

AGRONOMY

UNIVERSITY OF
FLORIDA
IFAS EXTENSION

NOTES

March, 2004

DATES TO REMEMBER

Mar. 25	Beef Cattle Field Day at the North Florida Research and Education Center's Beef Unit, Marianna
May 22	4 th Annual Perennial Peanut Field Day, Moultrie, GA
May 27	Corn Silage Field Day, Citra

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Control Spring Weeds in Hay Fields

Broadleaf weeds in the first hay crop can sometimes be a problem. Burning at or just before green up will control many of the spring weed seedlings. If it is not possible to burn then a timely application of herbicide can be used. Banvel, 2,4-D, or the combination of the two are available for use on grass hay fields. Banvel (dicamba) at 0.25 lbs plus 2,4-D at 0.75 lbs per acre usually gives better control than either herbicide used alone. Annual weeds should be treated soon after emergence. Perennial weeds (such as dogfennel) should be allowed to obtain a leaf surface large enough to allow sufficient spray coverages (about 12"-18" tall). Individuals using these herbicides should read the label carefully and observe all safety precautions. These herbicides can drift and may cause damage to nearby vegetable, cotton and tobacco crops. Avoid drift. If there is a vegetable, cotton or tobacco crop growing adjacent to the hay field, it may be wise to simply forgo application of the herbicide. See the publication SS-AGR-08, Weeds in the Sunshine , " Weed Management in Pastures and Rangeland - 2003", for additional information. This publication can be found at the following web site <http://edis.ifas.ufl.edu/WG006> or contact your local Cooperative Extension Service.

CGC

Fertilizing Pastures and Hay Fields

The six soil-supplied nutrients required by plants in the largest quantities are nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), and sulfur (S). Micronutrients, iron, copper, zinc, manganese, boron, molybdenum, and chlorine, are also essential but are used by the plant in very small amounts. The soil can supply the plant with most, if not all of these nutrients, but often the supply of one or more of the nutrients is insufficient for optimum growth.

Nitrogen is the most important fertilizer nutrient used on grass pastures and hay fields. It is the nutrient that is most likely to be deficient and therefore the one that most often results in increased forage production. Phosphorus may be deficient in some areas, but some Florida soils are high in native P. Also, some pasture grasses (such as bahiagrass) may extract sufficient P from the subsoil, even when the P level in the surface soil is low. Potassium may need to be added to some pastures, but in South Fl., bahiagrass pastures on flatwoods that receive 50 pounds of nitrogen or less per year have shown little if any response to potassium fertilization. Under intensive hay or silage production, where nutrients are removed from the land, annual applications of P and K are needed. Where nutrients are being removed in harvested forage (hay) potassium may reach critically low levels, where not only plant growth is reduced, but plants may die. This is usually indicated by a thinning stand in bermudagrass hay fields. Potassium can very quickly become deficient; also calcium, magnesium, sulfur, and some micronutrients may eventually become deficient after several years of cropping. Calcium, magnesium, sulfur, and the micronutrients are seldom a problem in pastures where considerable recycling of nutrients occurs. (Source: Fl. Forage Handbook-modified).

CGC

Grazing Management

Some pastures may have been grazed very close during the winter. Pastures with grasses such as Floralta Limpograss (*Hemarthria*) or Callide Rhodesgrass should be vacated before spring growth starts and then allowed to accumulate at least 10 to 12 inches of growth before grazing is resumed. Graze rotationally taking no more than ½ of the top growth. During the warm season, it is important to always leave some leaf on the plants after grazing. This will help to maintain a healthy productive stand. Graze bahiagrass

pastures while other grasses are recovering from winter stress. Bahiagrass with its more prostrate growth habit and large accumulation of stolons can withstand greater grazing pressure than many other grasses.

CGC

Overseeding Warm Season Legumes on Warm Season Perennial Grass Pastures

Planing ahead, producers may want to think about overseeding *aeschynomene americana* (joint vetch or deer vetch) onto their pastures this spring or early summer. This may be a good *aeschynomene* year. What is a good *aeschynomene* year? That is a year when we have above average winter and spring rainfall. This allows the *aeschynomene* to start early from natural reseeding, or decreases the chances of losing the young seedlings to drought when planted. In most years seed that germinate during the spring are lost due to drought and therefore producers delay planting until the summer rains start. This in turn delays the date when the annual legume will be ready to graze, thereby producing a shorter grazing season. *Aeschynomene* should only be planted on moist flatwoods. Savanna stylo, alyceclover, and hairy indigo can be planted on flatwoods with good drainage or on upland sands.

