AGRONOMY NOTES

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Corn Planting Dates

Early planted corn has a better chance of avoiding fall armyworm and damaging disease epidemics during its growth period. Planting in early March often results in high yield and quality. Corn is tolerant to frost since the growing point remains under the soil surface until corn reaches about 12" in height. The vegetative stage of growth can be slow from early planting, but still fares better in most years than corn planted in late March or April.

David Wright

Time for Spring Fertilization Approaching -- Are You Familiar with the New IFAS Fertilization Recommendations?

Pasture fertilization is one of the most expensive costs in beef cattle production. With the escalating fertilizer costs and concerns of over-fertilization on water quality, there has been a need to re-evaluate fertilizer recommendations for pasture grasses. The most recent revision of IFAS document on fertilizer recommendations for agronomic crops in Florida was published in March 2002. It is available on EDIS Website at http://edis.ifas.ufl.edu. Producers are encouraged to familiarize themselves with the most recent changes in order to reduce cost of fertilization.

The relevant portions of the Fact Sheet SL-129 that deal with bahiagrass pasture fertilization for central and south Florida fall under Crop Code 30 and Footnote 131. Central and south Florida as used here refers to that part of the state south of Orlando. Producers should become aware that although soil testing for P and K fertilization is generally not recommended, soil testing for maintaining optimum soil pH of 5.0 is still essential. Phosphorus and potassium can be eliminated since a substantial percentage of nutrients are actually recycled through manure back to the plant. Additionally, most perennial grasses have deep roots which can reach the hard pan of soil which is naturally high in nutrients available to plants.

Liming and nitrogen (N) fertilization remain the only two important considerations that influence bahiagrass yield and cattle production in the region. The target pH for bahiagrass pasture should be 5.0 and nitrogen around 50 lb per A should be applied between mid-February and March. Since N fertilization does not require soil testing, the only sample you may need to send to the UF/IFAS Extension Testing Laboratory will be for liming recommendation. This can be done at 3-4 year intervals.

A note of caution -- new plantings of bahiagrass should be fertilized differently from established pastures because their root systems are not fully developed to take advantage of residual P and K in the soil hardpan and there is no manure to recycle during establishment. For new plantings, obtain a complete soil test recommendation for liming, P and K. Then apply 30 lb N per A, all the recommended P and 50% of the K as soon as seedlings emerge. Apply 70 lb N per A and the remaining K 30 to 50 days later. Please also note that when making hay, 80 lb of N per A and soil test recommendations P and K must be applied in early spring. Apply additional 80 lb N per A and 40 lb of K_2O/A after each cut except for last harvest in the fall. Include 20 lb A of P_2O_5 in the supplemental fertilizer if the soil tested low or medium in P.

Although studies conducted to date in south Florida show no economic advantage from the addition of P and K or micronutrients to bahiagrass pastures, there is still the question as to how long bahiagrass can go without them. The UF/IFAS is currently considering recommending that it may be necessary to apply small levels (25 lb/A) of P_2O_5 and K_2O per acre periodically as an insurance policy against deficiencies until such a time that we have enough data to be more specific on time intervals.

In summary, soil testing is required at 3-4 year intervals for the purpose of determining only liming requirement for grazed bahiagrass pastures in central-south Florida. A complete soil testing for liming, P and K is required if pasture is to be re-established or used for hay production. In our next issue of Agronomy Notes we will consider fertilization recommendations for stargrass and limpograss.

Martin Adjei

Calcium Needs for Peanut

Peanut responds very little to direct fertilization of most nutrients. However, calcium (Ca) is needed in high levels by peanut for developing a viable seed, but not necessary to grow a healthy plant. The amount of Ca taken up by the plant is dependent on the concentration in soil solution and on the amount of water moving into the plant. The critical period for Ca absorption begins about 20 days after pegs start entering into the soil and may extend for an additional 60 days. However, some researchers have reported that 69% of total Ca uptake occurred between 20 and 30 days after pegging. It is then necessary that proper amounts of Ca are supplied for the first 30 days after pegging begins.

The problem occurs when limited soil moisture coincides with the high Ca need period and there is no moisture for Ca uptake. Sandy soils in the peanut region have low moisture retention capacity which leads to moisture-induced Ca deficiency. Much of the irrigation installed in the SE was due to peanut in rotation. High levels of potassium (K) and magnesium (Mg) in the soil can result in reduced Ca uptake. Peanuts are often not fertilized and “high cal” lime is used instead of dolomite which is higher in Mg to avoid these problems. Soil test levels of about 450 lbs/A of Ca result in maximum yields of runner type peanuts while levels almost double this are necessary for maximum yield of Virginia type peanut. The larger peanuts have a smaller surface to weight ratio and requires a higher concentration of soil solution Ca in order to provide adequate Ca to the pod.

David Wright

Early Burndown for Cotton

Although planting season is still several weeks away, it is time to start planning the spring burndown program. Wild radish and cutleaf eveningprimrose are two species that commonly escape control from glyphosate applications. If not controlled, these weeds will compete with the crop well into the summer and result in greater than expected yield loss.

