UF UNIVERSITY of FLORIDA
IFAS Extension

Agronomy Notes

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North Florida Research and Education Center in Quincy showcased different exhibits and fields, including this pumpkin patch, at it annual Fall Field Day last month.
Photo: Tyler Jones
IFAS Communications

Features . . .

Cotton

Forage

Peanut

Soybean

Weed Control

Miscellaneous

Scheduling Cotton Defoliation

Cotton can be defoliated when at least 60% of the cotton is open (fiber showing) without yield loss. Defoliants and boll openers work together to remove leaves and open all mature bolls within a two week period after treatment. Picking ahead of this schedule may result in unopened bolls, leaves, and more trash in the seed cotton resulting in discounts. Generally defoliants and boll openers work better under warmer conditions and with lower rates than later in the season when temperatures are cooler.

It is normally expected that cotton that develops under hot conditions will have high micronaire (fiber thickness). Lower micronaire fiber may be due to the extreme drought and heat that result in cotton bolls being set later in the season and is more of a result of immature fibers and less cell wall thickening. Try defoliation about 2 weeks before picking, because a wet fall and excess soil nitrogen can cause regrowth which would need to be defoliated again or may result in staining of the lint. The pictures below show the same cotton variety with 2 nitrogen rates. The plot on the left had a low rate of nitrogen and is ready to defoliate with more than 60% open bolls and the plot on the right with a higher rate of nitrogen has mostly mature bolls but is a week away from defoliating. Management can make a difference in many aspects of cotton growth and development; time to maturity and harvest is one of them.

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Calendar

October 7 — **Advanced HACCP Training for the Food Industry**, Gainesville
Best Western Gateway Grand

October 20-22 — **Sunbelt Ag. Expo**, Moultrie, GA

October 28th — **2009 Florida Ag Expo**, Gulf Coast REC, Balm
Growers will learn the most current information on: Production trends; Water Management; Insect, Weed and Disease control strategies, and Food Safety.

November 1-5 — **ASA, CSSA, SSSA** annual meeting, Pittsburgh, PA.

November 7 — "**Livin' the Country Life** - Land and Animal Ownership" Conference
Bert Harris Agri-Civic Center, Sebring; Contact: Manatee County Extension Service Christa Kirby, 941-722-4524; Sponsor: South Florida Beef-Forage Program in UF IFAS Extension

Agronomy Notes Page 2

Calendar Continued on Page 3

Calendar Continued . . .

November 9	**UF/IFAS York Distinguished Lecture**, 2:00 p.m., Gainesville UF Emerson Alumni Hall, President's Room Featuring *Congressman Adam Putnam.* Parking in O'Connell Center
November 14	**Florida 4-H Centennial Gala**, Jacksonville
November 15-17	**Energy Conference**, Orlando
February 24-26, 2010	**UF Water Institute Symposium**, Gainesville

Poisonous Plant Watch

Showy Crotalaria
Photos: B. Sellers

There are dozens of poisonous plants that infest pastures. Most of these species are native to Florida and they are present for a majority of the grazing season. However, late summer and early fall is one of the seasons when animal poisoning most often occurs, the other being late winter and early spring when cattle are hungry and there is no forage available yet.

The most common poisonous plants in pastures in the fall are sicklepod, coffee senna, and showy crotalaria. One reason for this is animals rarely browse these species when grass is abundant and succulent. But in the fall, bahiagrass leaf production has greatly slowed while seedhead production dominates. With the decline in available forage, animals will begin to experiment on the other plants present. Additionally, toxins most commonly accumulate in seeds with a much lower concentration in the leaves and stems. It is possible that some animals browse these poisonous plants all season with minimal ill effect. However, with the days becoming shorter and seed production proliferating, casual browsing of seed pods can quickly impact animal health.

Sicklepod

As we draw nearer to frost, the presence of these poisonous plants becomes even more important. The coffee weeds, for example, are much more tolerant to frost than bahiagrass. A light frost can turn bahiagrass totally brown while these plants remain unaffected. This rapid and dramatic reduction in available forage can turn the attention of almost any animal onto poisonous plants.

