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“Agronomy Notes” is prepared by: Maria Gallo, Chair and Y. Newman, Extension Forage Specialist (ycnew@ufl.edu); J. Ferrell, Extension Weed Specialist (jferrell@ufl.edu); D.C. Odero, Extension Weed Specialist (d codero@ufl.edu); B. Sellers, Extension Weed Specialist (sellersb@ufl.edu); D. Wright, Extension Agronomist (wright@ufl.edu). 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.
Pastora Herbicide: for grass control in bermudagrass

Control of annual and perennial grass weeds in hayfields is a battle we fight every year. Though many of these grassy weeds have good forage quality, they often dry slower than bermudagrass. The longer we leave the hay in the field, the more likely it is to be rained on. Additionally, many grassy weeds are a different color than bermudagrass after curing. These grasses can be easily seen in the bale, which reduces the sale price of the product. Or worse, sandbur seeds are baled and the livestock refuse the hay all together.

There are very few options for controlling grass weeds. One option is glyphosate applied at low rates immediately after hay removal and before bermudagrass leaf-out. Though this option is inexpensive and effective, there is a very narrow window when the herbicide can be applied. If applied too late, bermudagrass injury can be observed. Another option is Impose (imazapic, formally named Plateau or Journey). This postemergence herbicide is effective on crabgrass, vasseygrass, johnsongrass and may other species. But it too has a high injury potential. Impose application must be delayed until the hay has fully recovered from winter dormancy and rainfall is regular. But even when applied in this manner, it is common to lose one hay cutting due to bermudagrass stunting.

Pastora is a new herbicide that is capable of controlling a number of grassy weeds without some of the limitations and injury potential of other herbicides. Pastora is a mixture of two herbicides: nicosulfuron for grass control and metsulfuron for broadleaf weeds. This product is effective on crabgrass, johnsongrass, sandbur, and is relatively effective on vasseygrass. It can be applied to bermudagrass at any stage of growth, but injury is least when applied soon after hay cutting. But even if the application is delayed until full greenup, Pastora will only result in about half the injury that could be expected with Impose. Generally speaking, the injury that is observed with Pastora will be approximately 2 weeks of bermudagrass stunting followed by rapid recovery.

Although Pastora is a flexible herbicide with the potential to control many grassy weeds, there are limitations. For maximum effectiveness, grasses must be small and in the seedling stage at the time of application. Crabgrass and sandbur that is 2 inches tall will be effectively controlled, larger grasses may only be suppressed. Just because grassy weeds have been clipped down after a recent hay cutting to a 2 inch height does not mean that Pastora will provide effective control. The grasses must be small and in the seedling stage – grasses that have tillered and started forming dense mats will be difficult if not impossible to control with Pastora. But it is important to note that Pastora can have positive effects on sandbur, even if the weed is not totally controlled. Sandbur produces a seedhead composed of many spiny burs that can ruin hay quality. If sandbur is sprayed with Pastora after they have exceeded the 2 inch height and seedling stage, the plant will rarely die but abortion of the seedhead is commonly observed.

Pastora is an additional product that adds value to our continually growing weed control tool box. It is currently priced near $18 per acre, so determining the yield and quality loss of from grassy weeds is important before this product is selected.

If you have questions about the herbicides discussed in this article, or others, please contact your local University of Florida – IFAS county extension office.
Seeded Bermudagrass Varieties

There are numerous seeded bermudagrasses available. Some are single types but most of the seed that is marketed are actually blends that contain improved selections of common and Giant bermudagrass. Many of the seeded types have been develop for cold tolerance in upper latitudes, and in turfgrass breeding programs, which have turned them to market for livestock production because of their high yields.

Production of seeded types in Florida is under evaluation at University of Florida. Current varieties under examination are Cheyenne, Mohawk, and Wrangler, which are cold tolerant; and blends: Texas Tough, Sungrazer, Riata, and Stampede. A description of these types and some of the blend components follows.

Common is a bermudagrass type that is not improved, that is low-priced, and can produce a fair amount of forage with quality comparable to coastal.

Giant (NK-37) is a tall growing selection from a much taller and leafier ‘common’ from the Yuma, Arizona river valley (by Northup King Co). Under high moisture climate, persistence has been observed to be 2 to 3 years, fact associated with fungal disease. It is used as a component of many blends, and as a single variety by many because it breaks dormancy 10 to 14 days earlier than most types in the market.

Cheyenne is a synthetic variety developed for vigorous growth habit and cold tolerance by Jacklin Seed Co and Pennington Seed; originally developed for turf and later used as a pasture.

Mohawk is a fine textured, cold tolerant variety named after the Mohawk Valley in Arizona, where the seed is produced. It is regarded as one of the most salt tolerant varieties on the market.

Wrangler is a variety released by Johnston seed Co., developed for cold tolerance that is comparable to the hybrid bermudagrass Tifton 44.