Since these weeds are not controlled by glyphosate alone, other herbicides should be added to the weed management program. The most effective way to control these weeds is to spray 2,4-D (16 or 24 fl oz/A) or Banvel (8 fl oz/A) in early March, then follow up with a glyphosate or Gramoxone application near planting. This will allow plenty of time for these herbicides to

dissipate from the soil before cotton is planted. However, these herbicides can be tank-mixed with glyphosate or Gramoxone. Table 1 details the effectiveness of different herbicide combinations on control of radish and primrose. These data show that both weed species are highly sensitive to 2,4-D and Banvel, regardless if they are mixed with glyphosate or Gramoxone Max. The addition of Valor was less effective on both species. Regardless of which herbicide is used, planning a few weeks ahead will dramatically improve early-season weed control for only a few extra dollars per acre.

It must be noted that cotton planting should be delayed for approximately 30 days after 2,4-D application, and 21 days for Banvel. The planting restriction for Valor is 14 to 30 days, depending on herbicide rate and tillage type.

Table 1. Control of wild radish and cutleaf evening primrose with burndown applications[a].

	Wild Radish	Cutleaf eveningprimrose
Herbicide	% control at 4 WAT[b]	
Roundup Wmax 22 oz	80	60
2,4-D 16 oz + Roundup Wmax 22oz	97	97
Banvel 8 oz + Roundup Wmax 22oz	94	94
2,4-D 16 oz + Gramoxone Max 32 oz	96	97
Banvel 8 oz + Gramoxone Max 32 oz	96	83
Valor 2 oz + Roundup Wmax 22 oz	85	83
Valor 2 oz + Gramoxone Max 32 oz	76	70

[a] Adopted from: Culpepper, et. al. *Journal of Cotton Science 9:223–228 (2005)*

[b] Weeks after treatment.

Jason A. Ferrell

The Show is Coming to Town

Notice of Violation – this is a notification of the requirements of the Florida Pesticide Law and Rules, Chapter 487, Florida Statutes."

This is a statement no one wants to see in any Worker Protection Standard (WPS) related correspondence. But, without a doubt, WPS conformity problems are being documented. The Pesticide Information Office (PIO) receives questions from the regulated community relative to WPS and changes within the Standard. As a result of these changes, the documented violation problems, and the greater overall attention given to the WPS by the state legislature and

the news media, the PIO will be participating in a series of regional meetings throughout the state. The meetings will focus on the real "how to" on better compliance with WPS. All citrus, vegetable, and other related agricultural commodity producers, farm managers, crew leaders and other related groups/individuals are encouraged to attend. Each meeting is scheduled to last 2 hours. Although the WPS is not new, problems do still exist and the meetings are intended to provide each participant with the ability to assess their specific production situation to the WPS. The itinerary for each meeting includes:

- Welcome, overview, and objectives – Mike Aerts, Florida Fruit and Vegetable Association
- Recordkeeping Essentials: Chemical and Worker – Dale Dubberly, Florida Department of Agriculture and Consumer Services
- Field and Central Posting – Fred Fishel, University of Florida/IFAS
- Revisions to the WPS How-to-Comply Manual – Dale Dubberly, Florida Department of Agriculture and Consumer Services
- Worker Training – Gloria Lopez, Florida Department of Agriculture and Consumer Services

A total of 2 restricted use pesticide CEUs (aerial, ag row, ag tree, or private) are available for certified applicators, and 2 CEUs are also available for Certified Crop Advisors. The dates, locations, and times of the meetings are as follows:

- March 6, Homestead, John D. Campbell Ag Center (5:30 pm)
- March 7, Belle Glade, Everglades REC Auditorium (11:30 am)
- March 7, Palm Beach, Richard's Steakhouse (5:30 pm)
- March 8, Immokalee, Immokalee Community Park Auditorium (noon)
- March 8, Palmetto, Kendrick Auditorium in the Manatee County CES (5:30 pm)
- March 9, Bartow, Bob Crawford Ag Center in the FDACS Building (11:00 am)March 9, St. Augustine, St. Johns County CES Auditorium (5:30 pm)

All who wish to attend are asked to preregister (no cost) with the local extension office in those areas.

Fred Fishel

Soybean Rust Overwintering on Kudzu

The soybean rust pathogen attacks several legumes in North America. We recently (December, 2005) observed it for the first time in North America at the NFREC on common beans, including lima and kidney beans. Another known host is kudzu, that was once spread throughout the southeast as a plant to control erosion and feed livestock. We are presently monitoring kudzu throughout Florida and have several sites under observation that are still producing rust spores (although maybe not as many after the recent February freezes). We are looking at the sites for lesions on the kudzu as well as monitoring the air in the vicinity with spore traps to try and detect if spores are actually being released during the winter months. Spore loads in rust can be huge. Research this fall at the NFREC, conducted in cooperation with Ray Schneider at LSU, indicated that an acre of infected soybeans can produce 80,000,000,000 spores per acre per day!

