

# AGRONOMY

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# NOTES

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## IN THIS ISSUE

### CORN

Genetic Technology for Corn .....	2
Starter Fertilizer Placement Efficiency on Corn .....	2

### FORAGE

Hay Quality - Helping With Winter Feeding Costs.....	2
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### SOYBEAN

Specialty Soybeans in the Future .....	3
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### WEED CONTROL

Non-Selective Herbicides for Dormant Pastures and Hayfield .....	3
--	---

### MISCELLANEOUS

Conservation Tillage and Carbon Credits.....	4
Do We Always Have to Follow the Pesticide Label?.....	4
New Hires in Agronomy .....	5

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## **Genetic Technology for Corn**

It is difficult for growers to know what technology will make money or save costs making the technology worth the expense. Florida growers have embraced Roundup Ready technology in corn and want the best yielding hybrids using that technology. Many of the new hybrids are available with both Roundup Ready and Bt. Growers who plant corn into green, living cover crops or winter grazing have to use soil insecticides at planting or the southern corn rootworm may reduce stand by 100% in some cases. In cases where soil insecticides are not normally used there would be an economical benefit from Bt controlling corn root worm. It is important when choosing this technology to make sure that the Bt is effective against corn rootworm since many of the Bt events that first came on the market are effective against European corn borer and not corn rootworm. Florida has not typically had problems with European corn borer but may have trouble with fall armyworm if planted late and this technology has had limited success against fall armyworm. The Bt available against corn root worm is different than the Bt that is effective against corn borer. Therefore, with any technology, make sure that you know what you are buying and what pest it is controlling. Most of the research has shown that Bt root worm hybrids protect the root system better than chemical control and, in dry years, has the advantage of protecting the entire root system.

David Wright

## **Starter Fertilizer Placement Efficiency on Corn**

Most soil test results are based on studies done with broadcast applications of fertilizer. In Florida and other states, research with phosphorus (P) fertilization on corn shows that the relative efficiency of

banded P at planting is increased from 2:1 to 3:1. Banding can save money as well as avoid P runoff into streams and lakes. Starter fertilizer placement is critical to good germination and early plant growth. Fertilizer should not be applied in furrow with the seed without some impact on germination. It is far safer to apply starter fertilizer in bands using 2" X 2" placement. When surface applied, place it 2" from the row for each 20lbs/A of N applied in the starter fertilizer.

David Wright

## **Hay Quality – Helping With Winter Feeding Costs**

It is that time of the year when most of the hay crop has been harvested and not much can be done about the maturity affecting forage quality of a stand. But as a producer, you still have control over how to avoid further quality changes and losses due to weathering, particularly in a state with such high relative humidity. Hay left on the field undergoes substantial deterioration because of direct contact with the ground and lack of protection from rain or other weathering elements (these losses can be greater than 50%, with animal refusals making up approximately 20% and dry matter losses 30%). Losses can be minimized by isolating the hay from the ground using gravel, tires or any device that would keep the hay out of direct contact with the soil (total losses in this case may be around 30-40%). The ideal situation is to store hay off the ground and under a barn. In the case of barn-stored hay, losses to weathering are completely minimized (2% losses in dry matter and 1% losses to animal refusal).

Also during this time of year, reducing on hay losses can help lower your winter feeding costs. If you don't already have one, a physical barrier, such as a feeding rack or ring, is a good investment for

feeding livestock large round bales. If feeding directly on the ground, use your lowest quality hay first so that refusals, mainly straw, will serve as the flooring or ground cover for placement of the new hay bale.

Hay feeding in the winter is an expensive practice. If hay is your last resort (and it should be) make sure you buy hay based on nutritive value. Buy it from someone who can provide you with a forage test result and buy it on a weight basis. This is the only way to guarantee you are getting your money's worth. Testing the quality of your hay will help you select the right hay and supplement that will meet your animal nutritional requirements.

Yoana Newman

### **Specialty Soybeans in the Future**

Soybean growers in the SE, and the U.S. in general, have adopted Roundup Ready technology because it helps them with weed control. Almost 80% of the U.S. soybean acreage is planted to this technology. Considering the recent ban of cooking oil high in trans fat for use in restaurants in New York, and other cities sure to follow, the next technology will probably be consumer oriented and will start a trend for the next generation of soybean technology. Trans fat is formed when soybean oil is hydrogenated to make it solid for margarine or shortening and to extend the shelf life. Linolenic acid is an unsaturated fatty acid that causes food to become stale or rancid. The average soybean variety has about 7% linolenic acid. There are low linolenic soybeans that have only 1% linolenic acid and do not require hydrogenation of the oil for long shelf life. There are four traits available at the current time with low linolenic acid. In 2006, there were about 450 million pounds of low linolenic acid oil produced out of 8 billion total pounds used in the U.S. With New York being the first

city requiring more healthy oil in restaurants, you can be sure that we will have many more soybeans grown with low linolenic acid in the future as well as other specialty oils. More can be found out about the low linolenic soybeans at [www.notrans.iastate.edu](http://www.notrans.iastate.edu).

David Wright

### **Non-Selective Herbicides for Dormant Pastures and Hayfields**

Winter is not a common time to think about controlling weeds in pastures and hayfields but, especially during mild winters, the presence of winter weeds will compete with the forage grass as it transitions from dormancy. This competition will slow greenup of the forage and cause delays in early season grazing or first cutting yield. However, there are ways to control these winter weeds, rather inexpensively, while improving first cutting quality and allowing grazing earlier in the season.