Coffee Senna

If coffeeweeds, crotalarias, and other known poisonous species are present in your pastures, develop a management plan for them now. This can consist of spraying GrazonNext or simply mowing. If you suspect animal poisoning, the most common signs are dark urine, listlessness, and weight loss. If these signs are present, contact a veterinarian without delay.

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2009 - Recommended Cultivars for Fall Forage

Rye – **Recommended varieties:** FL 401 (for early grazing or for use in blends), AGS 104, Wrens 96, Wrens Abruzzi, Bates, Oklon, Wintergrazer 70, and Early Graze.

Oat – **Recommended varieties:** Horizon 270, Horizon 201, Horizon 321, Horizon 474, SS76-40, RAM LA99016, and TAMO 406.

Wheat – **Recommended varieties:** SS8641, USG 3592, and Pioneer 26R61

Triticale- Triticale does not respond well to close grazing and therefore is only recommended for haylage or silage. If used in grazing, consider blending with ryegrass to promote a longer growing season. **Recommended varieties for silage:** Trical 2700, Trical 342, and Monarch

Ryegrass – **Recommended varieties:** Attain, Big Boss, Bulldog/Grazer, Ed, Flying A, Jumbo, Maximus, Rio, TAMTBO, Verdure.

Early: Attain, Big Boss, Bulldog/Grazer, Ed, Flying A, Oregro DH-3, Rio, TAMBO, and Verdure
Late: Attain, Big Boss, Jumbo, Marshall, ME94, Rio, TAMTBO, and Verdure. Season-long: Attain, Big Boss, Ed, Jumbo, Rio, TAMTBO, and Verdure. These varieties were selected based on their recent three-year, multi-location performance. Other ryegrass varieties, such as Prine, Florlina, Surrey II, Jackson, Big Daddy, TAM 90, Passeral Plus, Brigadier, Fantastic, Graze-N-Gro, King, Beefbuilder III have also performed well in regional trials. (Other new varieties may be suitable but have not been tested long enough in Florida.)

Tall Fescue – In general, fescue should not be planted in Florida. **Recommended varieties:** Max Q endophyte -friendly fescue where adapted.

White Clover – **Recommended varieties:** Osceola (developed in Florida), Louisiana S-1, and Regal Ladino. Durana and Patriot are also well adapted but have a prostrate growth habit and lower initial forage yields, but persist well under grazing.

Red Clover – **Recommended varieties:** Southern Belle, Cherokee (seed will be unavailable in 2009), Bulldog Red, and Redland. Cherokee and Southern Belle were developed in Florida and both are non-dormant (earlier forage production) types that produce greater total-season forage yields than dormant varieties.

Alfalfa – Alfalfa is usually grown as a winter short-term perennial in Florida. **Recommended varieties:** Florida 99 (seed will be unavailable in 2009), Bulldog 805, and Amerigraze 702.

Crimson Clover – **Recommended varieties:** Dixie and AU-Robin. Flame, Chief, and Tibbee may be available but commercial seed production for these cultivars will be limited in 2009.

Berseem Clover — **Recommended variety:** Big bee.

Arrowleaf Clover – **Recommended varieties:** Yuchi and Apache. Apache has improved virus resistance compared to Yuchi.

Lupine – **Recommended varieties:** Tifblue. Tifwhite and Frost are also recommended, however commercial seed production of these lupine varieties has been limited and seed is currently unavailable.

Sweetclover – **Recommended varieties:** None at present. New varieties should be commercially available shortly.

Austrian Winter Peas – (Common). This annual legume is best suited to well-drained soils with high clay content. **Recommended varieties:** Common

Vetch – **Recommended varieties:** Hairy, Americus, AU-Early Cover, Cahaba White, and Nova II. Commercial seed production of most vetch varieties will be limited in 2009.