Below is a picture of kudzu growing through a driveway culvert in Quincy. The infected leaves were found in front of the culvert producing viable spores on Jan. 17, 2006

So, the question is if kudzu is producing the spores during the winter months, should we be trying to control it? This brings in a lot of other questions such as personal property rights, difficulty of detection when kudzu is so wide spread, (thousands of sites) and of course, how does one spray kudzu when it is 40 ft up a tree – hanging over a 60 ft deep ravine. A lot of our Midwestern colleagues working on the problem ask why we do not just control the kudzu – something our southern friends don't ask. However, there are fungicides available that would work. The idea has some merit. If the southeast is supplying the spores for the rest of the county, why not control the spores when there are so few of them in the winter. Some have even proposed that we launch an eradication program for the entire United States.

Another perspective is that we could never adequately sample and spray all of the kudzu, so lets keep the few sites that we know about (less than 15 in Florida currently) and learn as much as we can from them – such as at what temperature does the kudzu die back sufficiently so that the spores do not survive, or under what conditions are spores actually released from kudzu in the winter. This will help us develop models to predict the spore load in future years. There are many thousands of kudzu sites in Florida that could never be found or monitored so control state wide would be nearly impossible. However, an attempt at eradication would be interesting.

David Wright and James Marois

Publications

New Publications

SS-AGR-11	Making the Transition from Conventional to Organic Farming Using Conservation Tillage in Florida
SS-AGR-13	Peanut Variety Performance in Florida 2002-2005
SS-AGR-104	Safe Use of Glyphosate-containing Products in Aquatic and Upland Natural Areas
SS-AGR-108	Single-nozzle Backpack or ATV Sprayer Calibration
SS-AGR-112	Florida Carpon Desmodium
SS-AGR-243	Herbicide Resistant Weeds
SS-AGR-244	Managing Against the Development of Herbicide Resistant Weeds: Sugarcane
SS-AGR-260	Herbicide Application Techniques for Woody Plant Control
SS-AGR-259	Sugarcane Leaf Tissue Sample Preparation for Diagnostic Analysis

Updated Publications

SS-AGR-15	Diagnosing Herbicide Injury - 2006
SS-AGR-16	Approximate Herbicide Pricing - 2006
SS-AGR-17	Brazilian Pepper-tree Control
SS-AGR-26	Pasture Weed Management
SS-AGR-36	Bahiagrass
SS-AGR-37	Peanut Stunt Virus Reported on Perennial Peanut in North Florida and Southern Georgia
SS-AGR-38	Dollar Spot (*Sclerotinia homoeocarpa*) on Bahiagrass Pastures in North Florida
SS-AGR-45	NATURAL AREA WEEDS: Chinese Tallow (*Sapium sebiferum* L.)
SS-AGR-47	Alyceclover - Summer Annual Legume
SS-AGR-51	Digitgrasses
SS-AGR-52	Cogongrass (*Imperata cylindrica* (L.) Beauv.) Biology, Ecology and Management in Florida
SS-AGR-60	Bermudagrass Production in Florida
SS-AGR-61	Aeschynomene
SS-AGR-62	Stargrass
SS-AGR-67	Floralta Limpograss (*Hemarthria altissima*)
SS-AGR-84	Fall Forage Update - 2006
SS-AGR-89	Producing Millets and Sorghums
SS-AGR-92	Grazing Management Concepts and Systems
SS-AGR-94	General Guidelines for Managing Pastures for Dairy Cows
SS-AGR-110	Weed Management in Fence Rows - 2006
SS-AGR-111	Weed Management in Rights-of-way and Non-Cropped Areas - 2006
SS-AGR-204	Pokkah Boeng Disease of Sugarcane
SS-AGR-205	Pineapple Disease of Sugarcane
SS-AGR-206	Sugarcane Red Rot Disease
SS-AGR-207	Sugarcane Rust Disease

Weeds in Florida - SP37

FW003	Rosary Pea (Precatory Bean), *Abrus precatorius* L.
FW005	Common Beggar's-tick (Hairy Beggar's-tick), *Bidens alba* (L.)
FW006	Partridge Pea, *Cassia fasciculata Michx.*
FW020	Scarlet Morningglory, *Ipomoea hederifolia* L.
FW022	Cypressvine Morningglory, *Ipomoea quamoclit* L.
FW023	Sharppod Morningglory, *Ipomoea trichocarpa* Ell.
FW024	Smallflower Morningglory, *Jacquemontia tamnifolia* (L.) Griseb.
FW027	Catclaw Mimosa (Giant Sensitive Plant), *Mimosa pigra* L.
FW028	Balsam-apple, *Momordica charantia* L.
FW029	Creeping Wood Sorrel, *Oxalis corniculata* L. Southern Yellow Wood Sorrel, *Oxalis florida* Salisb.
FW031	Cutleaf Ground-cherry, *Physalis angulata* L.
FW032	Wild Radish, *Raphanus raphanistrum* L.
FW033	Brazil Pusley, *Richardia brasiliensis* (Moq.)
FW035	Curly Dock, *Rumex crispus* L.
FW036	Heartwing Sorrel, *Rumex hastatulus* Baldwin ex Ell.

FW037 Brazilian Pepper-tree, *Schinus terebinthifolius*

FW038 Bagpod (Bladderpod), *Sesbania vesicaria* (Jacq.) Ell.

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