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Cotton Nitrogen Requirement

Cotton needs nitrogen in the square to early bloom period. Most cotton planted on time will start blooming in early July and should have the N out before the 3rd week of bloom. Cotton does not require as much N as many crops. Normally 50-60 lbs/A are required for a bale of cotton. However, there may be 20-50 lbs/A of nitrate N available to the plant over the season in the soil and applications of 60-90 lbs/A of N may be adequate for 2-3 bale yields. Sandy soils do require more N than heavier soils and it should be applied no later than the 3rd week of bloom. Sulfur is especially important on sandy soils. Recommendations are 30 lbs/A even when yield responses are as much as a bale per acre. Late foliar applications of N are not recommended unless there is not a good boll set.

Dr. David Wright, Extension Agronomist

Row Crops and Cover Crops: Corn, Cotton, Peanut, Soybean

Crop response to cover crops and conservation tillage



Agronomists stand in a field of cotton planted into a dense oat cover crop in Quincy, Florida.

Photo: Dr. David Wright

Our research has shown that cover crops cool soil surfaces by as much as 25 degrees over bare ground planted crops. Plant canopy temperatures can likewise be reduced by 5 degrees or more.

This can have tremendous impact on final yield of crops.

Corn, cotton, peanut and soybean respond well to dense cover crops and may be especially helpful for non irrigated crops.

Conservation tillage works well with all of the row crops and helps reduce soil erosion on sloping land as well as reducing moisture loss and wind erosion.

When is it too late for planting row crops?

Soybeans may be planted in July if drilled and irrigated. Yields may prove very satisfactory and MG V-VIII may be used. There are many high yielding varieties and you must keep in mind that they grow very fast and start blooming earlier as the planting date is delayed into late summer. The latest planting date for soybean may be as late as the middle of August if irrigated.

Peanuts will probably not yield enough to make them profitable from plantings made in July and can be damaged from late frosts when dug in November.

Corn may be planted as a second crop for grain or silage if a Bt (slows damage from armyworm corn ear worm) hybrid is used that has good disease resistance. The latest planting date for corn should be July 15-20 to make satisfactory yields.

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Baleage an Alternative to Manage Moisture

This summer seems to be shaping as a typical Florida summer with very humid days and afternoon showers that usually do not allow for the 3 drying days usually needed for hay production. These showers although short often delay harvest and cause field losses. At the same time, maintaining a regular harvest schedule (every 4 to 5 weeks) during the summer months is essential for good forage quality.



Bale wrapping (baleage) in North Central Florida.

Photo: Dr. Y. Newman

Round bale silage is an option to manage this moisture situation and keep with the harvesting schedule. Baleage is the harvesting of the forage with the same equipment used to make hay with the additional step of wrapping the bales with a plastic film and the aid of a piece of equipment known as a ‘plastic wrapper’. This technique where the bale is wrapped wet for fermentation in the absence of oxygen (also known as anaerobic conditions) has been used successfully in Europe and has been in practice in the United States for over two decades.

What is the wait period from cutting to baling? For grasses is usually a couple of hours. How long should one

wait from baling to wrapping bales? The quicker the better. Field observations show that wet bales will heat if allowed to sit a few hours before wrapping. Air exposure and high moisture allows plant respiration and fungus (mold) growth, producing heat that is not dissipated once the wet forage is in a bale.

When baling legumes, the ideal moisture is about 45 to 50% Dry Matter (DM) (or 50 to 55% moisture). The wait between cutting and baling to achieve this percent DM under Florida conditions is about 4-5 hrs. It is not really all that difficult to do, just cut and let dry. With the short dry down there is not even a need to turn. If you bale at that moisture there is little leaf shatter worries. One issue to be careful, as with any legume, is potential for spoilage because of low soluble carbohydrates (or sugars) and high buffering capacity (that may interfere with the desired drop in pH). For example, perennial peanut relative to other legumes does very, very well.

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Grazonnext: A "New" Herbicide For Pastures

A couple of weeks ago, new herbicide was launched by Dow AgroSciences called Grazonnext. In all actuality, this really is not a new herbicide, but a new name. Grazonnext contains aminopyralid and 2,4-D at the same concentration as that of ForeFront herbicide. A quick look at the labels for both ForeFront and Grazonnext will show that the only difference is the name itself, as everything else remains the same.

A question we are getting a lot already is "Why?" Dow AgroSciences is phasing out Grazon P + D, a product we have never had in Florida, but is widely used in the rest of the Southeast and elsewhere. They are replacing this product with Grazonnext, due to the environmental concerns with picloram in Grazon P + D.

