DATES TO REMEMBER

July 7 Perennial Peanut Field Day - Moultrie, GA
July 8 Agronomy Weed Science Field Day (Deep South Weed Tour) - Jay Research Farm
Sept. 3-4 17th Annual Georgia Peanut Tour - Macon, GA
Sept. 5 Row Crop Field Day - Jay Research Farm
Aug. 28 Peanut Field Day - Marianna

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**Pesticide Potpourri**

Nearly a decade after it was discovered, an exotoxin derived from the *Bacillus thuringiensis* bacterium is on the verge of gaining commercial approval in the U.S. for incorporation into transgenic cotton plants as another pest insect management tool. VIP cotton (for vegetative insecticidal protein) is said to offer broad spectrum, full season control of major lepidopteran pests, and potentially Spodoptera species. However, selected field testing in 2002 produced mixed results with a report of excellent control of several key insects, but inadequate impact on others. Structurally, functionally, and biochemically VIP is different from B.t. delta-endotoxins. When pest insect larvae feed on VIP cotton plants, the critical protein is ingested, causing the larvae to stop feeding and expire. Further field testing is anticipated during 2003, perhaps including head-to-head comparative trials between current B.t.-cotton and VIP cotton.

(Syngenta Crop Protection via IPMnet, 4/25/03).

**EBW**

**Gypsum for Peanuts**

If soil tests indicate a need, or if peanuts are being grown for seed purposes or are of the virginia market-type, apply gypsum by the time plants are blooming. Gypsum is a readily available source of calcium, which is needed as the pegs enter the soil to help insure good pod fill and reduce some soil-borne pod diseases. Gypsum is needed for seed peanuts to insure good germination and vigor, and large seeded peanuts usually show a response to gypsum. In addition, gypsum helps insure brighter hulls, which is important for the in-shell trade. Since little calcium taken up by the roots is moved to the pegs and pods, uptake must be by these structures. Gypsum recommendations are for 400 pounds per acre for runner peanuts and 800 pounds per acre for large-seeded peanuts, applied in an 18-inch band over the row. These rates are based on bagged, dry gypsum because of consistency in purity and moisture content. However most gypsum is applied broadcast and is derived from the manufacture of super-phosphate, or from electrical power plants where gypsum is formed as a by-product of pollution control methods. Since this gypsum is broadcast and contains varying amounts of moisture, a ton per acre is usually used for large-seeded peanuts and about half that for runner peanuts.

**EBW**

**Checking Tobacco Barns for Heat Exchanger Leaks**

All tobacco curing barns have been converted from direct combustion units to the heat exchanger system. Not allowing the combustion gases to pass through the tobacco has greatly reduced the level of tobacco-specific nitrosamines (TSNA) in the cured leaf. The nitrogen gases created by combustion reacted with the tobacco to form TSNA. However cracks or leaks may develop in the heat exchanger and again allow combustion gases to enter the curing chamber, thereby allowing TSNA to form. No reliable and inexpensive method of measuring nitrogen oxides is available, so carbon dioxide meters have become the best method of determining if there are cracks or leaks in the heat exchanger. County agents have access to such a meter and can test barns for growers. These checks should be made before tobacco is placed in the barn for curing.

**EBW**
Curing Tobacco

In 2002 several growers had curing difficulties in that a disease called barn rot developed in the curing barn. If current rainy conditions continue, barn rot may also be a problem in 2003. It is usually more of a problem on the first harvests because these leaves are thinner and more susceptible to infection. Barn rot is caused by bacteria which also cause a field disease known as hollow stalk, jelly rot, soft rot, and possibly other names. It generally enters the leaf or stalk through a wound, and often the black mid-rib of leaves that are infected with necrotic potato virus-Y have the bacterial infection. If the disease is present in the field, it can easily cause major losses in the curing barn because the humidity and temperature used to yellow tobacco are ideal for the bacterial disease to develop. The tobacco turns black, has an offensive odor, and is generally useless to the buyer. The TSNA levels are also high in this tobacco, which is called ‘oxidized’ by the graders. There are no chemicals labeled for prevention or control of bacterial soft rot, and none are expected. Even if there is little field disease, barn rot can still become a problem when the leaves are wet when placed in the barn. To avoid the problem of barn rot, do not harvest when the leaves are wet from dew or rain and do not harvest leaves that are infected in the field. If there is some moisture on the leaves, it would be advisable to remove this moisture by opening the vents and running the barn fan to blow dry air through the leaves. If it is raining or at night when the humidity is high, a very small amount of heat for a few hours would lower the humidity and be beneficial, but be careful not to dry the leaf and set the green color in the tobacco. It would also help to harvest only ripe leaves, so that the coloring stage of curing can be kept to a minimum. The disease becomes less active as the temperatures are raised for leaf drying and the humidity is lowered.

