AGRONOMY NOTES

UNIVERSITY OF FLORIDA
IFAS EXTENSION

May, 2005

IN MEMORY OF
CARROL CHAMBLISS

Dr. Carrol Chambliss passed away April 23, as he was unable to survive his battle with cancer. Carrol was a Forage Crop Extension Specialist in the Agronomy Department and a very respected friend and colleague to many both within and outside of IFAS. Dr. Chambliss worked with so many across the state and beyond during his 29 years of service as a faculty member. Carrol contributed in immeasurable ways over his career and he will surely be missed. A memorial service was held on April 26 in Gainesville, with burial on April 30 near his Arkansas birthplace.

IN THIS ISSUE

Inoculating Peanut in New Ground

Peanuts may not always respond to inoculation with rhizobium bacteria that fixes nitrogen to aid plant growth. The main reason for this is that there is an indigenous population of rhizobium, cowpea miscellany, that is common to many native weeds and potentially able to nodulate a crop of peanuts grown for the first time in a field. Peanuts are only moderately efficient in fixing and translocating atmospheric nitrogen. With soybean, as much as 80% of the plant nitrogen comes from the atmosphere while about 55% of the plant nitrogen needs of peanut are from nitrogen fixation. Calcium is important to nodulation and maximum peanut root growth occurs at a pH of about 7.3 while shoot growth, nodulation, and nitrogen fixation is best at a pH range of 5.9 to 6.3. An application of lime can improve the availability of calcium, magnesium, and phosphorus and decrease aluminum toxicity. Inoculants may be applied to soils that have not had peanuts grown on them for several years or at all. In some cases nodulation may be significant and in others little response may be noted. However, inoculants are cheap insurance in providing needed nitrogen for plant growth.

DLW

Peanut Fertilization

New peanut growers need to know that peanuts do require good nutrition to obtain high yields and quality. However, fertilization needs of peanuts are less than for many crops that are commonly grown in Florida. Calcium (Ca) needs are especially high for peanuts and the fruit develops from nutrients absorbed directly from the soil rather than from nutrients transported from roots to shoots and back to the fruit which is the case for most crops. Calcium deficiency results in high incidences of pod rot and unfilled pods called “pops”. This results in low yields, low grades, and poor germination. Relatively high concentrations of Ca are needed in soil solution and the critical Ca absorption period begins about 20 days after the entrance of the peg into the soil and may extend for up to 2 months. Since peanuts are often grown on sandy soils, which are drought prone, there is a limited ability of these soils to replenish the soil solution Ca. Heavier soils and irrigated soils are better able to supply the needed Ca for proper uptake. The Ca needs are primarily for pod and seed development and not for growing a healthy plant. Test soils and apply the needed amounts of Ca for good yields and quality.

DLW

Using Gramoxone in Peanuts

Gramoxone is a virtually non-selective herbicide that has been used to control weeds in peanuts for many years. Although generally considered a burndown herbicide, peanuts possess a great amount of tolerance to Gramoxone applied directly to the crop. The peanut crop will show foliar burning after treatment, but full recovery will occur within 1 or 2 weeks after application.

New herbicides have been labeled in peanuts in recent years that provide high levels of weed control without causing foliar burn on the peanuts. The lack of peanut injury from these herbicides has led many producers to stop using Gramoxone all together. However, it is my opinion that Gramoxone is still an excellent herbicide that possesses many advantages.

By eliminating Gramoxone from the weed control program, Cadre applications are made much earlier in the growing season. Although Cadre possesses a great amount of soil residual activity, we commonly see weed escapes by the end of the season. This is why I believe Gramoxone still fits into a weed control program. By using Gramoxone within 28 days after peanut emergence, you often control all weeds present. This allows the Cadre to be applied 6 to 8 weeks after planting, rather then 3 to 4 weeks after planting if Gramoxone is not used. Delaying the Cadre application will allow more residual control later in the growing season and may prevent some late season weed escapes.

Another advantage of Gramoxone is the cost of application. Gramoxone applied at 5 oz/A will cost approximately $1.35 per acre. This is extremely cost effective for the amount of weed control provided. Some have routinely added Basagran when applying Gramoxone to lessen peanut injury. However, Basagran will reduce the level weed control on many species while dramatically increasing herbicide cost. Research has shown that the reduced peanut injury obtained from the addition of Basagran will not improve peanut yield. This means that in the long-run, there is rarely an advantage to using Basagran with Gramoxone.

