts split applications of N results in higher yields compared to a single large N application. Compared to N or K, soils tend to hold on to P longer. In most cases, Florida's soils have an adequate supply of P for bahiagrass and P fertilization is not needed. In the situations where P fertilization is required, the Extension Soil Testing Lab (ESTL) requires a bahiagrass tissue sample along

(Continued on page 7)



(Continued from page 6)

with the soil sample in order to make P recommendations.

Your local county agent can assist you in collecting tissue samples. Similarly, to N most soils in Florida do not hold on to K very well. As a result, hay and other crops with high K requirements respond well to split applications.

IFAS recommends that pasture soil be tested every 2-3 years to determine how much lime, P, and K is needed. The ESTL cannot test for N since Florida's soils have virtually no N storage capacity. Since lime applications take approximately six months to raise pH, winter is an ideal time to conduct soil test. The soil pH needs to be at the optimum level when the grass enters its growing season. The

Extension Soil Testing Lab charges \$7 per sample. One sample can cover around 15 acres.

To collect the sample, gather 10-12 soil cores from random sites from around the designated area. The soil cores should be between 6-8 inches deep and collected using a soil probe or shovel. Thoroughly mix all the soil cores in a large bucket. Then let the soil sample air dry over paper for several days. After that, pour the dry sample into a soil sample bag and submit it to the Extension Soil Testing Lab. Your county agent can assist you with any of your soil testing questions.



## UF/ IFAS Beef Management Calendar

### DECEMBER

- Begin grazing small grain pastures (if ready).
- Check mineral feeder.
- Check for external parasites and treat if needed.
- Deworm cows and heifers prior to winter feeding season.
- Observe regularly for calving difficulties.
- Rotate calving pastures to prevent diseases.
- Watch for scours in calves.
- Investigate health of bulls before you buy.
- Have dead animals posted by a veterinarian or diagnostic laboratory.
- Complete review of management plan and update for next year.
- Check replacement heifers to be sure they will be ready to breed 3-4 weeks prior to the main cow herd

### JANUARY

- Apply lime for summer crops.
- Check for lice and treat if necessary.
- Control weeds in cool season pastures.
- Check mineral feeders.
- Put bulls out for October calving season.
- Watch for calf scours.
- Give bulls extra feed and care so they will be in condition for breeding season.
- Discuss herd health with your veterinarian and outline a program for the year. Review herd health program with your veterinarian regularly.
- Carry a pocket notebook to record heat, breeding abnormalities, discharges, abortions, retained placentas, difficult calvings and other data.
- Increase magnesium levels in mineral mixes if grass tetany has been a previous problem (if you are not already using a high magnesium mineral).
- Examine bulls for breeding soundness and semen quality prior to the breeding season.
- Vaccinate cows and heifers against vibriosis and leptospirosis prior to the breeding season.



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