Ball Clover –**Recommended varieties:** Segrest and common. Pre-inoculated seed is available in 2009

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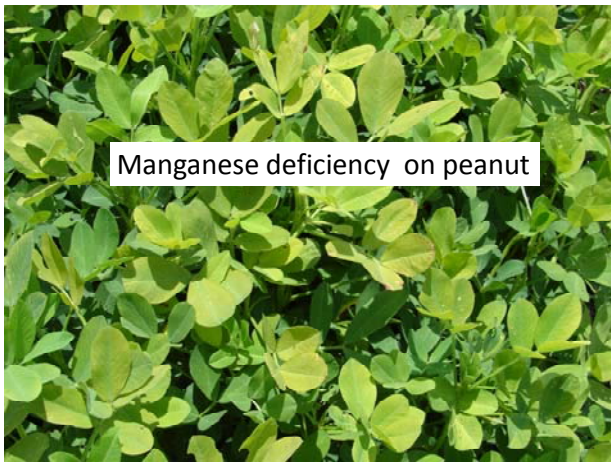
Peanut Harvest

Most of the peanut acreage will be harvested in October. There are many things that show up in peanuts late in the season. Leaf spot can cause peanuts to defoliate and result in poor stem strength which may result in yield loss. Be sure to maintain fungicide sprays late in the season in case late storms come in and peanut harvest has to be delayed a few weeks. Other things that can cause yellow spots in peanut fields are manganese deficiency and tomato spotted wilt virus. Manganese deficiency is often noted late in the season on fields with a high pH. Both manganese deficiency and tomato spotted wilt symptoms on peanuts are shown below. Note manganese symptoms showed up late in the season and that the older leaves down in the canopy are still green.



Manganese deficiency on peanut

Tomato spotted wilt virus symptoms

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Soybean Harvest

It is important to harvest soybeans as quickly as possible to prevent loss in yield and quality. Moist weather following dry down of soybeans can result in grain taking up moisture and fungal growth. Several cycles of wetting and drying in the field after dry down can result in lower test weight and seed quality resulting in discounts at the grain elevator. Likewise, soybeans tend to shatter after pods dry down to harvest moisture resulting in further losses during the harvest operation if not harvested timely. Soybeans should be harvested at 13% moisture or less but can be dried from 15-18% moisture if needed. Soybeans are often harvested in October and if dry down is quick they seldom have to be dried. Moisture should be around 11% if held in a grain bin for an extended period of time.

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Controlling Wax Myrtle in Pastures

Wax myrtle (*Myrica cerifera* L.) is a native plant to the southeastern U.S. In most cases, it is scattered throughout native ecosystems in Florida. However, it can be quite problematic in pastures if left uncontrolled. It can become a dominant shrub in a pasture landscape reducing forage yield. In rangeland, wax myrtle can be suppressed through burning. However, there is usually insufficient fuel to carry a fire into a wax myrtle canopy in an improved pasture setting. Therefore, herbicides applications are usually necessary in pastures.

Wax myrtle in a grazing pasture.

Photo: B. Sellers

Control of wax myrtle can be challenging. Considering that this plant can reach heights of at least 20 feet tall, with canopy widths of 20 to 40 feet, control of this plant can be extremely difficult.

In pastures, the herbicide recommendation for wax myrtle control is Remedy at 2 pt/acre.

However, there are some things that need to be considered before applying Remedy to control wax myrtle.

First, the response of wax myrtle plants to Remedy can be quite variable. This is largely due to the size of the plant at application. Research by Dr. Rob Kalmbacher, a retired professor at the Range Cattle REC, determined that control of plants larger than 2.5 feet was erratic. He found that wax myrtle plants larger than 2.5 feet should be mowed or chopped, followed by treatment of regrowth. It is recommended that wax myrtle be chopped in the late fall or early spring and the regrowth treated the following fall. It has been my experience that cutting the plants back (mowing, chopping, chipping, etc.) in late winter/early spring allows for enough regrowth to treat the plants with herbicides by late summer/early fall.