What about the price? Grazon P + D is an effective and economical herbicide in states where it is approved for use. Since Grazonnext has been released as a means to phase out Grazon P + D, Dow AgroSciences had to be sure that Grazonnext was also an economical choice as well. As a result, Grazonnext is approximately \$20/gallon cheaper than Forefront herbicide. Therefore, at the 2 pt/acre rate, ranchers can expect the herbicide to cost between \$8.50 to \$10/acre.

Currently, our recommendations for pasture weed control recommend ForeFront for many weed species. Since Grazonnext and ForeFront are exactly the same, one can replace the name ForeFront with Grazonnext wherever it is seen in our recommendations. If you have any further questions about this product, then feel free to contact us.

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Crabgrass and Sandbur Control in Bermudagrass

The high temperatures and frequent rainfall of summer is great bermudagrass growth, but it also creates ideal conditions for annual grasses like crabgrass and sandbur. Crabgrass has excellent forage quality and can be ideal for grazing. However, the delayed drying time and off-color often causes problems for those attempting to produce high-quality bermudagrass hay. Sandbur can be even worse by filling the bale with extremely sharp burs that can render the hay inedible.

Control of crabgrass can be difficult to achieve. For several years it has been rumored that pendimethalin (Prowl H2O) is close to receiving a registration for preemergence control crabgrass and sandbur in bermudagrass hayfields. But to date, this registration has not been finalized. Until this occurs, there are no preemergence herbicides labeled for annual grass control. This leaves us with postemergence options – which are few.

One choice is imazapic (Plateau, Impose, etc). Imazapic is highly effective on several grass and sedge species, but can also be injurious to bermudagrass. Generally speaking, you can expect to see bermudagrass stunted for 3 to 4 weeks and this may result in the loss of one hay cutting. To minimize this impact, applications should not be made until the bermudagrass is actively growing and rainfall is common. Early season applications can be highly injurious, resulting in delayed growth for much of the season. Although imazapic can be injurious, proper use of this herbicide can result in premium, weed free, bermudagrass hay.

Another choice is between-cutting glyphosate use. Glyphosate can be applied at 8 to 10 fl. oz/A immediately after hay is removed from the field, but prior to bermudagrass regrowth. Generally speaking, this application should be made within 1 or 2 days after hay removal (or 7 to 10 days after cutting). Delaying this application until bermudagrass regrowth has occurred can result in bermudagrass stunting, but using low glyphosate rates as recommended here will generally not cause severe injury. The drawback to this option is that total crabgrass and sandbur control is rarely achieved. These low rates, coupled with applications to plants with little leaf surface area, results in fair levels of control. But, this application is relatively inexpensive and avoids much of the bermudagrass injury issues associated with imazapic.

Dr. Brent Sellers, Extension Weed Specialist and
Dr. Jason Ferrell, Weed Specialist

EPA Announces Safety Measures for Soil Fumigant Use



This past May 27, The Environmental Protection Agency (EPA) announced its plan for strengthening safety measures for soil fumigant use. The safety measures intend 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.

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. The gas can migrate from the soil into the air. Off-site workers or bystanders exposed to these pesticides may experience eye, nose, throat, or respiratory irritation, or more severe poisonings, depending on the fumigant and level of exposure. Some of the new safety measures include:

- ⇒ Creating Buffer Zones
- ⇒ Enforcing Posting Requirements
- ⇒ Adding measures to Protect Agricultural Workers
- ⇒ Strengthening Training Programs

EPA took extensive public comments on the safety measures, announced initially in July 2008, to refine the measures as needed and develop an implementation strategy. This included many public meetings and visits with state agencies and agricultural, farm worker, and public health constituents. Adjustments to the 2008 proposal have been made based upon new scientific data and improved information on certain technological capabilities. EPA will continue to work with state agencies, growers, farm workers, and public health officials to achieve the new protections while minimizing costs and burdens on growers. The EPA plans for the measures to be implemented starting in the 2010 and 2011 growing seasons (*see Table 1*).

Table 1. Timeline for soil fumigant risk mitigation steps.

Time	Action
Summer 2009	EPA sends letters to fumigant registrants outlining label schedule.
Fall 2009	Registrants submit revised labels to EPA.
2010	EPA reviews and approves new soil fumigant labels before the growing season, implementing most measures (except those related to buffer zones) to achieve improved protections.
2011	EPA implements remaining measures relating to buffer zones to gain full protections.
2013	EPA begins reevaluating all soil fumigants under the Registration Review program.