EBW

Replacement Fertilization for Tobacco

It is likely that recent heavy rains have leached nutrients from the soil in many Florida tobacco fields, particularly if the plants have not reached the topping stage. In such cases, the upper leaves may not mature properly and may be pale in color after curing, often receiving a ‘slick’ grade. On the other hand, applying excessive or unneeded nitrogen fertilizer could result in green leaves that also do not mature properly, but will be green in color and also receive a reduced grade. Guides for replacement fertilization do not normally cover tobacco that has been transplanted more than seven weeks, but experience has shown that, if needed and done in moderation, applications of replacement fertilizer can be beneficial. The source of replacement fertilizer is important in that a nitrate source of nitrogen be used, and that potash be included in the application. Nitrate of soda-potash (15-0-14) has traditionally been the most popular and effective source of replacement nitrogen and potash. Rates for late application have ranged from about 100-175 pounds of material per acre, which supplies 15-25 pounds of N per acre. Foliar sprays would not supply this level of nutrients. Replacement fertilizer should be applied as soon as possible after leaching occurs. Since conventional equipment for applying fertilizer to the side of the plants is not possible because of the size of plants, other application methods are needed. When the planting pattern allowed, some farmers have put dry fertilizer in every other row middle with a distributor that was raised above the tobacco with a specially built frame. Others
have dissolved the fertilizer in water and used sprayers to dribble the fertilizer solution between every other row. Another technique has been to use a centrifugal broadcast fertilizer spreader that can be raised high enough to distribute the dry fertilizer over several rows of tobacco. Aerial application has also been used, but now it may be difficult to locate such a service. Growers that have equipment to inject fertilizer into a low pressure pivot irrigation system may want to use this method because of ease and uniformity of application. Since the soils may be wet, growers may want to limit the amount of irrigation they use to apply the fertilizer. In tests simulating such a procedure, only 0.05 inches of irrigation was applied and there was no burn on the leaves. In these tests, granular nitrate of potash (13-0-44) was used because it has a low salt index and goes into solution rather easily.

Pesticide Registrations and Actions

Clincher® (cyhalofop-butyl) herbicide (EPA Registration number 62719-357) for selective postemergence grass weed control in rice was registered on April 4, 2003. (FDACS PREC Agenda, 5/1/03).

On April 30, EPA announced the granting of tolerances for the herbicide safener mefenpyr-diethyl (used with fenoxaprop) in wheat and barley. The tolerances are 0.05 ppm for barley/wheat grain, 0.2 ppm for barley/wheat straw, and 0.5 ppm for barley/wheat straw. (Federal Register, 4/30/03).

On April 30, EPA announced the granting of tolerances for the herbicide pyraflufen-ethyl in corn (0.01 ppm), potato (0.02 ppm), and soybean (0.01 ppm). (Federal Register, 4/30/03).

Publications

The following publications have been recently UPDATED and are available through EDIS. A PDF file for each publication is also available.

SS-AGR-07  Weed Management in Small Grains Harvested for Grain - 2003
SS-AGR-08  Weed Management in Pastures and Rangeland - 2003
SS-AGR-11  Weed Management in Transgenic, Herbicide-Resistant Soybeans
SS-AGR-12  Florida’s Organo-Auxin Herbicide Rule - 2003
SS-AGR-13  Weed Management in Transgenic, Herbicide-Resistant Cotton
SS-AGR-17  Brazilian Pepper Tree Control
SS-AGR-18  Smutgrass Control in Perennial Grass Pastures
SS-AGR-25  Tifton-9 Pensacola Bahiagrass
SS-AGR-40  Cherokee Red Clover
SS-AGR-44  Peanut Varieties for 2003
SS-AGR-45  Natural Area Weeds: Chinese Tallow (Sapium sebiferum L.)
SS-AGR-46  Liming for Production of Forage Crops in Florida
SS-AGR-48  Summer Forage Legume Guide
SS-AGR-49  Winter Forage Legume Guide
SS-AGR-54  White Clover
SS-AGR-57  Tifton 85 Bermudagrass  
SS-AGR-64  Grass Tetany in Cattle  
SS-AGR-66  Cover Crops  
SS-AGR-69  Silage Crops for Diary and Beef Cattle  
SS-AGR-86  The Story Behind the IFAS Assessment of Non-Native Plants in Florida’s Natural Areas  
SS-AGR-101  Application Equipment and Techniques  
SS-AGR-102  Calibration of Herbicide Applicators  
SS-AGR108  Using Herbicides Safely and Herbicide Toxicity  
SS-AGR-109  Adjuvants  
SS-AGR-110  Weed Management in Grazed Fence Rows and Non-Cropped Areas  
SS-AGR-112  Poison Control Centers  
SS-AGR-165  Carrotwood (Cupaniopsis anacardioides)  
CIR 1204  Help Protect Florida’s Natural Areas from Non-native Invasive Plants

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

SS-AGR-191  What is Agricultural Biotechnology?  
SS-AGR-192  Plant Biotechnology and the Environment