CGC

Pasture Insect Pests You Need to Know

The weather is warming up and the cycle of insect pests on pasture will soon resume. We need to watch out and protect our pastures against major insect damage. The most common pasture insect pests that occur in south-central Florida are the chinch bugs, spittle bugs, caterpillars, mole crickets and white grubs.

Mole crickets have just awakened from their dormant winter sleep. They are feeding and flying around bahiagrass pastures to mate. These mature mole crickets will lay millions of eggs in underground chambers between March

and May before they die out about the end of June. But they will be survived by the millions of nymphs that hatch from eggs in May and June unless we act together to control the adults now. The UF-IFAS, the Florida Department of Agriculture, the Florida Cattlemen Association, and the Florida Turfgrass Association established a partnership in 2002 for the commercial production of the mole cricket biological control product, Nematac® S by Becker Underwood. This spring's nematode product is marketed from mid-February to May. The team also established a commercial strip-application by Ingram Grove Services and a network of nematode vendors throughout Florida. Sales information on nematodes can be obtained from your local vendor. Technical information on proper application methods and the custom applicator can be obtained from your local county Extension Office.

Southern chinch bugs are most abundant in dry years and prefer thin stands of grass. The adult chinch bug has a black body and white wing covers, each with a black triangle at the middle of its outer margin. Nymphs are reddish with a white band across their backs, and older and larger nymphs are reddish-brown with a white band. If you observe the appearance of black-white-red, ant-like insects on the thatch of your damaged bermudagrass pasture, it is most likely chinch bugs. The chinch bug overwinters as adults and large nymphs in thatch of infested fields. Activity resumes in spring when temperatures exceed 65 °F. The bugs suck plant juices from grass resulting in yellowish to brownish patches usually beginning with the driest part along the edges of the field. The damage expands to new areas as the bugs migrate. Control measures include monitoring for the insect, close mowing (3") and spraying the affected area plus a 5-ft buffer with recommended chemicals.

The adult two-lined spittlebugs are black with red eyes and legs and have two orange transverse stripes across their wings. The nymphs are yellow or white with a brown head and are enveloped in a mass of white frothy spittle that

they secrete for protection. The majority of the spittle masses are not readily visible since they are located near the soil surface at the base of the thatch. Damage to grass is caused by adults and nymphs piercing and sucking juices from the plant. The insect also injects toxic salivary substances into the plants. Infected grasses wilt and tips turn yellow and eventually brown. Limpgrass, pangolagrass and rhodesgrass are very susceptible especially under high humidity conditions. Close mowing or grazing in summer will reduce the dense thatch mat and the spittlebug problem. Burning off the dense mat of dry grass in late-February or early March is an alternative control measure. The protective spittle makes either chemical or biological control of this pest very difficult.

Caterpillars or worms are the immature stages of grayish-brown moths. These are migratory pests that often move in large numbers from one area to another in search of food. They can cause extensive defoliation of N-fertilized foliage and prefer N-demanding grasses such as bermudagrass, stargrass and pangolagrass. We will discuss the details of the problem with armyworms and loopers and their solution in the summer as their season approaches.

Specific information on the control of various pasture insects can be found at <http://edis.ifas.ufl.edu/IGO61> or obtained from your local county Extension Office.

MBA

Plateau Herbicide: Removal from Service

Hay and forage producers in Florida have struggled for many years to control grasses and sedges in production areas. With the introduction of the herbicide Plateau, producers were given the unique ability to control many troublesome grass and broadleaf weeds in bermudagrass and bahiagrass with postemergence applications. However, a statement was released in January 2004 by BASF (the manufacturer of Plateau) that Plateau herbicide will no longer be sold for weed control

in forages. Although bermudagrass and bahiagrass will remain on the product label, Plateau will now be sold exclusively for State use on highway rights-of-ways. Although this decision will make farm owners ineligible for purchase of Plateau herbicide, remaining stocks can legally be sold to farm owners in 2004 until local supplies are exhausted.