Fumigants are used on a wide range of crops, primarily potatoes, tomatoes, strawberries, carrots, and peppers. The soil fumigants methyl bromide, chloropicrin, dazomet, metam sodium, metam potassium, and iodomethane are all subject to the new requirements.

More information on these measures may be viewed at: http://www.epa.gov/oppsrrd1/reregistration/soil_fumigants/.

Dr. Fred Fishel, Pesticide Information Director
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EPA's Arsenical Decision

EPA has finalized its decision on the arsenicals (MSMA, DSMA, CAMA, and cacodylic acid).

For cotton, applications are:

- ◆ Limited to 1 postemergent application at 2 lbs ai/A with a second application at 2 lbs ai/A only if needed as a salvage operation (i.e. if pigweed escapes the first application).
- ◆ A 50-foot buffer zone must be maintained around permanent water bodies, such as rivers, streams and lakes.
- ◆ Pre-plant cotton use must be deleted.

Uses on golf courses, sod farms and highway rights-of-way will be canceled December 31, 2012, with the use of existing stocks allowed until December 31, 2013. The labels must have the following:

- ◆ Golf course use is limited to spot treatments only (100 square feet per spot), not to exceed 25% of total golf course acreage per year. One broadcast application is allowed for newly constructed golf courses only.
- ◆ Sod farm use is limited to 1-2 broadcast applications per season. A 25-foot buffer zone must be maintained around permanent water bodies.
- ◆ Two broadcast applications per year are allowed for use on highway rights-of-way only.
- ◆ A 100-foot buffer zone must be maintained around permanent water bodies.
- ◆ Other rights-of-way uses must be deleted.

All other uses of MSMA and currently registered uses of DSMA, CAMA, DMA (cacodylic acid and its sodium salt) must be deleted effective December 31, 2009. In addition, MSMA product registrations must be amended to delete the following uses:

- ◆ Residential Turf
- ◆ Forestry
- ◆ Non-bearing Fruit and Nuts
- ◆ Citrus (bearing and non-bearing)
- ◆ Bluegrass, Fescue and Ryegrass grown for seed
- ◆ Drainage Ditch Banks
- ◆ Railroad
- ◆ Pipeline
- ◆ Utility Rights-of-way
- ◆ Fence Rows
- ◆ Storage Yard and similar Non-crop Areas

Existing stocks of these uses may be used until December 31, 2010. After the end dates for existing stocks, uses of these products will be illegal.

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Carbofuran Tolerances

EPA has revoked all tolerances for carbofuran as of December 31, 2009. The trade name of this pesticide registered in Florida is Furadan. Residues found on food after December 31, 2009 will be considered adulterated unless applications can be documented to be made in 2009 or earlier (Federal Register, May 15, 2009).



Note: This is interesting since EPA has revoked the tolerances for carbofuran but the registrations still exists. When questioned why EPA did not suspend or cancel, EPA replied that EPA is required to “coordinate” action under FIFRA and FFDCA “to the extent practicable and consistent with the review deadlines.” EPA stated neither FIFRA nor FFDCA required EPA to determine that a pesticide presents an “imminent hazard,” as that term is defined in FIFRA, prior to taking action to resolve dietary risks under FFDCA.

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Calendar & Field Days

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| July 13-15 | Short Course: Applications & Analyses of Mycorrhizal Associations
Information or registration * call (352) 392-1951 email: aaag@ufl.edu |
| July 20-24 | National Conference on Ecosystem Restoration (NCER)
Los Angeles, CA |
| July 22-23 | Workshop: Breeding for Resistance to Whitefly-transmitted Viruses , * Orlando |
| August 1-2 | Florida Small Farms & Alternative Enterprises Conference *
Kissimmee (Registration discount if received by June 1.) |
| September 15-18 | International Citrus and Beverage Conference *, Clearwater Beach |
| September 22-24 | Southwest Herbicide Applicator Conference *, Panama City Beach |
| October 20-22 | Sunbelt Ag. Expo , Moultrie, GA |
| October 28th | 2009 Florida Ag Expo
Gulf Coast REC, Balm |
| November 14 | Florida 4-H Centennial Gala , Jacksonville |
| November 15-17 | Energy Conference *, Orlando |
| February 24-26, 2010 | UF Water Institute Symposium , * Gainesville |

* Indicates events sponsored in part or fully by the University of Florida