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Choosing crops in 2013

The southeast has grown large acreages of cotton and peanut over the past decade. However, markets in 2013 favor corn and soybean. Growers are trying to decide what mix of crops to grow since corn needs irrigation and soybeans need good soils to make high yields. Some producers planted wheat with soybeans being the best option but grain sorghum does well planted in May. Likewise, some of the stacked gene corn varieties will do well when planted late but will need a fungicide when planted in May or June. Cotton prices have increased in recent weeks and peanut exports to China have been much higher than expected. This may spur contracts for peanuts which could bring some of the acreage back. If China had not bought peanuts, acreage needed to have been reduced by at least a third. More peanuts may be moved in the next few weeks and growers may have the opportunity for decent contracts. Soybeans can be substituted for peanut but will not make top yields on sandy non-irrigated fields. There are good options for making a profit this year but choose crops carefully based on irrigation, soil type and pest problems.

Calendar of Events

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

Mar 13-16 Short Course on Land Application of Residuals, Gainesville, FL http://soils.ifas.ufl.edu/courses/ShortCourses/indexGAO2013.html

Apr 17 Certified Crop Advisor Workshop, Lake Alfred, FL (available by video conference) http://www.crec.ifas.ufl.edu/crec_websites/cca/

June 2-5 National Association of Plant Breeders Annual Meeting, Tampa, FL http://www.plantbreeding.org/napb/Meetings/pbccmeeting2013.html
Spittlebug in Pastures

During late spring and early summer in Florida, spittlebugs can be seen in significant amounts affecting pastures throughout the entire state. These insects are named after the frothy mixture (spit) they create and are a problem in many forage species, but mainly in pastures and fields of limpograss (*Hemarthria altissima*), bermudagrass (*Cynodon spp*), and St. Augustine grass (*Stenotaphrum secundatum*). In south Florida, it causes significant and extensive damage to limpograss fields, and in north Florida, the problem is mainly on bermudagrasses.

Spittlebugs, in all stages, feed by sucking the fluids out of the plants. They have a mouth part adapted to piercing plant tissue. The feeding on the plant tissue causes purple to white or yellow stripes along the grass blade of the infested grass which eventually turns brown. The damage of spittlebug is similar to chinch bug, but contrary to chinch bug damage, it happens in shady areas. During the summer time, the rapid growth of pastures easily results in excess growth that if not grazed or harvested quickly builds up into a thatch. The thick cover provided by the thatch is used by the nymphs to hide from predators and also to protect from desiccation. It is the immature nymph the one that creates the frothy mixture by mixing air with excess sap adding substances that it excretes enhancing the viscosity and the life of the foam. Strictly speaking, the froth is not a spit! The foam protects the nymph from predators as well as providing insulation from the extreme temperatures of summer, providing a moist media so the tender nymph does not dry out.

Management of spittlebugs by mowing or burning the excess grass growth or pasture thatch, remains as the management and control option of choice. The objective is to use light penetration into the canopy by eliminating the thick mat and breaking the conditions that favor egg survival and nymph growth. If facing thick pastures, burning the dry grass in late February or early March very likely will control spittlebug infestation. This level of control can also be achieved by closely mowing the pastures.

**Spittlebug adult (two-lined; *Prosapia bicincta*), in foamy froth, and nymph.**

*Photo by Castner*
Hygrophila – clogging canals throughout south Florida

Hygrophila [Hygrophila polysperma (Roxb.) T. Anderson], commonly known as East Indian hygrophila, hygro, Miramar weed and Indian swampweed, is a member of the Acanthaceae or waterwillow family. This noxious weed is thought to be native to the East Indies, India, Malaysia and Taiwan and was introduced to the United States in the mid-1940s as an aquarium plant. Hygrophila made its first appearance in Florida in 1965, but was misidentified until 1977. The species had become weedy in south Florida’s canals by 1980 and had invaded at least 18 public bodies of water in the state by the mid-1990s. Hygrophila is on the U.S. Federal Noxious Weed List and is classified by the Florida Department of Environmental Protection as a Class II Prohibited Weed; in addition, the Florida Exotic Pest Plant Council lists hygrophila as a Category I weed, meaning that the species alters native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. Despite these safeguards that prohibit movement of this noxious weed, hygrophila is still openly sold by aquarium dealers and others on the internet.