The removal of this highly effective herbicide from market effectively leaves producers with no herbicidal alternative to control grass and sedge weeds in forage production systems. This means the producer must again rely on proper fertility, grazing management, and timely mowing to control these troublesome weeds.

JAF

Warm Season Annual Grasses and Pasture Renovation

The two most popular warm season annual grasses are pearl millet and sorghum x sudangrass. Both should be planted on sites that have good drainage, but sorghum x sudangrass will tolerate wet, saturated soil conditions better than pearl millet. Therefore, it may be the better choice on some flatwoods sites. These grasses should not be planted until the soil is warm. The earliest planting date is usually mid March to mid April.

When or where should these crops be used? These crops can be useful in a pasture renovation program. For instance, if you desire to convert an old rundown bahiagrass pasture to an improved more productive grass such as Tifton-9 bahiagrass, it might be desirable to till and plant the land to a summer annual grass or some other crop for one or more seasons before planting the Tifton-9. The summer annual grass can be followed in the fall with a cool season annual such as ryegrass or a small grain. The Tifton-9 would then be planted in June following the ryegrass. This process would involve soil tillage and seedbed preparation before each crop is planted. The multiple tillage operations should eliminate most of the old pasture grass and grass

seed. This process involves considerable expense; therefore, the producer must make good use of the forage produced from the annuals.

The summer annuals will grow rapidly during hot weather and may be ready to graze in 35 to 40 days after planting. They are very productive if fertilized properly and can provide high quality grazing. The most efficient use of these pastures can be had by grazing young animals such as developing heifers or stockers that require a higher quality forage than that required by mature animals. Also, be prepared to graze rotationally. Remember, do not graze sorghum x sudangrass until it is 24 inches tall or taller. This is due to the prussic acid (HCN) poisoning problem that can occur in very young plants. Prussic acid is not a problem in pearl millet.

One complaint about summer annuals is that they can produce too much growth and will “get away from you.” They do require a high stocking rate. When excess growth occurs, move young animals to a fresh pasture and let the mature cow herd clean up behind them. Stems may need to be mowed after grazing.

CGC

Micronutrients for Peanuts

Although there are a number of micronutrients that are essential for peanut growth, most are present in many soils or in fertilizers or other chemicals applied to peanuts. There are two possible exceptions, boron and manganese. Boron easily leaches from Florida’s sandy soils, and therefore needs to be included in the peanut fertilization program. Boron, at the rate of 0.5 to 0.75 pounds of elemental B, should be applied for peanuts grown on sandy soils. It can be included in the pre-plant fertilizer, but it is more often applied in a foliar spray before blooming and pegging is active. Boron prevents yield loss, but is also needed to insure high quality peanuts. A common boron deficiency is a condition called “hollow-heart” which is a lack of complete filling of the inside of the kernels, and results in grade reductions. Toxicity to boron can occur if

excessive rates are applied. Manganese is more common on wetter soils that have been drained and limed, but is often found on deep sands when liming raises the soil pH to about 6.3 or higher. Yellowing between the lateral veins of the leaves is the most common symptom of a manganese deficiency, but may become less noticeable as the plant grows. There have been few indications that yields are reduced by the mild manganese deficiencies generally seen in Florida. Foliar sprays of manganese sulfate or other soluble manganese compounds can correct the deficiency.

EBW

Peanut Varieties

Results of the 2003 peanut variety tests in Florida show the importance of selecting a variety based on expected disease problems. At Marianna where diseases such as tomato spotted wilt virus are common, C-99R, AP-3, Ga 01R, Hull, and DP-1 had the lowest levels of disease and also had the highest yields of the runner varieties. VC2 and Gregory were the better yielding of the virginia-type varieties, and also had the lowest levels of disease incidence. At the Pine Acres location tomato spotted wilt virus and other diseases were not as severe as at Marianna and consequently yields were higher and some of the varieties with less disease resistance performed very well. However the disease-resistant varieties also had good yields. At Pine Acres, Ga 01R, Carver, C-99R, ANorden, Georgia Green, AT 201, and DP-1 were the better-yielding runner varieties, while NC 7, VC 2, NC V11, and Gregory led the virginia-type test.

