



Agronomy Notes

April-August 2015

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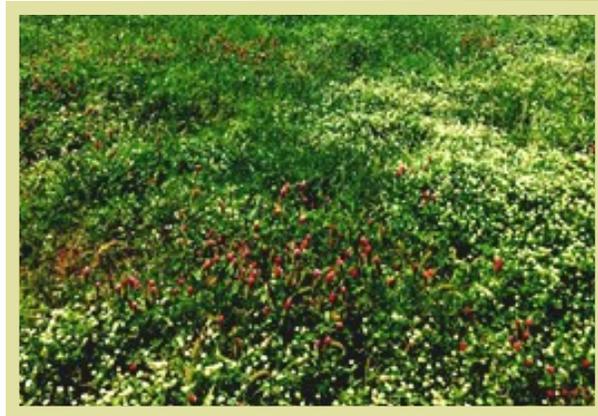
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Cadre + Select Tank-Mixes

Imazapic (Cadre) herbicide will be sprayed on several thousand acres of peanuts.

Imazapic is a highly effective herbicide and controls numerous broadleaf and grass weeds. Although imazapic provides good control of crabgrass, it will not consistently control goosegrass or Texas millet.

If these weeds are present, growers will commonly add clethodim (Select) to improve control.

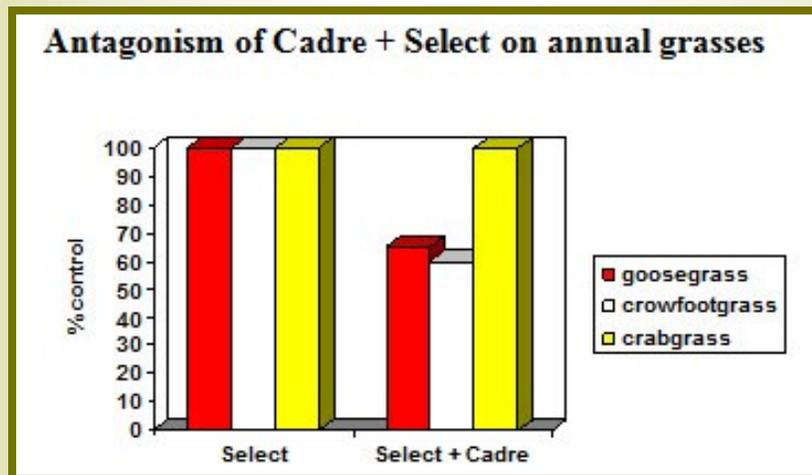
However, clethodim is easily antagonized by other herbicides. In a study conducted last year, clethodim was applied alone and with imazapic to control goosegrass, crowfootgrass, and crabgrass.

Clethodim applied alone (8 oz/A, Select 2EC) provided 100% control of all grass weeds present.

However, when clethodim (8 oz/A, Select 2EC) + imaxapic (4 oz/A, Cadre) were applied together, goosegrass and crowfootgrass control dropped to 60%.

If weedy grasses are present that imazapic does not easily control, it is best to apply imazapic and grass herbicides separately. Although this requires an extra trip across the field, weed control will be greatly improved.

Additionally, retreating with clethodim because the first application was ineffective is more expensive than initially planning to make two applications.



Crop Oil Adjuvants: 1% v/v or 1 qt/A?

A crop oil adjuvant is an essential part of many herbicide applications. When conditions are dry or the weed is a “hard to control” species, a crop oil can often boost herbicide activity. However, when looking at product labels, you will often see recommendations that say, “apply 1 quart per acre or 1 gallon per 100 gallons of water (1% v/v)”. The problem with these two recommendations is that carrier volume (amount of water being sprayed per acre) is not taken into consideration. For example, if you are applying herbicides at 25 gallons per acre (GPA), then a crop oil rate of 1 quart per acre and 1 gallon per 100 is exactly the same. But, if your carrier volume is 10 GPA, then 1 quart per acre will equal 2.5 gallons per 100.

So why are the labels written this way?

Years ago, when most of these herbicides first came to market, farms were smaller and spray applications of 20+ GPA was common. In this scenario, the label provided two ways of calculating how much crop oil was to be added into the tank since the per acre and by volume calculations were essentially identical. But over the past 20 years, farm size has steadily increased and carrier volume has steadily decreased. Today, the per acre and by volume measurements don't always add up.

Why is crop oil used?

The point of a crop oil adjuvant is to improve herbicide uptake. It does this by increasing droplet retention on the leaf and by partially dissolving leaf waxes so the herbicide can more easily pass this barrier. However, if the crop oil rate is too high, you can see leaf burning simply due to the oil stripping the leaf wax away, causing the tissue below to dry out and die. So it is very important to use enough crop oil to improve herbicide performance, but not so much to cause unnecessarily crop injury.

