



Agronomy Notes

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Seed Supply For 2010

Due to the rain during harvest across much of the south both cotton and soybean seed may be in tight supply for 2010. Check variety trial information and order seed as soon as possible for the coming year. Check websites in Georgia and Alabama for variety test information nearest your location at www.swvt.uga.edu and www.ag.auburn.edu/agrn/alabamavarietytesting/.

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Forage Seed Quality And The Seed Tag

Several factors affect the quality of the seed to produce a vigorous pasture or forage crop stand. It is not possible to know the quality of the seed just by looking at it. The seed tag provides the necessary information about the quality of the seed and it should be read and understood before purchasing the seed.

Some terms included in the seed tag are:

Germination – also described as ‘Germ’: This is the percentage of seed that is capable of producing plants when landing or placed on the adequate environment.

Pure Seed: This is the percentage of seed that belongs to the specie and variety described on the label.

Weed Seed: Percentage of seed that is of weed species.

Inner Matter: Percentage of material that is inert or that has no ability to react such as (stick, stems, broken seed, sand or other material that are mixed with the seed and used as carriers of seed.



Hard Seed: Percentage of seed that is viable but will not germinate right away because of a hard seed coat or a waxy coat. This character is present in many legumes and some grasses. It requires a special process to break the hard or waxy coat called scarification.

Seed should not be carried from one year to the next as this practice will negatively affect germination and seed vigor. Ideally is to plant seed produced from recent crop. However, sometimes there are situations that force producers to use seed that has been stored the previous year. If left with seed from previous year, one should expect a plunge in germination, therefore the seed should be tested for germination before use.

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Seed Per Bushel Or Seed Per Pound

Seed is bought and sold on a weight basis more than by volume. A bushel is commonly used as a measure for seed, but in fact the term 'bushel' refers to the number of pounds (using a particular crop) necessary to fill the volume of a 'bushel,' which is 32 quarts.

Forage	Lb per bushel	Seeds/lb	Forage	Lb per bushel	Seeds/lb
Alfalfa	60	227,000	Oats	32	16,000
Ryegrass (annual)	24	224,000	Pearl millet	48	82,000
Bahiagrass	46	273,000	Red clover	60	272,000
Bermudagrass (hulled)	40	2,000,000	Rye	56	18,000
Berseem clover	60	200,000	Sorghum sudan	48	35,000
Crabgrass	25	825,000	Triticale	48	15,000
Crimson clover	60	150,000	White clover	60	250,000

Seed varies in size, shape, and weight depending on the forage crop. As a result, the number of seed per pound varies, and so does the weight per bushel. To use in calculation of seeding rates, the table provides the weight per bushel and the number of seed per pound of selected forage crops for Florida.

Dr. Yoana Newman

Planting Peanuts Into Killed Bahiagrass



Strip tillage of peanuts into a grazed bahia pasture killed in the fall after cattle were removed.

Photos: D. Wright

Yellow bahiagrass from killing before frost in late October. Mowing before killing will reduce the effectiveness of kill. Spray first and then mow if a short stubble is



Many peanut producers like to plant after bahiagrass to take advantage of the higher yields as a result of lower pest pressure and other related factors. Many growers currently use strip tillage to plant into old crop residue and are not sure about planting directly into a bahiagrass sod. However, it can be done successfully. It is advisable to kill out the bahiagrass in the fall prior to the first frost. Herbicide application should be done at least a couple of weeks after grazing or haying to let the grass regrow to obtain enough leaf area for a good kill. The picture below shows bahiagrass that had an herbicide application two weeks before and the kill looks like effective. If the grass had been only 2-3 inches tall expect less control the next spring. The other picture shows planting into killed bahiagrass in late April with little soil disturbance.

Dr. David Wright & Dr. James Marois
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Soybean Rust Management



Photo: Cultivar on left showing ASR symptom (yellow leaves) while the variety on the right shows tolerance or resistance.
Photo: D. Wright.

