AGRONOMY NOTES

UNIVERSITY OF FLORIDA
IFAS EXTENSION

March 2003

DATES TO REMEMBER	
May 8	Forage Field Day, Jay Research Farm
July 8	Agronomy Weed Science Field Day (Deep South Weed Tour), Jay Research Farm
September 5	Row Crop Field Day, Jay Research Farm

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Cotton Traits in the U.S.

Almost three quarters of the cotton grown in the U.S. is transgenic. Of this cotton, about 1/2 is Roundup Ready (resistant to Roundup) and the other 1/2 is the combined traits of Bt and Roundup Ready. Less than 5% that is sold is just the Bt trait for insect resistance.

DLW

Changing Trends in U.S. Agriculture

In 1900 there were 5,739,657 farms with an average of 147 acres. By the end of the century the number of farms had dropped to 1,911,859 farms with an average of 487 acres. This and many other agricultural statistics can be obtained on line at Http://www.usda.gov/nass/.

DLW

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 crops. Avoid drift. If there is a vegetable 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 - 2002", for additional information.

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). Micronutrents, 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

Overseeding Warm Season Legumes on Warm Season Perennial Grass Pastures

Planing ahead, producers may want to think about overseeding *Aeschynomene americanna* (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

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

Assigning the Peanut Base

March 31 is the deadline for farmers to go to their local Farm Service Agency office and assign their peanut base acres to a particular farm. The base does not have to go to the farm on which it was generated, but must remain on the assigned farm through 2007, the life of the current farm bill. The total of all crop bases (cotton, grains, and peanuts) cannot exceed the acres of crop land on the farm. Certain payments to growers are determined by the base acreage. Peanut growers should contact their local FSA office for details.

EBW

Peanut Varieties

Several new peanut varieties are available for planting in 2003, but seed supplies may be limited. Six new varieties were released in 2002 by the University of Florida: Andru II, DP-1, GP-1, Carver, Hull, and Norden. The University of Georgia has released Georgia-01R and Georgia-02C. Increased disease resistance is a major feature of most of the newer varieties, and improved oil quality is also available in some of them. Seed supplies of older varieties, such as C-99R and Georgia Green, should be adequate to meet demand. In tests at Marianna, where tomato spotted wilt virus (TSWV) is severe, C-99R, DP-1, Hull, Andru II and Norden have produced good yields. In the Gainesville area (Green/Pine Acres) where TSWV has not been a major problem, varieties with less resistance have performed well. Variety test results are available in Marianna NFREC Research Report 03-1.

EBW

Clipping Schedule and Use of Actigard on Tobacco Plants

Florida has received a special local need or state label for the sale and use of Actigard in greenhouse or plant bed production of tobacco plants. Use of Actigard at this stage of growth has been shown to reduce the incidence of tomato spotted wilt virus (TSWV) throughout the season. Actigard has been and is still labeled for later applications to control blue mold. To use Actigard for TSWV control, the grower should get a Waiver of Liability and Indemnification Agreement from the Flue-Cured Tobacco Stabilization Corporation Cooperative at: http://www.ustobaccofarmer.com and then return the signed and notarized application to get a copy of the label.

Growers that plan to use Actigard in the greenhouse or plant bed should apply the material 5-7 days before transplanting. Plants should be about transplanting size when they are sprayed with Actigard because growth will be slower after treatment. Therefore the plants should receive the final clipping a few days before the Actigard is applied in order for them to be about transplanting size at treatment. Also be sure to transplant on the same day the plants are pulled as there have been some reports of poor stands when plants are held for a period of time between pulling and transplanting. Treated plants may not resume growth as fast after transplanting as untreated plants and stress conditions, such as dry weather, may add to this slower growth. Plan on a "once over" pulling, as the plants that are too small for transplanting at the time of Actigard application will probably be unusable.

