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Cotton and New Genetic Technology

The one billionth acre of transgenic crops was planted in 2005. This is significant in that cotton was the first major crop approved for farmer use only 10 years ago. Cotton has had the most traits put in it commercially of all of the crops due to the amount of spraying for pests and the economic benefit to growers. The “second generation” technology will be introduced in cotton in the 2006 season. These traits will include Roundup Flex cotton, which allows cotton to be sprayed over the top throughout the season and two different Bt technologies that will control a wider variety of larvae. Other technology will be available with resistance traits to two weed control chemicals. This technology will have different modes of action for each trait for better weed control strategies. The new Bt technology is thought to be less likely to develop resistance in susceptible insect. Many other technologies will become available over the next few years that will enhance its value to growers as well as to the consumer. It is possible that many of the crops may be “designer” crops that meet the needs of the people growing the crops as well as those consuming them.

David L. Wright

U.S. Cotton Textile Industry

Cotton was first tried by the Virginia colony in the early 1600's. By 1700, 20% of the English colonies in North America had clothes made from cotton produced in North Carolina. The first textile mill was built in the U.S. in the late 1780's. Cotton production expanded even more quickly when Eli Whitney the cotton gin in the early 1790's followed by use of power looms in 1815. Textile mills have been a part of the

history of the eastern U.S. ever since. However, since 1997, 350 mills have closed and moved to other parts of the world, mainly India and China, with a loss of over 194,000 jobs averaging \$12.50 per hour. These jobs have been lost to places that average \$2/hr or less in many cases. The cost for one days work for employees in the U.S. is \$19.4 mil./day vs. \$3.1 mil./day for workers overseas. Jobs go to the least cost of production areas. Although the U.S. has adapted well over the years to unemployment, it will take new technology and leadership in many areas to stay ahead of the world. Research has been a key ingredient in keeping jobs and developing new industry.

David L. Wright

Perennial Peanuts Establishment Made Faster in Central Florida

Rhizoma perennial peanut (RPP) is a warm season perennial legume that produces high forage yield with quality almost equal to that of alfalfa. It has good drought tolerance and excellent persistence under close grazing. However, the traditional method of establishment requires more than 2 years to obtain a complete cover and this has limited the widespread use of this otherwise excellent forage crop. But that is about to change. A recent study evaluated all possible combinations of three planting methods and two rhizome planting rates on the spread of four rhizoma peanut entries: Ecoturf, Florigraze and two experimentals (PI 262826 and PI 262833). After the preparation of a clean seedbed, the following planting methods were studied in 2004 and 2005 on separate sites: 1) broadcast separated rhizomes followed by light disking and then rolling; 2) broadcast separated rhizomes followed by crimping into the

seedbed and then rolling; and 3) plant separated rhizomes in 6"-furrows of 2 ft spacing followed by rolling. Rhizomes were planted either at 1,500 or 3,000 lb per acre. Ground cover of RPP was estimated monthly after the February planting. The spread of RPP was affected independently by planting method and peanut entry for the first four months in 2004 and through July of 2005. Plants that were established using crimp and roll method generally had greater percentage ground cover with leaves than the row and roll method through June. However, by July (5 months after establishment) very little differences were noticed among planting methods with all treatment combinations providing better than 90% ground cover. There was an indication that Florigraze and one of the experimental accessions established a bit faster than Ecoturf initially (through May). The higher planting rate always provided greater vegetative spread of RPP than the lower planting rate for the disk and roll and the crimp and roll but not for the row and roll methods. At 5 months after planting, all planting methods, RPP entries and planting rates provided between 90% and 100% ground cover with leaves. This study has shown that rhizome perennial peanuts can be successfully established on clean seedbed within one year in central Florida

Paul Mislevy and Martin B. Adjei

Read the Label – Know What You’re Buying

Pest problems occur in diverse settings from agricultural to commercial and residential. In Florida, pest control is a year-round consideration and many times a pesticide will be chosen as part of the management plan for the problem. If a pesticide will be

part of the management plan, understanding the contents of the pesticide label is essential for the product's safe and effective use.

At the time of this article, there are 14,501 products registered with the Florida Department of Agriculture and Consumer Services (FDACS) as pesticides sold within the state. This many products boggles the mind, and it can be confusing when searching for a certain pesticide to control a particular target pest. A point of confusion is that product brand names, in some cases, may be shared. In other words “Product X” may be an insecticide sold by one company, yet a different product is sold as the same brand name by a different manufacturer as a product to control algae in swimming pools. Upon an internet search for some products, you may find that there are actually quite a few of these situations. How does anyone know what the product really contains?

Properly interpreting the pesticide label is crucial to selecting the most appropriate pesticide products for use and therefore receiving maximum benefit from their use. The length of a pesticide label varies widely, ranging from one to many pages of very fine print, but the active ingredient will be listed on the label’s front panel beneath the product’s brand name. While the label may seem overwhelming at first, it does not require a great amount of time to understand the information once the general format is recognized. Label content for a single product changes frequently; applicators of pesticides should review labels of products they will be using on a regular basis. You should read the pesticide label: before purchasing the pesticide to ensure that it is the correct one for the job; before mixing the pesticide to ensure the proper pesticide concentration; before applying the pesticide

to ensure proper use; and, before storing of excess chemical or disposal of the empty container.