Which rate should be used (per acre or per volume)?

Currently, carrier volume varies tremendously from farm to farm. There are growers that spray at 5-8 GPA while others use 15 GPA. With this great variation in carrier volume, a “per acre” rate of crop oil should not be used as a blanket recommendation. Therefore, it is easiest and safest to use a per volume crop oil rate so that carrier volume per acre is not an issue. In our research, we have found that crop oil at 1% v/v (1 gallon per 100 gallons of water) performs adequately across a wide variety of herbicides, weed species and environments.

Hopefully switching to a 1% v/v solution of crop oil can simplify this issue and add some consistency to your herbicide programs.

Mid-season Morningglory Control in Peanuts

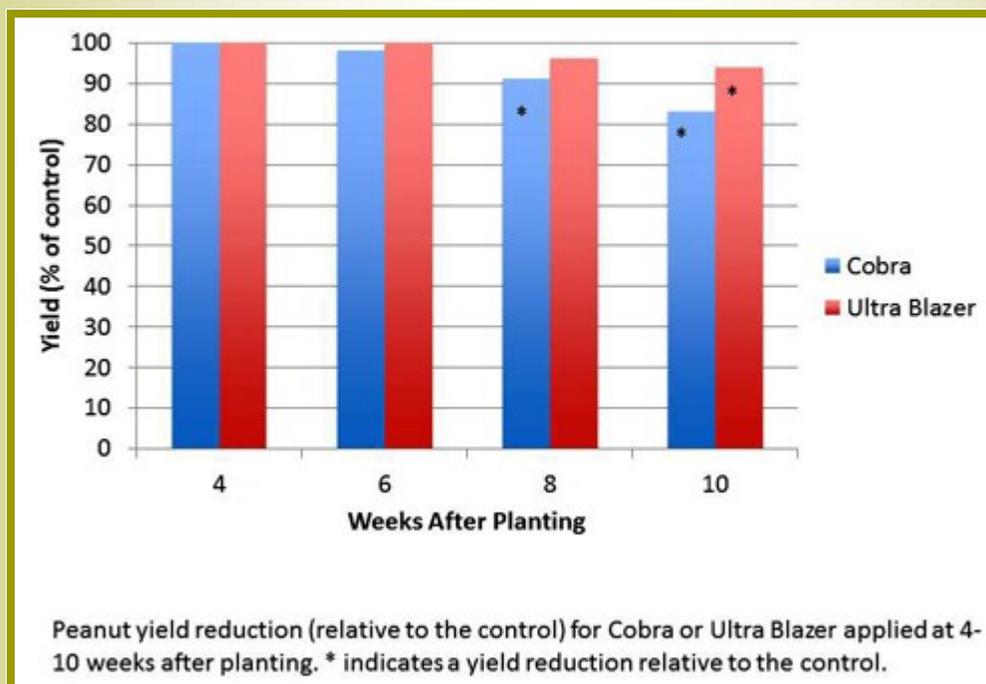
Morningglory is a commonly occurring weed in all major row-crops. Controlling this weed with preemergence herbicides is difficult since most of the options are simply not very effective. Therefore, we usually rely on the burning herbicides (Cobra or Ultra Blazer), with or without 2,4-DB. These postemergence options are highly effective, but peanut injury can be severe. This peanut injury may or may not translate into yield loss, depending on the timing of the application.

Several years of research were conducted to better understand the nature of peanut tolerance to the burning herbicides. It was observed that spraying Cobra or Ultra Blazer from 0 to 6 weeks after planting did not cause yield reduction. Even though foliar injury was very high with significant leaf burning, the early applications fully recovered and yielded equal to the control. However, by 8 weeks after planting, Cobra application caused a 9% yield loss. By 10 weeks, Cobra caused 17% yield loss and Ultra Blazer was 6% loss. Additional studies have shown that the addition of 2,4-DB does not increase injury or yield loss over what you would expect from the burning herbicides alone, but it can increase morningglory control.

The reason for this yield loss is likely due to these herbicides burning the leaves and reducing the ability of the plant to conduct photosynthesis. The timing is relevant because 8-10 weeks after planting is when the peanut plant is starting the pod-filling stage of development. So any reduction in photosynthesis at this point can be highly disruptive to the plant. Early applications during flowering or pegging are less harmful because photosynthetic demand is lower at this stage of development.

If a grower suspects that morningglory will be a problem in a given field, it is important to control these plants as early as possible. Delaying these applications to a mid-season timing will still provide good weed control, but may do more harm than good if weed populations are low. However, if morningglory pressure is high and fungicides are no longer being deposited on the peanut canopy, it may be better to accept a 10-15% yield loss from a herbicide than to have the peanut defoliate due to disease pressure.