Gramoxone can be a useful herbicide for early season weed control. The amount of weed control obtained and the low cost of Gramoxone make it one of the most cost effective herbicides on currently on the market.

JAF

Tobacco Blue Mold

This disease of tobacco has not been reported so far in 2005, but growers should inspect their crop frequently for infections. Cool, wet weather favors the development of this disease which can spread rapidly and cause considerable loss when conditions are favorable. Early detection allows warnings to be issued so that growers can apply preventive fungicides as needed.

EBW

Tobacco Buyout Program Deadline

Tobacco quota owners and producers that are eligible to participate in the Tobacco Transition Payment Program (TTPP), also known as the tobacco buyout, should sign contracts by June 17 at their Farm Service Agency office if they are to receive the 2005 payments. Information is available at the FSA offices or the web site www.fsa.gov/tobacco . Other web sites that contain useful information about the buyout include www.tobaccobuyoutinfo.com/ and www.tobaccobuyout.cals.ncsu.edu .

EBW

Spiny Amaranth Biology

A member of the pigweed or *Amaranthus* family, spiny amaranth can be found throughout Florida. Identification of individual pigweed species is quite difficult, especially when plants are in the seedling stage. Spiny amaranth, however, is quite easy to identify. This plant has spines around each branch and inflorescence. Grab this plant, and you will know that it is spiny amaranth, the only weedy pigweed species to have spines throughout the plant.

Pigweed species are characterized by ovate-lanceolate to lanceolate (wide at the base of the leaf and tapers to a point) leaf shapes with or without hair on the leaves. Stems can be smooth or hairy, and depends upon the species. Spiny amaranth most often lacks hairs on the leaves and stems. Like most pigweed species, spiny amaranth is monoecious, having both female and male flowers on the same plant. In most cases, male flowers are at the top, and female flowers are located at the base of the leaves near the stem.

Pigweed species are capable of producing hundreds of thousands of seeds per plant. Research in the Midwest revealed that a single spiny amaranth is capable of producing approximately 114,000 seeds. This is substantially lower than other pigweed species like smooth pigweed, which is capable of producing upwards of 300,000 seeds per plant. Even though spiny amaranth appears to be on the lower end of seed production compared to other pigweed species, it is a prolific seed producer when left uncontrolled. On average, spiny amaranth produces 157 seeds per gram of dry plant matter.

Germination of pigweed species generally occurs under conditions of high temperature, soil moisture, and light quality. You will likely see spiny amaranth germination and establishment occur in disturbed areas where light reaches the soil surface. In fact, germination of pigweed species is dramatically reduced when light is intercepted by a particular crop. For example, 100% shade reduced common waterhemp germination by 82%. Although some seedlings do emerge under such conditions, many more seeds would germinate without shading the soil surface.

Control of spiny amaranth can be a sticky situation. As pigweeds get larger, control becomes more difficult. Therefore, more herbicide may be required for adequate control. Herbicides that have activity on spiny amaranth include Weedmaster, Pasturegard, Outlaw, Cimarron, Cimmaron Max, and Banvel. Be sure to read the label for specific rates and adjuvant selection. It is best to apply these herbicides when plants are small and actively growing. Except when applied after flowering, any of these herbicides should reduce the number of seeds produced by the plant.

BAS

Pesticide Provisions of the Florida Agricultural Worker Safety Act

The purpose of this guide is to provide a summary of the pesticide provisions of the recently enacted Florida Agricultural Worker Safety Act (FAWSA) and the definitions that are used in its language.

The pesticide provisions of FAWSA, which became effective on July 1, 2004, are designed to ensure that information is made available to farm workers about specific hazards associated with the use of agricultural pesticides. The law was implemented and will be enforced by the Florida Department of Agriculture and Consumer Services (FDACS), also known as “the Department.”
The provisions of FAWSA that concern pesticides and modify Chapter 487, F.S., are as follows:

- Pesticide dealers, distributors, manufacturers, and importers selling agricultural pesticides must provide a Material Safety Data Sheet (MSDS)

in printed or written format to the purchaser upon initial purchase of each agricultural product and upon first purchase after an MSDS has been updated. Providing purchasers with a CD, floppy disk, website address, or email that contains an MSDS does not meet the legal requirement for a printed or written format. Subsequent purchases of the same product from the same dealer do not require an MSDS to be provided to the purchaser unless the MSDS has been updated.