Not following the label's directions can be a costly mistake. From a lack of satisfactory pest control to causing excessive damage to treated sites to steep fines for illegal use; all are undesirable results from not reading and following the label. Each day, I receive at least several pesticide use violations reports from FDACS. The unfortunate crux of the matter is that practically all of these cases could have been avoided by simply reading and following the label.

Frederick M. Fishel

Rising Herbicide Prices

Energy prices have been on the rise over the past several months. This has caused the cost of manufacturing and product distribution to also increase. To confront these changes, the general price of all pesticides is likely to increase in the coming year. Regrettably, an agriculture distributor recently related to me that several herbicide manufacturers have already notified in writing that price increases for their product portfolio will be announced early in 2006.

With rising prices, it is more important than ever to make every decision count. It is important to remember that 100% weed control all season long is not necessary to achieve high yields. It is very important to maintain a weed-free crop for approximately 6 weeks after planting, but late season weeds rarely impact yield. So, using preemergence herbicides such as Prowl, Treflan, or Sonalan often provide a significant return on the investment (particularly in areas where Florida pusley and annual grasses are common) while late-season postemergence

herbicides may or may not be required. So rather than using a "standard" herbicide program on every acre, tailor a weed management plan to ensure that unneeded herbicides will not be used. This approach will lead to high yields and the greatest return for your weed control dollar.

Jason A. Ferrell

Florida's Response to Asian Soybean Rust

Asian Soybean Rust (ASR) was on the list of possible bio-terrorism introductions. It is believed that hurricane Ivan brought ASR to North America in 2004, but it did not spread widely in 2005 for unknown reasons. Even though soybean acreage is down in Florida, the eyes of the North American soybean industry have been on Florida due to the presence of ASR. ASR has not been found naturally on any species other than kudzu and soybeans. Many other legumes have been planted and monitored for the disease in Florida but infection has not been observed on these crops. Soybeans are still the number one alternative crop for Florida row crop growers since they are widely adapted and easily grown with the use of Roundup Ready technology. As bio-diesel plants spring up across the U.S., soybeans are a crop that may make a comeback to the southeast. Trials at Quincy from 2005 show that ASR can be controlled with the use of fungicides and there are some that are more effective than others. Many of the Midwest Universities and those in the Southeast are working in UF plots this fall since the epidemic has been higher here than at other locations. Research will continue with cooperation from many of the Midwest Universities throughout the fall, winter and in 2006.

David L. Wright and Mark Marois

Soil Organic Matter and Perennial Grasses

The amount of organic matter in the soil is mainly determined by the environment and inherent soil factors. However, there are many factors influenced by human involvement that can aid in the build up or destruction of soil organic matter (SOM). Agriculture research for many years has focused on increasing yields by use of commercial fertilizer, chemicals, tillage, and plant breeding. These are all good techniques in maintaining or increasing yield. However, this is not good enough if U.S. agriculture is to stay productive for many centuries. Rotation trials conducted many years ago, all over the U.S., have shown that tillage, with or without other techniques, has lowered SOM from 3-4% to 1-2% while actually increasing yield. However, most of these studies were done on soils that were in native range grasses for hundreds of years prior to being plowed up and planted to wheat, corn or other crops. These soils did not respond to fertilizer for the first decade or two or even longer due to the high SOM and native fertility. After WWII big equipment was available to plow

up much of the native prairie land and plant it to row crops. Most of the crop land has not been back in perennial grasses since that time resulting in a 50-100% decrease in SOM. Several research projects are now underway to look at ways to return SOM to levels of 100 years ago. Much of this research shows that it is more profitable to have diversified farming with livestock and perennial grasses as part of the system than just monocropping annual crops. Reduced tillage and cover crops have increased SOM, but it has not resulted in the increases noted with the perennial grasses nor had they had the impacts on soil quality. Research in the tri-state area of GA, FL, and AL, with a perennial grass rotation with bahiagrass/cotton/peanuts and cattle has shown that this rotation can be many times more profitable than a typical peanut/cotton rotation using conservation tillage and cover crops. SOM and other soil quality factors are being improved at the same time. This project and others like it are being watched closely by growers to see if it will fit in their operations.

David L. Wright

The use of trade names does not constitute a guarantee or warrant of products named and does not signify approval to the exclusion of similar products.

Prepared by: J.M. Bennett, Chairman; M.B. Adjei, Forage Agronomist (mbadjei@ifas.ufl.edu); J.A. Ferrell, Extension Agronomist (jaferrell@ifas.ufl.edu); F.M. Fishel, Pesticide Coordinator (weeddr@ifas.ufl.edu); C.R. Rainbolt, Extension Agronomist (crrainbolt@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).