Soybean rust had the most impact to yield and number of treated acres this year of any year since being discovered in the U.S. in the late fall of 2004. We now have a good handle on how to control Asian soybean rust (ASR) with fungicides and know that it has had a major impact on some acreage of soybeans across the south. The ultimate goal is to have varietal resistance to the disease. However, there is no commercial varietal resistance but lines being tested at the NFREC in Quincy through the breeding program of Dr. David Walker (USDA University of Illinois) that show good promise as shown from the slide below. ASR had a major impact in Mississippi and other states that rainfall patterns and temperatures favored disease development.

We do expect more overwintering since it appears to be infecting more kudzu patches each year and it may be worse in the future if weather conditions are right earlier in the year with increased inoculum from kudzu. If soybean prices continue to remain higher than traditional prices, we are sure to see more soybeans being produced and growers will have to be more diligent to scout in July, August and into September. Most soybeans require an application of insecticide in late August or early September for velvetbean caterpillar and corn earworm and could have a fungicide applied at the same time if needed. In the meantime breeding for resistance to ASR will continue with varieties being developed for the mid west first.

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Metsulfuron For Bahiagrass Control In Bermudagrass

Bahiagrass intrusion into bermudagrass hayfields is not simply common, but almost certain to occur with time. Control of bahiagrass is also quite difficult, but metsulfuron is generally considered the product of choice and can be reasonably effective. For many years this herbicide was sold under the trade name Ally, then the name was changed to Cimarron – both of which were dry formulations containing 60% metsulfuron. The application rate for these herbicides was 0.3 oz/A, which translated to 0.18 oz of active ingredient (metsulfuron) per acre.

In recent years, DuPont has stopped manufacturing Cimarron and has replaced it with Cimarron Plus and Cimarron Xtra. Cimarron Plus contains 48% metsulfuron and 15% chlorsulfuron while Cimarron Xtra contains 30% metsulfuron and 37.5% chlorsulfuron. Chlorsulfuron has no activity on bahiagrass. Therefore, anyone that purchases Cimarron Plus or Xtra and applies it at the “Cimarron rate” of 0.3 oz/A, will be applying metsulfuron at a rate between 0.14 and 0.09 oz of active ingredient per acre. Since the minimum rate of metsulfuron for bahiagrass control is 0.18 oz active ingredient, this reduced rate will result in poor bahiagrass control.

To combat this, Cimarron Plus and Xtra must be applied at elevated rates to ensure that a sufficient amount of metsulfuron is present to control bahiagrass. Another option would be to choose a post-patent metsulfuron product. There are now multiple metsulfuron herbicides on the market that contain 60% active ingredient, just like the former Cimarron or Ally. These products can be purchased under the names: MSM 60, Martin’s Clean Pasture, MetGard, Metsulfuron 60, Purestand, Valuron, and others. All these herbicides are the same formulation and can be used exactly like Ally or Cimarron of old.

It is also likely that these products will be available at reduced cost relative to the Cimarron family of herbicides.

If a metsulfuron containing herbicide is necessary for a bermudagrass hayfield, there are many options to choose from. Just remember, the Cimarron products require a higher application rate than has been traditionally applied for bahiagrass control.

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Dec. 4	UF Everglades REC, Belle Glade Seminar “ <i>Modeling the Sugar Cane Crop</i> ” at 10:45am
Feb. 4-15	Florida State Fair , Tampa
Feb. 24-26, 2010	UF Water Institute Symposium , Gainesville
May 3-6	Aquatic Weed Control Short Course , Coral Springs
May 5-7	Florida Beef Cattle Short Course , UF Gainesville, Hilton UF
July 12-16	Greater Everglades Ecosystem Restoration Meeting , Naples

Apply Metsulfuron At The Correct Time For Bahiagrass Control

Bahiagrass control is challenging even in the most optimum conditions. In general, it will likely require yearly applications of metsulfuron to keep bahiagrass from taking over bermudagrass pastures, especially if bahiagrass already has a strong foothold in the pasture.