EBW

Clipping Tobacco Plants

The advantages of clipping tobacco plants are mostly increased efficiency in pulling plants, easier transplanting, as well as better quality plants. By clipping, portions of the leaves of the larger plants are removed which allows the

smaller plants to catch up in size and result in more uniform plants, and most plants can then be pulled at the same time. Much less labor is required than would be for plants that are not clipped. Clipping should begin when the plants are 3 to 5 inches in height, using a mower with sharp blades to cut the plants just above the bud of the largest plants. Normally clipping is needed about every 5 days, depending on growth.

EBW

Fertilizing Tobacco Plant Beds

The need for top dressing tobacco plant beds depends on the initial fertilization, the extent of rainfall or irrigation, and the soil type. If the plants turn yellow and grow slowly, and there are no disease or other problems, additional fertilizer may be needed. Nitrogen and sulfur are generally the most likely nutrients that need to be added, but magnesium may at times be deficient. If only nitrogen is needed, 3 to 5 pounds of nitrate of soda per 100 square yards of bed should restore the green color and faster growth. Sulfur and magnesium deficiencies can be corrected with 3 to 5 pounds of magnesium sulfate or Epsom salts per 100 square yards of bed area. The fertilizer should be applied when the plants are dry, with irrigation following immediately to move the nutrients into the soil.

EBW

Pest Management in Plant Beds

Although there have been no reports of blue mold so far this year, be sure to inspect the beds frequently for signs of this disease. Blue mold is more likely after rain or irrigation and when the plants are succulent. The first symptoms are large yellow spots on the leaves, soon followed by a bluish mold growth on the underside of the leaves. Blue mold can spread rapidly and kill or severely damage plants. A preventative application of Dithane or other carbamate fungicide should be made if conditions are favorable for the disease or if it has been reported in the area. These fungicides may also reduce

problems with other diseases such as damping-off and target spot. Even if there are no disease symptoms present, an application of a fungicide a few days before transplanting will help insure disease-free plants. Insect pests, such as vegetable weevil larvae, cutworms, aphids, budworms, and even horn worms can attack plants in the bed. Orthene will generally control most of these insect pests. It is a good idea to make preventative applications of Orthene a few days prior to transplanting to insure insect-free transplants.

EBW

Shortages Possible for Tobacco Fertilizers

There are various nitrate fertilizers, such as nitrate of soda (16-0-0), nitrate of soda-potash (15-0-14), and potassium nitrate (13-0-44) that have been popular products for tobacco producers. The all-nitrate composition provides a source of nitrogen that is readily usable by the tobacco plant and is especially useful in replacing leached nitrogen, and potassium in the case of 15-0-14 and 13-0-44. Much of the world's supply of these fertilizers are from natural deposits in Chile. Unfortunately an earthquake in the mining area has caused some disruption in production of the fertilizers, which has resulted in limited supplies. These shortages may continue, which means tobacco farmers should plan on replacements. Calcium nitrate is another all-nitrate source of nitrogen, and needed potassium could be obtained from sulfate of potash or sulfate of potash-magnesia. It is possible that fertilizer companies may formulate mixtures that will meet the needs of growers.

EBW

Choose Crop Varieties Carefully

Many of the top corn and cotton varieties are transgenic and are valued for ease of controlling many troublesome weeds. However, many of the best varieties are in short supply and should be ordered well ahead of time to insure their availability. There is normally as much as 25%

difference in yield of the top versus the lower yielding varieties. You have only one chance to make the right decision on variety and other management strategies can never cover for a low yielding variety. Study variety trial results carefully from several locations and don't settle for a low yielding variety even if it has the transgenic characteristic that you desire.

DLW

Genetic Technology and Pesticide Use

Use of genetic technology has reduced the amount of crop protectants applied to crops by about 15% in the U.S. over the past 5-7 years. 2003 was the first year in modern agriculture that more money was spent on seed technology than on crop protectants. This trend will continue as more genetic technology is developed and companies develop materials that can be used as seed treatments to deliver more of a total production package on as well as in the seed.

