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Corn Pests With Planting Dates

Early planted corn has a better chance of avoiding fall armyworm and damaging disease epidemics during its growth period. Planting in early March often results in high yield and quality but needs irrigation in most years since May is typically a dry month when early planted corn silks and tassels. If corn is planted into green cover crops, a soil insecticide is important for stand establishment. Corn is not very susceptible to frost since the growing point remains under the soil surface until corn reaches about 12" high. The vegetative stage of growth can be slow from early planting in cool, wet soils but still fares better in most years than corn planted in April and May if irrigated. Corn planted without irrigation may do better if planted later due to summer rains that often occur in June.

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Water Efficiency In Corn

Water requirements for corn can be significantly higher where potassium in the soil is inadequate. Potassium is important in corn for drought tolerance since it impacts stomata opening in leaves. A moderate potassium deficiency can result in a loss of .2 inch more water loss per day through the leaves than one with adequate potassium. Follow soil tests for potassium use on all crops. A lower rate can be used if fertilizer is banded in the row vs. broadcast applications.

Dr. David Wright

Soil Temperature And Sorghum Planting

There is a relatively wide range in planting dates for sorghum in the southeastern U.S., mainly because sorghum germination is closely linked to soil temperature. For good stand development, it is important to ensure that the soil temperature at the 2" depth is at least 65° F. Cold soils result in poor germination and emergence and lead to poor stand development. Planting too early is one of the most common causes of poor establishment.

Plantings may begin in March in south Florida, early to mid-April in central and north Florida. Plantings made after mid-June may have lower yields and experience more disease and insect pressure. Plantings made after early July may produce very limited yields because of shortening daylengths. Early planted silage sorghums will produce a second (ratoon) crop in Florida, but yields are generally less than the original harvest.

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Sorghum Seeding Rate

Sudangrass and sorghum x sudan hybrids can be broadcast (B) or drilled. Hybrid forage sorghum (single cut) is usually planted in wide (20 to 36 inch) rows (R) to facilitate harvest and in-season field operations. The planter may need special plates or other modifications to handle sorghum seed. Recommended seeding rate for forage sorghum intended for silage use in Florida and Georgia is 6–8 lb. per acre (R) and 10–15 lb per acre (B). Recommended seeding rate for sorghum-sudan hybrids in Florida and Georgia is 8–20 lb per acre (R) and 25–30 lb per acre (B). Excessive seeding can increase lodging (see Table below).

Seeding rate for sorghums in Florida

Species	(Row planting) Lbs per acre	(Broadcast) Lbs. per acre
Hybrid Forage Sorghum	6-8	10-15
Sorghum x Sudan hybrids	8-20*	25-30

- *If finer stems are desired, then choose the higher rate .*

To calculate seeds per acre:

$$\frac{\text{lbs of seed}}{\text{acre}} \times \frac{\text{seeds}}{1 \text{ lb of seed}} = \frac{\text{number of seeds}}{\text{acre}}$$

To calculate seeds per foot of row:

$$\text{Row spacing (inches)} \times 0.0833 \times \frac{\text{Seeding Rate (lbs/acre)}}{43560} \times \frac{\text{seeds}}{1 \text{ lb of seed}} = \frac{\text{seeds}}{\text{foot of row}}$$

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Prowl H₂O - Now Labeled In Forage Bermudagrass

For many years, high-quality bermudagrass hay producers have needed a preemergence herbicide for the control of crabgrass, goosegrass, Texas panicum, sandbur and other summer annual grasses. BASF has recently announced that Prowl H₂O is now labeled for use on forage bermudagrass.

Prowl H₂O, active ingredient pendimethalin, has been registered in a multitude of crops for over two decades. This herbicide is highly effective on annual grasses, but must be applied prior to grass seedling emergence. Pendimethalin is only active at the root tip and has no postemergence activity. Therefore, the herbicide must be applied prior to weed germination or no herbicide effect will be observed.

Currently, Prowl H₂O is only labeled for use in dormant bermudagrass pastures and hay fields. Applications to bahiagrass, limpograss, etc. is currently not allowed. However, it is expected that many more pasture grasses will be added to the Prowl H₂O in coming years.