EBW

Tobacco Plant Bed Management

It is important to protect plants from diseases, insects, and nutrient problems as the transplanting period is near and healthy plants are needed to get the crop off to a good start. Diseases that often develop include damping-off and blue mold. Dithane is labeled for use in plant beds and applications according to the label prior to infection can prevent or greatly reduce losses to blue mold and damping-off. Preventive applications in the plant bed are much more economical and effective than having to rely on applications to transplanted tobacco. The same would be true for insect control, as preventive applications of Orthene or other insecticides can insure that aphids and perhaps budworms are not carried to the field on the transplants. Vegetable weevils and cutworms in the plant bed would also be controlled and result in healthier transplants. If the plants are nitrogen deficient, 3 to 5 pounds of nitrate of soda or comparable product per 100 square yards should be beneficial. If magnesium or sulfur are deficient, 3 to 5 pounds of magnesium sulfate or Epsom salts should restore the green color and good growth. Irrigate as needed, but do not use excessive irrigation as blue mold is favored by excess moisture. Clip the plants as needed to prevent excessive growth and to get uniform plants. Clipped plants are easier to pull and reduces labor requirements.

EBW

Transplanting Tobacco

Most of Florida's tobacco is transplanted in March or early April. Establishing a good stand of uniform plants will pay dividends in that cultivation, spraying, and harvesting will be easier and more efficient than is the case with non-uniform stands. Field preparation, to include fumigation and incorporation of herbicides, insecticides, and fungicides, should have resulted in uniform mixtures of the chemicals with the soil. Non-uniform application of pesticides could result in stunting or death of plants due to excessive rates, or a lack of pest control if the chemical rate is below recommendations. The transplanter should be adjusted so that plants are planted uniformly in the row. Use adequate water to insure good contact of the soil and roots of the transplants. Including an insecticide in the transplant water will provide control of cutworms, mole crickets, wire worms, and other insect pests that could reduce stands. Depending on the selected insecticide, early season control of tomato spotted wilt virus, aphids, budworms, and other pests may also be obtained.

EBW

Asian Rust Soy Fungus

On January 22, Brazilian sources were cited as reporting that Asian rust soy fungus, which damaged 400,000 hectares (988,000 acres) of Brazil's soy area in 2001/02, was found in the new crop in Sao Paulo state, adding, "It was found in a field in Itapeva which was immediately sprayed with fungicide. Yields won't be affected." However, the presence of the outbreak means that spores of the phakospora fungus are in the atmosphere and could be spread by wind to other soy areas, sapping the potential of plants to produce soybeans, Brazil's top farm export earner. Although Sao Paulo is a minor soybean producing state, it is next to Parana, the country's No. 2 soy state. (Reuters, 1/22/03 via AgNet).

MAM

Atrazine IRED Outlines Monitoring Program

On January 31, the EPA released the atrazine Interim Reregistration Eligibility Decision (IRED) and announced an innovative and aggressive program to protect vulnerable community drinking water systems from contamination by atrazine. The announcement by the Agency involves intensive, targeted monitoring of raw water entering certain community water systems in areas of atrazine use. "After the most extensive analysis ever conducted on atrazine, EPA has designed a protective, early alert system to implement rigorous monitoring and fine-tuned safeguards to protect drinking water in the communities where atrazine is used," said Stephen L. Johnson, EPA's Assistant Administrator for the Office of Prevention, Pesticides, and Toxic Substances. "For the most vulnerable watersheds, if the testing shows higher levels of atrazine than we consider acceptable, use of the product will be prohibited in that area."

Under this approach the main registrant of atrazine, Syngenta, is required to conduct a specialized testing program in vulnerable watersheds on a weekly basis to monitor "raw" drinking water during high-use periods for this pesticide. If the Agency's regulatory safety standards are exceeded in raw drinking water, atrazine use is canceled in that geographic area. This more stringent approach requiring weekly monitoring of "raw" drinking water during certain times of the year augments monitoring conducted under the Safe Drinking Water Act (SDWA) of "finished" drinking water. For all other areas where atrazine might be used, monitoring of finished drinking water for atrazine is routinely required under the SDWA. For these systems, detections approaching the Maximum Contaminant Level for atrazine will trigger additional monitoring and regulatory oversight.

In the IRED, the Agency has concluded that atrazine may continue to be used, provided all the precautions and the new specific measures are implemented to reduce risks to drinking water. These new measures will help ensure the continued protection of drinking water. The Agency has concluded that risks associated with exposures from

food are not of concern. Exposure from residential uses and exposure to workers are low and have been addressed by changes in product use conditions. The Agency is continuing to evaluate the potential effects of atrazine on amphibians, which continue to be the subject of additional research and analysis. EPA intends to submit the issue of atrazine effects on amphibians for independent scientific peer review by the FIFRA Scientific Advisory Panel in June, and the Agency anticipates completion of an amended IRED, including consideration of effects on amphibians, by October 31, 2003. (EPA Pesticide Program Update, 2/3/03).