The flowers of hygrophila emerge from leaf axils and are small, blue to white and inconspicuous. Stems are square and bear lance-shaped leaves that are arranged in an opposite fashion. Submerged leaves tend to be thinner and longer than leaves borne on emergent plant parts. Although hygrophila can tolerate living in the moist soil along canal banks, the species is happiest when grown under submerged conditions. It prefers areas with slow to moderately flowing water, but can survive in still waters as well. This noxious weed grows quickly and can form underwater stems that are up to 6 feet in length. This exuberant growth clogs canals used for irrigation and flood control, which can hinder crop production and reduce the ability to move storm water after tropical events. Plants are brittle and can break off to form floating mats of fragments; these mats clog water intakes and other structures and result in spread of the species, because it readily produces roots from small fragments – even a section of a single leaf can form roots and produce a new plant.

Although there are thirteen active ingredients labeled for use as herbicides in aquatic systems, only two provide adequate control of hygrophila. The older of these two is dipotassium salt of endothall, a protein phosphatase inhibitor that interferes with cell division and is sold under the trade name Aquathol Super K Granular Aquatic Herbicide. Aquathol Super K is used occasionally for hygrophila control and is applied at a concentration of 5 ppm. Flumioxazin is a protox inhibitor that is sold under the trade name Clipper and was labeled for use in aquatic systems in Florida in 2010. Although use patterns for this new product are still being developed, it appears that flumioxazin provides good control of hygrophila at concentrations of 200 to 400 ppb. Both products should be applied early in the season when plants are actively growing to ensure adequate uptake and highest product efficacy.

Notes: Mention of a trademark, proprietary product or vendor does not constitute a guarantee or warranty of the product and does not imply its approval to the exclusion of other products or vendors that also may be suitable. This article was prepared using information on the UF/IFAS Center for Aquatic and Invasive Plants website; for more information, please visit http://plants.ifas.ufl.edu/node/191.
Impact of Tank Contamination of Dicamba and 2,4-D on Peanut

Those currently battling glyphosate resistant weeds are eagerly awaiting the release of dicamba or 2,4-D tolerant soybeans and cotton. This technology has the potential to greatly improve control of troublesome broadleaf weeds, but what about the impact on peanuts? Though great strides and application restrictions will be in place to manage drift of dicamba and 2,4-D, improper tank cleanout or simply spraying the wrong field is still a valid concern. Both herbicides can significantly injure peanut and cause yield reduction. So what is the potential danger of application of dicamba or 2,4-D on peanut?

We have found that peanuts are quite sensitive to dicamba, even at low rates. In general, the earlier dicamba is applied after peanut emergence, the more severe peanut injury you will see. The typical symptoms of dicamba injury are curling around leaf edges and general twisting and malformation in stems and leaves, as seen in the photo. A 16 oz/A rate of dicamba on peanut can lead to 92% injury and 85% yield loss. Applications at this rate will result in the death of many peanut plants. Though a rate of 16 oz/A might seem high, failure to flush the lines after a dicamba application could result in this high rate being seen for the first 50 feet or so into the peanut field. However, lower rates across the whole field are more likely if the tank is simply not emptied between fields. But even at rates as low as 1-4 oz/A, a 29 to 48% reduction in yield is likely.

Effects from 2,4-D misapplication are not as severe as dicamba. Applications on younger plants (around 30 days old) will have a much greater impact on yield than applications on 60 day old plants. Typical 2,4-D injury on peanut is twisting and curling of leaves and stems, as seen in the photo. Injury symptoms on peanut will often appear, but then the plant will show recovery within a few weeks and no symptoms will be evident - even at rates up to 16 oz/A. But, this lack of visual symptoms can be misleading. Although the peanut plants appear to have recovered from the 2,4-D application, it is common for flowering and peg formation to be greatly reduced for a longer period of time. This is why 3% foliar injury can result in 36% yield reduction.

Dicamba and 2,4-D resistant crops is a powerful new technology that has the potential to provide many positive benefits for crop producers. However, we need to be fully aware that a high standard for tank cleanout is more important than ever. We have always known the significance of cleaning 2,4-DB out of sprayer when going from peanuts to cotton. Now we will just need to ensure that we use the same techniques before spraying peanuts.
Control of winter weeds in hayfields

Winter weeds are always a problem early in the spring, but their lifecycle is over soon after the first hay cutting. Since winter weeds don’t often linger far into May, we have come to accept that hay bales from the first cutting are typically weed infested and low in quality. But, this doesn’t have to be the case. Taking steps now to reduce the winter weed infestations will result in better quality hay. There are many herbicide options that will effectively control these winter weeds and increase the quality of the hay from the first cutting. Below is a short list of products that I have found to be valuable for control of winter weeds.