The labeled application rate of Prowl H₂O is 1.1 to 4.2 qt/A. Research has shown that the 1.1 qt/A rate is generally not sufficient for season-long control while the 4.2 qt/A rate is often more than necessary. Applications of 3 qt/A have shown to be satisfactory, but some late-season escapes should be expected. Regardless, the price of Prowl H₂O is near \$35/gal, so over-application would be unattractive economically.

Currently, Prowl H₂O is labeled **only** for applications to **dormant bermudagrass** and carries a 45 day hay restriction as well as a 60 day grazing restriction.

This new use for Prowl H₂O will be shown on a supplemental label and is available at <http://www.cdms.net/LDat/ld6CT014.pdf>.

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Calendar

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|--------------------|---|
| March 19-21 | Home and Garden Show , Tampa |
| May 3-6 | <u>Aquatic Weed Control Short Course</u> , Coral Springs |
| May 5-7 | <u>Florida Beef Cattle Short Course</u> , UF Gainesville, Hilton UF |
| June 6-8 | Soil and Crop Science (SCSSF) meets jointly with the <u>Florida State Horticultural Society</u> (FSHS), Plantation Golf Resort |
| July 11-17 | <u>Caribbean Food Crops Society</u> meeting, Boca Chica, Dominican Republic |
| July 12-16 | <u>Greater Everglades Ecosystem Restoration Meeting</u> , Naples |
| Aug. 1-5 | <u>Ecosystem Restoration Conference</u> (NCER), Baltimore, MD |

Pastora Herbicide

A New Tool for Grass Weed Control in Bermudagrass

A new herbicide mixture will soon be labeled for use in bermudagrass pastures and hayfields for grass weed control. Pastora is a premix of nicosulfuron (56.2%) and metsulfuron (15%). Federal registration for this product is expected near the beginning of the second quarter of this year.

The use rate for this herbicide will be 1.0 to 1.5 oz/acre per application, with a total maximum of 2.5 oz/acre/year. The 1.0 oz/acre rate contains 0.035 lb ai nicosulfuron + 0.009 lb ai metsulfuron per acre. Increasing the rate to 1.5 oz/acre provides 0.052 lb ai nicosulfuron + 0.014 lb ai metsulfuron. The amount of metsulfuron in 1.0 and 1.5 oz/acre of Pastora is equivalent to applying 0.24 or 0.37 oz/acre of any 60DF formulation of metsulfuron (MSM60, Accurate, Clean Pasture, etc). It is anticipated that there will be no grazing or haying restrictions when using this herbicide.



Vaseygrass is a common perennial grass weed in bermudagrass hayfields. Untreated vaseygrass (A) compared with control of vaseygrass 30 days after treatment with 1.3 oz/acre of Pastora herbicide (B).

Photo: B. Sellers

The primary target weed for this herbicide has been sandbur, but this product will also control many other grass weeds including dallisgrass, barnyardgrass, coast cocksbur, johnsongrass, vaseygrass, and several others. In addition to grass weeds, several winter and summer broadleaf weeds can be controlled with this herbicide. Dogfennel and tropical soda apple will not be controlled with this product.

Apply Pastora postemergence when weeds are small. Sandbur should be no taller than 1.5 inches for complete control; however, applications to larger sandbur plants has been shown to cause stunting and prevent seedhead formation. Tall, dense stands of bermudagrass will intercept much of the herbicide spray. Therefore, Pastora should be applied for annual grass weed control when bermudagrass is no taller than 4 inches following initial greenup or after cutting for hay. Considering that rainfall is usually limited after initial greenup, applications may need to be delayed for optimum control until

after the initial hay cutting and when rainfall is sufficient for active weed growth.

The nicosulfuron component of Pastora has been shown to provide suppression of vaseygrass. Nicosulfuron, at rates equivalent to 0.7, 0.9 and 1.3 oz/acre of Pastora, was applied as vaseygrass was transitioning out of spring dormancy. Vaseygrass control ranged from 75 to 79% control 30 days after treatment (DAT) (Figure 1), but decreased to 65 to 75% by 60 DAT. Therefore, it looks like we will get suppression of vaseygrass if Pastora is applied at initial greenup. We anticipate slightly better control of vaseygrass after full greenup, but applications will need to be made fairly quickly due to the quick growth of vaseygrass.

