

AGRONOMY

UNIVERSITY OF
FLORIDA
IFAS EXTENSION

NOTES

June, 2005

DATES TO REMEMBER

5th Annual Perennial Peanut Field Day - Moultrie, GA June 11th, 8 am - 2 pm

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Corn Problems

There have been more reports of problems this year in corn than any time in recent memory. Much of this has been due to the cool, wet conditions that have been encountered. As of May 20, heat unit accumulation was approximately 60% of the normal for the corn crop. The cool weather has delayed growth of both tops and roots. During cloudy, cool days, corn takes up very little water or nutrients. Many growers have applied additional nutrients in an attempt to stimulate corn growth since environmental conditions were not favorable and a heavy rain may have leached the fertilizer that was applied. However, heat units are expected to accumulate rapidly in early June and the corn crop will catch up to the normal growth stage rapidly. It is important to remember that adequate nitrogen, sulfur, and water are very important as the plant reaches critical stages of growth. Just prior to silking, corn may require as much as 40 lbs/A of N weekly for adequate growth that needs to be supplied either from residual soil N or applied N.

DLW

Cotton Growth Management

Cotton often begins rapid growth in June when moisture is not limited. This is the period when cotton height should be regulated and square retention is important. There are many management factors including N fertility, soil moisture, weed control, plant population and insect control that can influence vegetative growth. Good fruit and boll retention will slow vegetative growth. However, most of the cotton growers in Florida use DPL 555 cotton which tends to set fruit later in the season and often produces excessive vegetative growth. In general, this growth can be

managed with the use of mepiquat sold under trade names of Pix, Mepex, Topit, Mepichlor, Pentia, and others. These materials will generally shorten the internode length and reduce the leaf area where stem and leaf expansion are occurring. Research has shown that using mepiquat can result in increased retention of early fruit and slightly earlier maturity. Yields are not necessarily increased by using mepiquat, but plants will definitely be shorter and may be easier to manage.

DLW

Strip Till Cotton

Strip tillage is used widely in many of the cotton growing counties across Florida. Research with many agronomic crops has shown that strip tillage can be very successful. This method of tillage will reduce time in the field and fuel costs. Additional advantages are that crop stands are preserved from sand blasting due to reduced surface disturbance and more moisture is usually available at planting. Most growers who have adopted this method of planting have found that it is not necessarily easier, but has economic and timeliness advantages over more traditional management systems.

For years, weed control was the main disadvantage to strip tillage cotton. However, Roundup Ready and other genetic technology have helped to solve this problem and has allowed more growers to switch to strip tillage. Another difficulty with strip tillage is getting a smooth seedbed for planting and a uniform seed depth, but this can be accomplished with proper adjustment of the strip till rig. Since many growers are only planting 2-3 seeds every 14" of row, it is very important to have

every seed germinate and produce a plant. Therefore, cotton seed depth should range from ½ to no more than 1 ¼ inch deep depending on soil moisture and uniformity of the seed bed.

DLW

Calcium Nutrition of Peanut

Calcium (Ca) is the element most commonly deficient for peanut. Calcium deficiency results in high incidence of pod rot, unfilled pods (otherwise known as “pops”), and much lower germination if saved for seed. Georgia research has shown that Ca applied as lime should not be turned under or yields will be comparable to areas where no lime was applied. Even though peanut has a lower overall Ca requirement than soybean or cowpea, peanut has a critical Ca need for seed maturation and quality. Lime should be applied to fields well in advance of planting and may be applied to strip tilled fields as a surface application. Calcium is routinely applied as gypsum at pegging time on sandy soils for rapid replenishment of soil solution Ca. Gypsum is often not as necessary on heavier soils that have higher diffusion gradients toward the pods.

DLW

Biology and Control of Napiergrass in Sugarcane

If you are driving through southern Florida and see an enormous cane like grass growing along the roadside it is most likely napiergrass (*Pennisetum purpureum* Schumacher). Napiergrass, also known as elephant grass, has been documented in almost 30 counties throughout Florida. It is of African origin, but has been introduced to all tropical areas of the world because of its ability to quickly produce large amounts of

biomass. Although napiergrass was introduced to South Florida and Texas for use as a forage crop, it is no longer widely used for forage purposes and has become a major weed problem. Napiergrass is listed as invasive by the Florida Exotic Pest Plant Council and is considered to be one of the world’s worst weeds. It is still widely grown in Central America, South America, and Africa as a forage crop. Napiergrass is now established throughout southern Florida, especially along canal and ditch banks and in disturbed or cultivated areas. Although it can be found in central and northern Florida, it is less common due to cooler temperatures.

Napiergrass is a large perennial with erect cane-like stems that may reach up to 15 feet in height. Leaf blades are typically ¾ to 1¼ inch wide and 12 to 29 inches long. Leaf surfaces are flat and sandpapery with long stiff hairs on the upper surface and can be either smooth or sandpapery on the bottom side. Leaf sheaths are extremely hairy near the bottom of the stem and smooth towards the top of the stem. Propagation is by seed and the bristly bottle-brush shaped seedheads can be 4 to 13 inches long.