DLW

Strip Till and Cover Crops

Strip tillage can be used successfully with any cover crop or fallow if managed properly. Many of Florida soils with a clay base in the top 6-8 inches may contain 30-60 lbs/A of nitrate nitrogen (N) in the root zone. This is especially true where legume cover crops or a legume crop, or a high N requiring crop like corn was grown. A small grain cover crop often requires 40 lbs N/A to get to the boot stage and may utilize most of the residual N in the soil through the winter months. Fallow or winter weeds may have little influence on soil N while legumes will supply 30-60 lbs N/A after the crop is killed. The release of N from the killed legume cover crop is rapid and normally occurs in 30 days. If 30-40 lbs N/A is applied to the small grain cover, N rates similar to fallow may be used on the following crop. All cover crops and winter weeds should be killed 3-4 weeks prior to planting to reduce soil insects,

prevent soil drying, and to make planting easier by causing brittle stems and plant material.

DLW

Updated Publications

SS-AGR-83

Production of Ultra Narrow Row Cotton

NEW Publications

SS-AGR-200

Field Corn Production Problems: A Diagnostic Guide

SS-AGR-211

Creep Grazing for Suckling Calves: A Pasture Management Practice

New to Agronomy

We are very pleased to announce that two new faculty members have recently joined the Agronomy Department:

BARRY L. TILLMAN was appointed to the position of Assistant Professor - Peanut Breeding and Genetics. He is stationed at the North Florida Research and Education Center in Marianna, Florida. Dr. Tillman received the M.S and Ph.D. degrees from Louisiana State University. After completing the Ph.D., he spent two years as a research scientist in the USDA/Texas A&M University rice breeding program in Beaumont, Texas. He has spent the past six years breeding hybrid rice for RiceTec, Inc. in Alvin, Texas where he developed several rice hybrids that are being marketed in the southern rice belt. Dr. Tillman joined the University of Florida in February 2004. His research (80%) and extension (20%) efforts will focus on peanut breeding, genetics, and cultivar evaluation.

JASON FERRELL was recently appointed to the position of Assistant Professor - Weed Science. He will be stationed in Gainesville with extension (70%) and research (30%) responsibilities in peanuts, cotton, forages, and highway rights-of-ways. Jay will focus primary efforts in north and west Florida but will also contribute to other state-wide needs. Dr. Ferrell received the M.S. degree from the University of Kentucky and the Ph.D. from the University of Georgia. Dr. Ferrell joined the University of Florida in February, 2004.

In addition, we are pleased that two additional weed science faculty positions were recently released. We will soon begin searches for an Assistant Professor - Invasive Plants Specialist (60% extension, 40% research), located at the Range Cattle Research and Education Center in Ona, and an Assistant Professor - Aquatic Weed Specialist (70% extension, 30% teaching) located at the Ft. Lauderdale Research and Education Center. These positions will further strengthen the state-wide weed science programs of the Department.

We are certainly pleased to welcome Barry and Jason to our Department.

JMB

Crop Values for 2003

The National Agricultural Statistics Service of the USDA reported the following values for the production of agronomic crops in 2001-2003. The value of production does not include certain government payments.

Crop	Value of Production (x 1million dollars)					
	Florida			United States		
	2001	2002	2003	2001	2002	2003
Corn, grain	5.1	8.5	8.2	18,888.4	20,974.7	24,803.6
Wheat, all	.8	.7	1.4	5,440.2	5,679.4	7,954.9
Soybeans	1.1	1.6	2.5	12,605.7	15,214.6	17,465.4
Peanuts	53.8	35.2	63.5	1,000.5	599.6	779.2
Cottonseed	3.8	2.6	4.4	667.3	616.4	784.2
Cotton	22.4	20.3	40.9	3121.8	3,777.1	5,345.2
Hay, all	72.6	76.0	57.4	12,597.3	12,450.2	12,331.0
Tobacco, all	21.9	22.5	20.4	1,939.8	1,702.9	1,635.2
Sugarcane, seed and sugar	495.2	536.6	-	1,003.0	1,007.1	-

EBW

The use of trade names does not constitute a guarantee or warrant of products named and does not signify approval to the exclusion of similar products.

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