In North Florida where bermudagrass and bahiagrass go fully dormant, an application of Roundup Weathermax (glyphosate) at 8 to 11 fl. oz/A will effectively control many weedy grasses and broadleaf weeds. In a pasture setting, these weedy grasses may be beneficial for early-season grazing, but in hay fields these grasses will greatly decrease the value of the hay and increase drying time of the first cutting. It is important that glyphosate be applied when the desirable forage grasses are fully dormant. Applications made before or after dormancy can cause injury and delay spring greenup.

Gramoxone Inteon is an ideal product in Central or South Florida where bahiagrass or bermudagrass do not go fully dormant. It is also an ideal product in North Florida if the pasture has begun to transition from dormancy prior to the application. Gramoxone Inteon is often not as effective as glyphosate on weedy grasses, but it

possesses greater flexibility because it can be applied to pasture grasses that have transitioned from dormancy and grown to a height of 3 inches. This application is possible because Gramoxone Inteon does not translocate to the root system. Treated leaves will indeed be killed by the herbicide, but the root system remains healthy and growth will quickly resume. Gramoxone Inteon should be applied at 1.5 to 1.8 pt/A with the addition of a spray adjuvant.

Using either Roundup Weathermax or Gramoxone Inteon, as described here, have no restrictions for grazing or harvest. However, it must be noted that Gramoxone Inteon is a Restricted Use Herbicide and requires the possession of a proper herbicide license for purchase or application of the product.

Jason Ferrell

### **Conservation Tillage and Carbon Credits**

The new farm bill is expected to include new incentives for farmers to sequester carbon and reduce greenhouse emissions. One principal way to sequester carbon is through plant biomass. Converting from conventional tillage to conservation tillage planting can increase soil organic carbon by 430 lbs/A per year. Adding a cover crop can sequester 300 more lbs/A per year. Adding a perennial grass in a 2-year rotation can add another 200 lbs/A per year. The sod based rotation currently being researched can help mitigate the greenhouse gas emission problem and increase soil organic matter as a way to increase water and nutrient holding capacity. Conservation tillage in the U.S. has leveled out at near 40% and would increase to near 95% if farmers were to receive an incentive of up to \$40 per acre if converting to conservation farming practices. It has also been estimated that for each ton of carbon emitted \$20 of damage is done to crops, health, etc. There will be a concerted effort to improve and make people

aware of the impacts that their jobs, cars, heating, lighting, etc. have on greenhouse emissions and how everyone can help. Farmers will be in the center of the progress toward a cleaner environment.

David Wright

### **Do We Always Have to Follow the Pesticide Label?**

I can't recall anyone making that statement directly to me, although I'm sure some may often have that thought. Those in the Pesticide Information Office (PIO), including myself, at times may practically murmur the following words in our sleep: "It is a violation of Federal law to use this product in a manner inconsistent with its labeling." In various terms, that is the message we constantly deliver to our clientele. But is that always the case?

Pesticide labels are recognized in a court of law; but, there are some uses of the term where there are exceptions that are not illegal uses. First, applying a pesticide using a dosage, concentration, or frequency less than the one specified on the labeling unless the labeling specifically prohibits deviation from those application factors. A second use is to apply a pesticide to a pest not specified on the labeling. The key issue in this case is that the site, crop, or animal is approved and listed on the labeling. If it has been determined that the product must only be used for the pests specifically contained on the labeling, then there will be wording to that effect in the labeling. Or, if it has been determined that the use of a product against other pests would cause unreasonable adverse effects on the environment, then the labeling would contain 'prohibitive' terminology. Application method can be another non-labeling use. In this case, a product may be applied using any method unless the labeling specifically calls for use of that specified method. Another area that is permitted in many situations is to mix a

pesticide with a fertilizer prior to application, as long as the mixture is not prohibited by the labeling.

Those are four areas of handling a pesticide that, at times, have been questioned for clarification from the PIO. Some pest managers have prior experience with handling a certain product and may feel comfortable using the product in any of those manners. But, anyone who does so should keep in mind that the pesticide manufacturer will not come to the rescue in the event of a pest control failure or any other undesirable outcome. The standard words will never go out of style – read and follow all pesticide labels.

Fred Fishel

### **New Hires in Agronomy**

We are very pleased to announce that two new faculty members have recently joined the Agronomy Department:

JOAO VENDRAMINI was appointed to the position of Assistant Professor – Forage specialist. He is stationed at the ONA Research and Education Center in Ona, Florida, with extension (35%) and research (65%) responsibilities. His research program will mainly focus on different aspects of the plant-animal interface. Dr. Vendramini received his M.S. in Animal

Science from the University of Sao Paulo, Brazil and Ph.D. in Agronomy from University of Florida. After completing the Ph.D., Dr. Vendramini joined Texas A&M University where he served as an assistant professor and forage specialist for the East region of Texas. Joao (Joe) will focus primary efforts in south central Florida. Dr. Vendramini joined the University of Florida in August, 2006.

YOANA C. NEWMAN was recently appointed to the position of Assistant Professor - Forage Specialist. She will be stationed in Gainesville with extension (70%) and research (30%) responsibilities in forage management and production. Dr. Newman received her M.S. and Ph.D. degrees in Agronomy from University of Florida. After completing the Ph.D., Dr. Newman worked as a research associate for UF/IFAS investigating different aspects of forage science and afterwards went to Texas A&M University as an assistant professor and extension forage specialist for the North-Central region of Texas. Yoana will focus primary efforts in north and central Florida but will also serve statewide extension coordination for forages.

We are certainly pleased to welcome Joao (Joe) and Yoana (Joanna) to our Department.

Jerry Bennett

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