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**Availability of Roundup Ready Corn Varieties**

Performance of corn varieties can be found on the UGA website at www.griffin.uga.edu/swvt. There are not a lot of Roundup Ready corn hybrids for the Deep South and therefore seed orders should be placed early to ensure that you have the hybrids that you want to use. Variety information from several locations will help growers determine what hybrids to grow and how they perform under different environmental conditions.

D.L. Wright

**Nutrients in Starter Fertilizer Mixtures**

Research has shown that sulfur from ammonium sulfate or other compounds that leave the soil band slightly acidic will increase phosphorus (P) uptake in corn when applied with banded or dribbled starter fertilizer. Ammonium polyphosphate (10-34-0) mixed with nitrogen solution and sulfur (28-0-0-5 or similar materials) can increase P uptake over phosphate materials alone. Early growth is enhanced and corn matures earlier with starter fertilizers.

D.L. Wright

**Starter Fertilizer Placement on Corn**

Starter fertilizer placement is critical to good germination and early plant growth, but fertilizer applied in furrow can negatively impact germination. Our research indicates that even small amounts of in-furrow fertilizer can damage plant stands in some cases. However, these damaging effects are not always observed at all locations. Regardless, it is far safer to apply starter fertilizer in bands. If surface applied, starter fertilizer is best as a 2”X2” placement or 2” from the row for each 20lbs/A of N applied.

D.L. Wright

**Peanut Yields and Conservation Tillage Systems**

Yields of crops planted in conservation tillage systems are often different from conventional plantings. Many years of research has shown that yields under conservation tillage can be much higher, much lower or about in the same as conventional tillage. The reasons for these yield differences vary, but in general, the large amounts of plant residue left on the soil surface enhance the potential for pathogen survival and disease problems in the crop.

In conventional tillage systems, the plant residue is incorporated into the soil. This exposes the residue and over wintering pathogens to a very diverse soil microbial community. The increased contact of the plant residue with the soil microbes increases the rate of residue decomposition, which releases the pathogen into a soil and decreases their survival.

Yield variability can often be explained by 1) cover crops 2) the time the cover crops were killed, 3) the fungi associated with decomposition of the cover crops, or 4) previous crop residue. Many of the main diseases of cotton and peanut, (Pythium, Rhizoctonia, Phytophthora, and Fusarium) need carbohydrates and proteins for infections to begin. Both energy and protein can be obtained from newly killed cover crops or plant residue. Green or newly decomposing plant material is an ideal environment for pathogens and can set up perfect conditions for seedling diseases.

Seedling diseases often lower crop yields when cover crops are not killed out soon enough since nutrients are available for pathogen growth. Legumes decompose relatively quickly while grass cover crops may take several weeks longer. Cover crops decompose more quickly when incorporated and temperatures are higher. Therefore, in cooler years like the spring of 2005, decomposition of surface residue is much slower. This left more food resources for plant pathogens to infect developing crops.
Many root and stem diseases can influence plant growth all year without severe visual symptoms. This may be one reason that peanut yields were not as good for some people using conservation tillage in 2005. One way to avoid this situation is to kill out the cover crop earlier in the year so that the carbohydrates and proteins are expended before the pathogen get started. Preliminary research with bahiagrass also shows that peanut yields can be 1000-1500 lbs/A higher if bahiagrass is killed in the fall as compared to the spring prior to planting peanuts. Additional research is underway to determine how to make yield consistently higher with conservation tillage.

D.L. Wright and J.J. Marois

**Weed Control Following a Frost**

Frost is common during the winter months in north Florida, but it tends to be a little less frequent and not as damaging to plants in south Florida. This year has been an exception. During January, at least one heavy frost occurred at the Range Cattle REC in January. A lot of annual plants did not survive the frost event, and leaf tissue on many perennial plants was damaged, while others (mainly biennials) were unaffected.

The effect of frost on a plant can be detrimental to weed control. In general, herbicides work poorly on plants that have recently been damaged by frost. This is especially true for systemic herbicides such as glyphosate, 2,4-D, aminopyralid, triclopyr, and others. It is best to wait a few days until new growth appears before applying the herbicide.

Plants that are unaffected by cold temperatures and frost can be treated at almost any time, but temperature at and after herbicide application is most important. For example, musk thistle, a biennial species present in north Florida, control was greater than 90% when 2,4-D was applied when air temperature was above 50° F. However, if air temperature was less than 50° F, musk thistle control can drop as low as 50%.

In summary, it is best to scout the field/pasture before herbicide application after a frost event. If plants show damage, it is best to wait a few days for new growth to appear before applying herbicides. For species not damaged by frost, delaying herbicide application until air temperatures are above 50° F can dramatically improve weed control.

B.A. Sellers

**Weed Control in White Clover**

Clover can provide great benefits in a winter grazing system. Research has shown that cattle grazed on clover/grass mixtures perform better than those on grass alone. However, managing weeds in mixed stands of clover can be very difficult, if not impossible.

In white clover, 1 pt of 2,4-D amine can be applied during the winter. This application will cause stunting and reduce clover stand density, but the clover will tolerate to this application quite well. The drawback to this application is that 1 pt of 2,4-D amine applied in the winter will generally not control all the weeds present. Acceptable control of evening primrose will be observed, but many species (such as red sorrel and henbit) will not be controlled.

Considering the sensitivity of clover to most available pasture herbicides, controlling weeds while preserving the grazing stand is almost impossible. This situation leaves basically two options: 1) do nothing about the weeds, or 2) kill the weeds and the clover. If weed density is not excessive, the best option is to do nothing. Animals will selectively graze some weeds and since there are no highly effective herbicides, non-treatment can be a good decision. However, if weed populations are sufficiently high to decrease grazing and impede green-up of the summer forage, then weed control becomes much more important. In this situation,
maintaining the clover stand is not likely possible and reseeding should be planned.

Clover grows best when winter rainfall is plentiful and a dry winter will lead to less available clover. If the winter has been dry and little clover is present anyway, this may be the best time to consider controlling all your weeds and starting over. The bahiagrass will green-up faster this spring and there should be fewer weeds next winter to interfere with clover growth.

J.A. Ferrell

Worker Protection Standard Amendments Released in New Publication

The Worker Protection Standard (WPS) became Federal regulation in 1992 and fully implemented in 1995. Its purpose is to reduce the risk of pesticide-related illness and injury of agricultural workers and pesticide handlers who are employed by farm, nursery, forest, and greenhouse operations. The WPS regulations were explained in the original How to Comply manual; however, since that time, several amendments were made to the WPS.

The UF/IFAS EDIS Document, A Summary of Revisions to the Worker Protection Standard, was originally published in 1998 and since modified to include these amendments. The document provides a quick review of 6 main areas that have been modified by the EPA: 1) grace period for providing worker safety training, 2) exemption of crop advisors from certain provisions of the WPS, 3) exceptions to WPS early entry prohibition for irrigation and limited contact activities, 4) reduced restricted entry intervals for some pesticides, 5) reduced time for decontamination supplies, and 6) changes in size and language for field posting signs. The document may be viewed at: http://edis.ifas.ufl.edu/PI017.

This past fall, the EPA finalized its revision of the How to Comply manual and released the publication. The full 141-page document may be viewed at http://www.epa.gov/agriculture/epa-735-b-05-002.pdf. Although a limited number of paper copies of the manual are on hand, the UF/IFAS Pesticide Information Office will provide them on a first-come-first-serve basis. Call Willene Johnson at (352) 392-4721 or email at willene@ufl.edu if you are interested.

F.M. Fishel