Some bermudagrass injury should be expected, but the level of injury is much less than when Journey (imazapic + glyphosate) is utilized for sandbur or vaseygrass control. Injury will consist of some yellowing of leaf tissue. More severe yellowing and some biomass reductions should be expected when using higher rates of Pastora.

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IFAS CEU Day - 2010

Need CEUs? An opportunity for licensed pesticide applicators to earn CEUs will be held:

March 30, 2010 ~ 8:30 am to 4:00 pm EST

The event will be conducted via polycom from participating UF/IFAS county extension offices and research and education centers. An applicator will be able to attend any or all of the 6 sections for pesticide licensing recertification credit. A total of 6 FDACS-approved CEUs are available for the entire day in the following categories:

- Agricultural Row Crop
- Agricultural Tree Crop
- Aquatic Pest Control
- Demonstration & Research
- Forest Pest Control
- Natural Areas Weed Management
- Ornamental & Turf
- Private Applicator Agriculture
- Right-of-Way Pest Control
- Pest Control Operator - Lawn & Ornamental
- Limited Commercial Landscape Maintenance
- Limited Lawn & Ornamental Pest Control

Agenda

Section	Time	Topic Title	Speaker(s)
	8:30 – 9:00	Register and convene at participating locations	
1	9:00 – 9:50	How Different Kinds of Herbicides Work	Greg MacDonald
2	10:05 – 10:55	Plant Anatomy: The Route of Herbicides Into and Within Plants	Clyde Smith
3	11:10 – 11:35	New Herbicide Registrations and Use Patterns	Mike Netherland
	11:35 – 12:00	Managing Herbicide Applications Against Development of Resistance	Bill Haller
4	1:00 – 1:50	New Weeds to be on the Look-out for	Colette Jacono
5	2:05 – 2:30	Integrating Biological Controls and Herbicides	Jim Cuda
	2:30 – 2:55	What is NPDES and How it May Affect Herbicide Applicators	Tina Bond
6	3:10 – 3:35	Which Herbicide to Use	Jason Ferrell
	3:35 – 4:00	Minimizing Non-target Herbicide Effects	Ken Langeland

Credit for Certified Crop Advisors has been applied for and is pending approval. If interested in attending, contact your local UF/IFAS county extension office <http://solutionsforyourlife.ufl.edu/map/index.html>

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Cheap Pest Control

Pests are a leading cause of yield losses in all Florida crops. One of the cheapest methods of pest control is use of rotation. Even though this is something that growers have known about for hundreds of years, we often don't fully appreciate the impact it can have on following crops since crop yield declines are often gradual. Cotton and peanuts make a good rotation for each other but fields need to be out of peanuts for more than one year. Grass crops like bahiagrass make an excellent rotation for most crops and often result in more profit after 2 years of bahiagrass than could be made in 3-4 years in a standard rotation. Peanuts and soybeans do not need to be in the same rotation unless there is at least two years between the crops.



Photo: Tyler Jones, IFAS Communications

Dr. David Wright

Foliar Nutrition Of Crops

The majority of plant nutrients are taken up through the root system and that is the most efficient method of nutrient uptake. Leaf absorption of nutrients is not the desired way of fertilizing crops since the primary purpose of leaves is for photosynthesis. However, in certain situations micronutrients become limiting to crop growth and may exhibit discoloration or slow growth and can be corrected with foliar applications. In these situations foliar applications may be appropriate.

Macro-nutrient deficiencies can seldom be solved with foliar applications due to the total amount of nutrients needed by the plant. Urea has often been used in cotton during bloom period but has not shown yield advantages in Florida over soil applications during squaring or early bloom. Zinc and Manganese deficiencies have been overcome on corn and soybeans in Florida with foliar applications as well as boron on peanut. There are ways to make the applications more efficient including: applications made in the early morning or late evening, apply when temperatures are less than 85⁰ F, apply when relative humidity is higher than 70%, make applications to youngest tissue that is actively growing, etc.

Listed below are the foliar absorption rankings of nutrients which would relate to the ability for the plant to overcome deficiencies due to foliar applications.

Rapid

Urea
Potassium
Zinc

Moderate

Calcium
Sulfate
Phosphorus
Manganese
Boron

Slow

Magnesium
Copper
Iron
Molybdenum

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