If you were to read the label of one of the metsulfuron products for bahiagrass control in established bermudagrass pastures, you would find something like this:

“Apply at 0.3 oz/acre plus surfactant. Apply after greenup in the spring but before bahiagrass seedhead formation. Applications should be made when moisture is sufficient to enhance grass growth. Under heavy bahiagrass pressure, grazing pressure, or adverse weather conditions (heat and drought), bahiagrass regrowth may occur.”

The question many have regarding these statements is: When is full greenup in Florida? This is a million dollar question, especially during April and May when temperatures and day length are, to say the least, increasing. In most climates, this would result in good bahiagrass greenup and growth. However, much of Florida is under drought conditions during this time, which delays greenup and sufficient growth.

Although we do get some “greening” during April and May, bahiagrass doesn’t typically really take off until June when rainfall is more likely. This is quickly followed by seedhead formation in July, making for a very short window for metsulfuron application. However, it is during this time (June) when bahiagrass control would be best with metsulfuron products.

One application of metsulfuron will not completely eradicate bahiagrass from bermudagrass pastures. Most likely, annual applications of metsulfuron will be needed, especially if it is applied at times when growth of bahiagrass is not sufficient, seedheads are being formed, or when bahiagrass is under drought stress.

Soil Fumigant Label Changes On The Immediate Horizon

Soil fumigants are pesticides that when injected or incorporated into soil, form a gas that permeates the soil and kills a wide array of soil-borne pests. In the [July issue of Agronomy Notes](#), a brief article introduced EPA's plan for strengthening safety measures for soil fumigant use. Registrants of soil fumigants are currently working with EPA and FDACS to revise their products' labels. The revised labeling will take effect during 2010. Handlers of these products will see significant changes to current label wording. The amendments have the goal to reduce fumigant exposures to bystanders, including



people who live, work, attend school, or spend time near agricultural fields that are fumigated and increase overall safety of fumigant use by requiring greater planning and compliance.

One particular new aspect that should be of note to growers who use soil fumigants in their production of agricultural commodities: "the site-specific fumigation management plan (FMP)." Prior to the start of fumigation, the certified applicator supervising the application must verify that a site-specific FMP exists for each application block (i.e., a greenhouse or field or portion of a field treated with a fumigant in any 24-hour period). The FMP must be prepared by the certified applicator, the site owner/operator, registrant, or other party.

The FMP is only one of several aspects of the new labeling that will be quite onerous for the supervisor to generate. This is by no means the full details of a site-specific FMP; those details will be spelled out on each product label, but the general elements of the FMP:

- ⇒ Applicator information
- ⇒ General site information
- ⇒ General application information
- ⇒ Tarp information and procedures for repair, perforation, and removal
- ⇒ Soil conditions
- ⇒ Weather conditions
- ⇒ Respirators and other personal protective equipment for handlers
- ⇒ Emergency procedures
- ⇒ Fumigant treated area posting procedures
- ⇒ Plan describing how communication will take place between the applicator, land owner/operator, and other on-site handlers
- ⇒ Authorized on-site personnel
- ⇒ Air monitoring plan
- ⇒ Description of Good Agricultural Practices (GAPs) – labels will specify the full details of what are considered to be GAPs for inclusion into the FMP
- ⇒ Description of hazard communication

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But.....that's not all. In addition, a post-application summary must be made and contain:



- ⇒ Date of application, application rate, and size of application block
- ⇒ Summary of weather conditions on the day of the application and during the 48-hour period following the application
- ⇒ Soil temperature measurement
- ⇒ Tarp damage and repair information (if applicable)
- ⇒ Tarp perforation/removal details (if applicable)
- ⇒ Complaint details (if applicable)
- ⇒ Description of incidents, equipment failure, or other emergency and emergency procedures followed (if applicable)
- ⇒ Details of elevated air concentrations monitored on-site (if applicable)
- ⇒ Date of Fumigant Treated Area sign removal
- ⇒ Any deviations from the FMP
- ⇒ Record-keeping procedures

Remember, the FMP is but only a single aspect and is not the only amendment to labels of soil fumigants for 2010. These changes heighten the level of importance that pesticide labeling carries. Like for any pesticide, please read and follow all labels.

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