Glyphosate. In north Florida, where bermudagrass goes completely dormant in the winter, glyphosate can be highly effective and cost less than $5 per acre. Apply 11-16 oz/A (see product label for specific use rate) for control of winter grasses (except ryegrass) and broadleaf weeds. If wild radish or cutleaf evening primrose is present, the addition of metsulfuron or 2,4-D will be necessary. Do not apply glyphosate if bermudagrass has any green tissue present. Glyphosate applied to bermudagrass during transition can greatly delay when the first cutting can occur. If the grass is starting to transition out of dormancy, paraquat (40 day haying restriction) can be substituted for glyphosate. Broadcast applications of glyphosate are not recommended in hayfields in south Florida because many of these fields never go totally dormant.

Metsulfuron. Metsulfuron, also sold as Cimarron, is available under a variety of trade names. This herbicide is fairly inexpensive and effective on a wide variety of broadleaf weeds. Wild radish, chickweed, and red sorrel are very sensitive to this herbicide. Bermudagrass injury is not a concern with this herbicide and it can be applied at any time since there are no grazing or haying restrictions.

Chaparral. Chaparral is a relatively new herbicide that combines metsulfuron and aminopyralid (the active ingredient in Milestone). Metsulfuron controls many winter weeds, as noted above, while the aminopyralid component improves control of thistles, cudweed, Carolina geranium, and fireweed. The combination of these herbicides will likely control a majority of the broadleaf weeds present on a given hayfield.

2,4-D. 2,4-D is often the least expensive way to control a variety of troublesome broadleaf weeds. This herbicide will be effective on pepperweed, wild radish, cutleaf eveningprimrose, and small thistles. Application rates in excess of 1 qt/A will be necessary if the wild radish is blooming or if thistles are greater than 12” in diameter. 2,4-D will not adequately control fireweed or red sorrel. For optimum control of sensitive weeds, it is best to use the ester formulation when applying during cooler temperatures.

Winter weed control can be relatively easy and inexpensive. Removing these weeds will allow the bermudagrass to transition from dormancy more quickly, and greatly improve the quality of the first hay harvest.
Foliar herbicide application during dry conditions in Florida sugarcane

Sugarcane growers on muck soils rely on herbicides for cost-effective weed control. These growers apply herbicides with a goal of delivering the correct spray volume, herbicides, and any added adjuvant to the target weeds accurately, uniformly, and efficiently while minimizing drift in order to achieve effective control. But, the dry season in southern Florida which coincides with early season sugarcane growth has implications on herbicide efficacy especially on muck soils. Generally, large clouds of dust are generated by application of herbicides using ground applicators on muck soils during the dry season. Growers justify herbicide application to minimize negative effect of weeds on sugarcane growth and development based on weed pressure and size in fields during this period. However, weed control is reduced when herbicides are applied under these dusty conditions. The dust generated in muck soils primarily consists of organic matter. The organic matter in the dust generated during spraying binds applied herbicide molecules in the spray carrier and thereby reduce herbicide efficacy. In addition, weed control is generally difficult under dry soil conditions. Weeds typically reduce the amount of water loss by developing a thick protective wax covering (cuticle) on leaves under dry soil conditions. This protective wax layer on leaves reduce herbicide penetration into the plant thereby reducing efficacy.

The first line of defense cane growers have is use of aerial applicators for herbicides labelled for aerial application. In situations where aerial application not possible, there are practices that growers can use to help mitigate the negative effect of dust generated on muck soils by ground applicators. Reducing the speed of ground applicators can help reduce the amount of dust generated. Increasing the spray volume can also help reduce the negative effect of dust on weed control. But, there is need to explore spray application technologies that can mitigate the negative effect of dust generated in muck soils. Use of twin fan spray tips may prevent application rate at the center boom section near wheel tracks from becoming diluted by dust generated during spraying by increasing tip capacity at the center section of the boom which then overcomes loss of the applied herbicide as a result of binding to dust particles.