Texas Tough is a blend of 1/3 Giant and 2/3 common; marketed by East Texas Seed Company in Tyler, TX.

Sungrazer is a blend with tall growth selected for drought and cold tolerance. Marketed by MBS seed in Denton, TX.

Riata is a blend of Wrangler and Riviera, two bermudagrass varieties with improved tolerance to grazing and cold tolerance. Marketed by Johnston Seed Co. Not to be confounded with the new UF Riata bahiagrass.

Dry matter production is expected to be variable with some of the varieties that have cold tolerance having more production early in the year. However, in general, dry matter yield should be expected for many of them to be comparable to Coastal but lower than the high yielding hybrids.
Velvetleaf in Sugarcane Fields

Velvetleaf is a troublesome annual weed that occurs throughout the United States. It is in the mallow family and can reach a height of 4 feet. The stems and twigs are covered with fine hair. Leaves are velvety, heart-shaped, alternate, gradually tapering to a sharp point, 10-15 cm long and nearly as wide with toothed margins. Petioles are hairy and about equal in length to the blades. Flowers are produced on short stalks in the upper leaf axil and consist of five yellow petals fused into a tube. Seeds are brown with small star-shaped hairs on the surface. Seeds of velvetleaf can remain viable in the soil for up to 50 years.

Velvetleaf is not common in sugarcane fields in the Everglades Agricultural Area (EAA), but has recently been observed in some fields. This weed species is extremely aggressive and should be managed appropriately to forestall its spread in the EAA. Combination of sugarcane herbicides Atrazine and 2,4-D will be effective on velvetleaf. Velvetleaf should be treated early to have good herbicide efficacy. It is important to physically remove any velvetleaf you come across before they produce seed. This weed species should be watched and monitored closely in the EAA to prevent it from spreading further.

Velvetleaf in sugarcane following treatment with Atrazine and 2,4-D

Photo by D. Calvin Odero
Planting Date for Sorghum

There is a relatively wide range in planting dates for sorghum in the southeastern United States, 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-inch 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, and early to mid-April in central and north Florida. New plantings can be made into summer until about 120 days prior to desired harvest, or the first frost. 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.

Forage Sorghum Yield

Hybrid forage sorghum yields differ based on the stage of maturity at which the crop is harvested (Table 1).

Table 1. Stage of maturity effects on dry matter yields of hybrid forage sorghums in Florida.

<table>
<thead>
<tr>
<th>Maturity Stage</th>
<th>Min. (dry tons/acre)</th>
<th>Max. (dry tons/acre)</th>
<th>Avg. (dry tons/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flowering</td>
<td>3.99</td>
<td>4.42</td>
<td>4.15</td>
</tr>
<tr>
<td>Soft Dough</td>
<td>3.72</td>
<td>6.16</td>
<td>5.64</td>
</tr>
<tr>
<td>Hard Dough</td>
<td>3.92</td>
<td>6.65</td>
<td>5.83</td>
</tr>
<tr>
<td>Vegetative</td>
<td>7.26</td>
<td>7.40</td>
<td>7.36</td>
</tr>
</tbody>
</table>

Harvesting the crop at the vegetative stage ensures multiple harvests and results in the highest yields, producing yields exceeding 7 dry tons per acre. Lowest yields are obtained when the crop is harvested at the flowering stage. There are no significant differences in yields when the crop is harvested at either the soft or hard dough stage. For quality silage harvest at the soft dough stage is recommended.
Small grain harvest

Small grain appears to be on track to be harvested a week or so earlier than normal. Some of this may be due to the record cold and vernalization requirements being met earlier than normal. Dry weather during the spring has resulted in low disease pressure in most areas. Small grain yields should be good this year with low disease pressure and an earlier harvest. Dry down of grain begins as the stalks of the small grain turn brown with moisture content dropping about 2% per day. A rain event or irrigation will interrupt the dry down and may increase the moisture content of the grain for a day or two.

Calendar

To follow the link, press “Ctrl” and put cursor over link, and “click.”

May 4-6 60th Annual Florida Beef Cattle Short Course, Gainesville, FL  
http://www.animal.ufl.edu/extension/beef/short.shtml

May 17-18 65th Southern Pasture and Forage Crop Improvement Conference, Aiken, SC  
http://spfcic.okstate.edu

June 20-24 2011 Florida Cattlemen’s Association Convention.. Marco Island, FL  
http://www.floridacattlemen.org/convention.html

Jul. 3-9 Caribbean Food Crops Society meeting, Two Mile Hill, St. Michael, Barbados,.  
http://www.cfcs2011barbados.org/

Jul. 15-17 Florida Small Farms and Alternative Enterprises Conference, Kissimmee, FL.  
http://conference.ifas.ufl.edu/smallfarms/index.html

Oct. 3-5 Southeast Herbicide Applicator Conference, Panama City Beach, FL  
http://conference.ifas.ufl.edu/sehac/index.html