- Agricultural employers must make available to farm workers upon request either an MSDS or fact sheet approved by the state or federal government in written format which provides information about the impacts of the use of the agricultural pesticide. The required pesticide safety information must be made available to any worker who:

  enters an agricultural area where an agricultural pesticide has been applied or a restricted entry interval (REI) has been in effect within the past 30 days, or

  may be exposed to an agricultural pesticide during normal conditions of use or in a foreseeable emergency.

The language in the FAWSA regarding the time period of the REI is not clear; therefore, the language in the federal Worker Protection Standard (WPS) for Agricultural Workers ("within the last 30 days") has been adopted. The MSDS or fact sheet must be made available to the worker within 2 working days of request by a worker or designated representative. In the case of a pesticide-related medical emergency, the MSDS or fact sheet must be provided in written format promptly upon request by a worker, a designated representative, or medical personnel treating a worker. If no MSDS was provided at the time an agricultural product was purchased, or if for any reason the agricultural employer does not have the appropriate fact sheet, the agricultural employer must take timely steps to obtain an MSDS or fact sheet. Most agricultural pesticide MSDS's are available from the website http://www.cdms.net. Other possible sources are pesticide manufacturers, FDACS's Pesticide Registration Section (850-487-2130), EPA, and pesticide distributors and dealers.

- FDACS must make available to trainers a one page general agricultural safety sheet. The safety sheet must be in a language understood by the worker and must include illustrated instructions on preventing pesticide exposure and toll free telephone numbers to the Florida Poison Control Centers. The safety sheet is available from FDACS in English, Spanish and Creole/Haitian and is provided to trainers upon request to distribute to workers during training pursuant to the WPS.

- FAWSA prohibits the agricultural employer from taking any retaliatory action against employees who attempt to exercise their rights under this bill. Agricultural workers who have been subject to retaliatory action may file a complaint with FDACS. In any action brought forth that involves retaliatory action, if the

retaliatory action is predicated on the disclosure by a worker of an illegal action, policy, or practice, the worker may not be required to show that the disclosure was under oath or in writing or that the worker notified the employer in writing of the illegal action, policy, or practice. FDACS is required to monitor all complaints of retaliation received and report its findings to the Legislature on or before October 1, 2008. The report will include descriptions and summaries of the circumstances surrounding the complaints and subsequent actions taken.

FMF

Rotation, Rotation, Rotation

Good rotations are one of the keys to high yields, low pest pressure, reduced risks, and farm profitability. Rotations usually become limited due to high prices for a commodity or ease of growing crops such as with Roundup Ready technology. We have learned over the years that crop yields for legume crops like soybean and peanut decline rapidly if planted for more than one year without rotation. Cotton and corn yields decline also without proper rotation but maybe a slower pace than for the legumes. Good rotations have always been a key to good production practices and will reduce pests (diseases, insects, and nematodes) if proper crops are used in the right sequence as well as legumes supplying nitrogen for grass crops.

DLW

Intentions to Plant Report

The USDA's National Agricultural Statistics Service released the 2005 report of prospective planting of agronomic crops http://usda.mannilib.cornell.edu/reports/nassr/field/pcp-bbp/:

	Florida		United States	
Crop	2005 acres (x1000)	2005/2004	2005 acres (x1000)	2005/2004
Corn	65	93	81,413	101
Wheat, all	20	111	58,592	98
Hay, all	265	102	62,940	102
Soybeans	11	58	73,910	98
Peanuts	155	107	1,597	112
Cotton, all	85	96	13,815	101
Tobacco, flue-cured	2.8	70	189.3	83

EBW

Prepared by: J. M. Bennett, Chairman; J.A. Ferrell, Extension Agronomist (jaferrell@ifas.ufl.edu), F.M. Fishel, Pesticide Coordinator (weeddr@ifas.ufl.edu), B.A. Sellers, Extension Agronomist (sellersb@ifas.ufl.edu), E. B. Whitty, Extension Agronomist (ebw@ifas.ufl.edu), D. L. Wright, Extension Agronomist (dlw@ifas.ufl.edu).