MAM

Biotech Crop Plantings

A survey released on January 22 was cited as finding that American farmers are poised to boost plantings of biotech corn by nearly 10 percent this year amid growing U.S. pressure on the European Union to lift a ban on imports of genetically modified crops. The story says that the straw poll of 340 growers, conducted at the American Farm Bureau Federation's annual meeting, estimated that U.S. 2003 plantings for Roundup® Ready corn will jump by 9.9 percent and Roundup® Ready soybeans by 8.4 percent. B.t. corn plantings posted the only decline among the five major biotech crops included on the survey, falling 3.8 percent. Gene-altered cotton plantings will also rise in 2003, according to the survey. Roundup® Ready cotton plantings will be up 4.0 percent, while B.t. cotton will rise by 5.2 percent. The story cites U.S. Agriculture Department data as saying that 34 percent of corn in 2002 was grown with biotech seeds, up from 26 percent a year earlier. Biotech soybeans rose to 75 percent of the total U.S. soybean crop in 2002, up from 68 percent in the previous year. Biotech cotton accounted for 71 percent of the crop in 2002, up 2 percent from 2001. Nearly half of U.S. farmers polled in the same survey said they were undecided or opposed to growing biotech crops engineered to produce drugs for ailments like diabetes, with 13 percent opposed to planting pharmaceutical crops and half saying they would consider planting the new kinds of crops, which are expected to command premium prices. Another 35 percent of growers said they needed more information about health and safety issues before deciding whether to grow them. (Reuters, 1/22/03 via AgNet).

MAM

EUP for Bensulfuron Methyl

FDACS has issued an experimental use permit for bensulfuron methyl (Londax®) herbicide (EPA Reg. # 352-506) and assigned it the number FL03-EUP-1, which is authorized though January 30, 2004. The product is used for control of weeds in rice. (FDACS letter of 1/30/03).

MAM

Residue Tolerance for Mesotrione

Based on work by IR-4, tolerances were received for residues of the herbicide mesotrione in or on pop corn grain/stover (0.01 ppm). (*Federal Register*, 1/3/03).

MAM

Florida Crop Values for 2002

The Florida Agricultural Statistics Service has released the following estimates of the season average price and value of production for agronomic crops in 2002, with 2000 and 2001 estimates also included:

	Season Average Price ($)				Value of Production (1000 $)		
Crop	2000	2001	2002	Unit	2000	2001	2002
Corn for grain	2.24	2.25	2.60	bu	4,200	5,090	8,486
Cotton	0.565	0.295	0.380	lb	28,747	22,373	15,139
Cottonseed	100.00	71.50	81.50	ton	3,800	3,790	2,445
Hay, all	82.00	96.00	97.00	ton	55,350	72,575	76,048
Peanuts for nuts	0.300	0.215	0.177	lb	64,113	53,772	35,011
Sugarcane	28.60	31.70	-----	ton	487,373	517,915	-------
Tobacco	1.730	1.871	1.879	lb	19,852	21,891	22,473
Wheat	2.25	2.25	2.40	bu	992	830	722

The above figures do not include certain federal payments to growers. Yield and acreage of the crops were given in the February 2003 issue of Agronomy Notes.

EBW

Publications

The following publications have been recently **UPDATED** and are available though EDIS. PDF files for these publications are also available:

SS-AGR-29 Tobacco Varieties for 2003

SS-AGR-162 Florida 2001 and 2002 Short, Mid, and Full-Season Corn Variety Tests for Silage and Grain

SS-AGR-163 Results of 2002 Early, Mid, and Full Season and Roundup Ready Cotton Variety Tests

The following **NEW** publications are available through EDIS. A PDF file for each publication is also available.

SS-AGR-180 Forage Soybeans for Grazing Hay and Silage

SS-AGR-188 Alfalfa Production in Florida

SS-AGR-189 Sweetclover Production and Use in Florida

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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