Control of napiergrass in the Everglades Agricultural Area tends to be a difficult and time consuming process. Currently, there are no labeled herbicides for selective control of napiergrass in sugarcane. Because seedling napiergrass plants can quickly outgrow and overwhelm an emerging sugarcane crop, it is critical to establish control quickly. Once napiergrass populations become established in the sugarcane fields, spot treatment with glyphosate is the most effective control option. Napiergrass tends to be more common in successively planted sugarcane fields, thus fallow periods or rotational crops may offer the best opportunity for control.

In addition to controlling napiergrass in the field, it is critical that it be controlled along field borders, canals, and irrigation ditches to prevent the introduction of new seed to the field.

CRR

Control of Hairy Indigo in Peanuts

Hairy indigo is an aggressive weed that is common throughout the peanut producing regions of Florida. Hairy indigo is in the same plant family as peanut and consequently grows extremely well on lands prepared for peanut production.

Hairy indigo germinates relatively early and continues to grow throughout the season, sometimes reaching over 3 feet in height. The leaves on this plant are extremely hairy and become more dense as the plant matures. These dense hairs can decrease the amount of herbicide that reaches the leaf surface. Therefore, delaying herbicide applications can significantly reduce that amount of control that can be achieved with a herbicide. This means that timing of the herbicide application is critical to controlling hairy indigo.

Hairy indigo can be controlled by preemergence applications of Strongarm or Valor. However, most producers rely on postemergence herbicides such as Cadre, Classic, Cobra or Ultra Blazer. Cobra or Ultra Blazer can be highly effective on hairy indigo, but applications made to larger plants will result in stunting, followed by resprout and continued growth.

Cadre is the most commonly used postemergence herbicide in peanut production and the least effective on hairy indigo. However, before buying new herbicides for the express purpose of hairy

indigo control, there are ways to dramatically increase the efficacy of Cadre. The most important factor is to spray when the hairy indigo plants are approximately 3 inches in height. As hairy indigo advances past this 3 inch stage, the leaf hairs become so abundant that contact of the herbicide droplet with the leaf surface is almost impossible. Spraying earlier in the season can avert this problem. Increasing the surfactant rate can also be greatly beneficial. Most recommendations call for non-ionic surfactants at a rate of 1 quart per 100 gallons of water (or 0.25% by volume). Although this is sufficient for most applications, hairy indigo may require more. It has been observed that increasing the surfactant rate to 2 quarts per 100 gallons (or 0.5% by volume) can improve penetration of the herbicide droplet through the leaf hairs. Consequently, the more herbicide that reaches the leaf the greater weed control will occur. It has also been observed that adding 2,4-DB at a rate of 8-12 oz per acre can be greatly beneficial. However, increasing the 2,4-DB rate to 16 oz per acre will often show marginal or no improvement over 12 oz.

Hairy indigo can be a serious weed problem. However, timely application of any herbicide is absolutely critical for control of this weed. By monitoring and spraying early, hairy indigo is a pest that can be effectively controlled.

JAF

Who Needs a License?

Those who apply restricted use pesticides need to be licensed to meet Florida's legal requirement. In the agronomic sector, most who will need to have a license will fall into at least one of the following categories: private applicator or commercial applicators

who are hired to apply restricted use pesticides to agricultural row crops or agricultural tree crops. There are differences among these types of applicators as one category does not necessarily fit all.

Private applicators are those who are licensed to use restricted use pesticides for the purpose of producing an agricultural commodity on property owned or rented by the applicator or the applicator's employer. This license is for owners and employees of farms, ranches, groves, nurseries, gardens, and other establishments that produce agricultural commodities. To obtain this license, one must pass the general standards and private applicator exams. These exams are based on material addressed in the publications *Applying Pesticides Correctly* and *Private Applicator Agricultural Pest Control* manuals, respectively. The cost of the license is \$60 and is valid for four years.

Commercial applicators are those who apply restricted use pesticides in situations such as contract applications for someone else (i.e. someone other than the owner or an employee of the firm makes the application). In Florida's agronomic environment, this will generally be to row crops or tree crops. These are separate categories and have different exams. If treating row crops, an applicator needs to take and pass the general standards and agricultural row crop exams. The study manuals for this category are the *Applying Pesticides Correctly* and *Agricultural Row Crops Pest Control* manuals, respectively. One who will be

making commercial applications of restricted use pesticides to agricultural tree crops will need to take and pass the general standards and agricultural tree crop exams. Study material for these exams is based upon the information contained in the *Applying Pesticides Correctly* and *Agricultural Tree Crop Pest Control* manuals, respectively. The cost of a commercial license is \$160 and is valid for four years.

All types of licenses are maintained by continuing education units (CEU's) earned at various programs throughout the state. If maintaining CEU's is not convenient, licenses will be extended if applicators choose to retake and pass the initial exams.

Study manuals for these exams may be obtained from the IFAS Extension Bookstore by calling 1-800-226-1764 or going on-line at <http://IFASbooks.ufl.edu>.

Exams are administered by most county extension offices throughout the state. Contact the local office in your area to check with exam scheduling. In some cases, local offices also provide programs or tutorials to assist in exam preparation. (Fred Fishel, 352-392-4721)

FMF

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Prepared by: J. M. Bennett, Chairman; M. B. Adjei, Forage Agronomist, C. G. Chambliss, Extension Agronomist; J.A. Ferrell, Extension Agronomist, G. E. MacDonald, Weed Researcher, B.A. Sellers, Extension Agronomist, E. B. Whitty, Extension Agronomist, D. L. Wright, Extension Agronomist.