Cobra can be applied for weed control up to 45 days before harvest and Ultra Blazer can be applied within 75 days of harvest. Therefore, if it is late in the season and a herbicide is needed to control morningglory to improve harvest efficiency, Aim can be applied 7 days prior to harvest.



Natural Reseeding Of Cool-Season Legumes



Annual cool-season legumes are a great resource for the livestock industry in North Florida. Clovers add nitrogen to the pasture by associating with soil microorganisms which have the ability to fix atmospheric-N₂. Clovers are also rich in protein and improve the overall digestibility of livestock diet. Annual cool-season grasses (e.g. annual ryegrass) are also benefited from the N inputs by clovers. Cattle will graze the clover and recycle the N back to the pasture, benefiting the grass. Part of the recycled N may also improve the growth of the following warm-season grass during the summer.

In summary, clovers are an extraordinary resource that reduce fertilizer costs and improve cattle performance. Some of the annual clovers have potential to reseed naturally. Grazing management practices that allow clovers to set seeds during the spring will benefit the natural reseeding.

Producers should also allow seeds to reach maturity to improve the reseeding. Crimson and Ball clovers are two of the best reseederers in North Florida. In fact, recent studies have indicated that Ball clover is a better reseeder than Crimson.

One of the reasons might be the more spread flowering distribution of Ball clover along the season, compared to Crimson. Natural reseeding provides the benefit of having annual clovers during the cool-season without the need to establish them every year. Savings on the annual establishment will increase the profit of the livestock producer and also reduce off-farm inputs such as oil and fertilizers, benefiting the environment as well.

Integrating Rhizoma Peanut Into Warm-Season Grass Pastures



Rhizoma peanut (*Arachis glabrata* Benth.) is a warm-season perennial legume that is well adapted to Florida. Once it is established, it provides high-quality forage and adds N to the system via biological N₂-fixation (BNF). In North Florida, most of the current rhizoma peanut fields are dedicated to hay production. Because of its high crude protein and digestibility, rhizoma peanut hay is highly valued by the horse industry. Rhizoma peanut is also well adapted to grazing. Previous results from research carried out in Florida demonstrate the benefits of integrating rhizoma peanut into perennial warm-season grass pastures and establishing a grass-legume mixture. Benefits include the greater animal performance and BNF because of the legume addition.

Establishment of rhizoma peanut is usually expensive (\$450-\$600/acre) because it involves several operations such as digging and sprigging the rhizomes. Strip-planting rhizoma peanut into warm-season grass pasture might be an option to reduce establishment cost. Planting 30 to 50% of the total area with rhizoma peanut will reduce the establishment cost significantly. Strip-planting also allows better weed control during the establishment phase, which is critical for successful establishment. Strips should have the width of the spriggers commercially available, which usually ranges from 8-10 feet. During the establishment phase (two years), grazing is not recommended. Cattle select rhizoma peanut and this will make the establishment difficult.

Therefore, we recommend to use the grass available for hay. Grass strips should have the width of the hay equipment to facilitate the operation. Usually 10 ft. wide will provide enough space for haying and also weed control, on both grass and legume strips. Integrating rhizoma peanut into bahiagrass pastures is an excellent way to improve livestock performance, reduce N fertilizer costs, while keeping the environment safe. The strip-planting approach provides an opportunity to incorporate this technology with reduced cost.

Calendar of Events

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

September 24-26, 2015 The Landscape Show
Orlando, Florida
<http://www.fn gla.org/thelandscape show/>

October 20-22, 2015 Sunbelt Ag Expo
Moultrie, Georgia
<http://sunbelt expo.com/>



The banner for The Landscape Show features a central image of a sunburst over the text "THE LANDSCAPE SHOW". To the left is a navigation menu with items: "About Orlando/Convention Center", "Accommodations", "for Attendees", "Schedule at a Glance", "Special Events", "TLS Knowledge College", "Landscape Awards", and "Golf Tournament". To the right is a "REGISTER NOW!" button, the FNGLA logo (Produced by FNGLA, Florida Nursery, Growers and Landscape Association), and a list of 2014 Show Sponsors including Fresh Florida. Below the central image, text reads: "The Southeast's Premier Landscape and Horticulture Event: The Landscape Show takes place September 24 - 26, 2015!"



The banner for Sunbelt Ag Expo features a central image of a farm with a red tractor and a sunburst. The text "Sunbelt Ag Expo" is prominently displayed in green, with "North America's Premier Farm Show®" underneath. To the right, ticket information is listed: "TICKETS \$10 8:30 - 5 (T,W) 8:30 - 4 (TH)". Below this, the dates "October 20-22, 2015" and location "Moultrie, GA" are shown. At the bottom, a navigation menu includes: "About the Expo", "Visitors", "Exhibitors", "Lodging", "Supporters", "News/Media", "Farmer of the Year", and "Special Events".