Second, timing of the herbicide application does make a difference. Again, Dr. Kalmbacher found that late summer/early fall applications of Remedy were quite effective. Why? This is the time that wax myrtle plants are beginning to store energy to over-winter. Therefore, when the herbicide gets into the plant, it is also transported to the root system with the energy reserves, resulting in more consistent control of the plant.

Keys to controlling wax myrtle in Florida pastures

- Plants should be no taller than 2.5 feet. If they are larger than this size, the plants should be chopped or mowed at least 6 months before herbicide application.
- Treat regrowth of wax myrtle plants in late summer (no earlier than August) or early fall (no later than October) with 2 pt/acre Remedy.
- Monitor the pasture the following growing season for escaped plants and retreat if necessary.

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Why Don't Pesticides Always Work?

Pesticides are valuable additions to the box of tools available to pest managers. However, they should be considered as one part of the total integrated pest management (IPM) plan rather than the only solution. **Pesticide failure can occur for a variety of reasons:**

Improper Pest Identification (incorrect pesticide selection)
Incorrect Pesticide Dosage
Improper Application Timing
Pesticide Does Not Reach Target Pest
Unfavorable Environmental Conditions
State of Poor Pesticide Condition
Pesticide Resistance

Improper Pest Identification – Incorrect Pesticide Selection

Accurate pest identification is a cornerstone of any IPM program and should be considered a first step in the program. Being able to accurately identify pests requires skill that is best acquired with much patience and practice. Subtle differences among pest species may often lead to a false identity. For example, management for the control of different species of grassy weeds can be very different. Although they may have common features, such as parallel veins and round stems, crabgrass and bermudagrass control tactics are not always the same.

Crabgrass (above) has an annual growth habit, while bermudagrass (below) is a perennial.

Photos: F. Fishel

Crabgrass possesses an annual growth habit, while bermudagrass is a tougher-to-control perennial with its vegetative rhizomes and stolons. Although some postemergence herbicides may provide control of both species, preemergence herbicides reliably control crabgrass, but are ineffective for control of bermudagrass.

Regardless of the pest class, making an accurate identification is critical. University of Florida/IFAS offers various services to help determine the cause of plant problems and can provide pest identification.

Incorrect Pesticide Dosage

Several reasons may account for this problem. Application equipment should be properly calibrated to deliver a known volume. Underdosing can be expensive because retreatment may be necessary. On the other hand, overdosing is a violation of the product's label wording. Because a rate listed on a product label states that it will control a certain pest, don't assume that the same rate will control other species.

Improper Application Timing

Apply the pesticide to the life stage of the pest that is most susceptible to the effects of the pesticide. Generally, herbicides are most effective on small, early stages of weed growth. Many insecticides are effective on insect larvae or nymphs, but not on adults. Some pesticide labels will state their rates based upon growth stage or size. Another potential problem involving timing is that the application may take place following the infiltration or departure of a pest. An application of a protectant fungicide will provide little, or no, control of a plant pathogen that has already invaded its host plant. Many labels of products for plant disease control will state to begin applications prior to the onset of infection.

Continued next page . . .

Continued from page 7. . . Why Don't Pesticide Always Work?

Pesticide Does Not Reach Target Pest

Sometimes pesticide applications aren't effective because the pest is in a location that is difficult for the pesticide to reach. Many insects are located on the underside of leaves, under bark or soil, or within stems and fruits. When insects are on leaves' undersides, sprays must be directed to those areas to have an effect. Following their application, some pesticides are required to be watered into the soil zone where underground insects are feeding, either by rainfall or irrigation. Read the label for these and other special instructions for maximum product efficacy.

Unfavorable Environmental Conditions

Most pesticides should not be applied just prior to or during rainfall. Although in a few instances, such as the previous example, benefit is gained; however, most pesticides require a minimal amount of time to remain on the treated surfaces. Rain washes pesticides off of foliage before they have time to take effect. High temperatures, lack of moisture, and both acid and alkaline soil pH favor thicker cuticle formation on the surface of weeds. Thick cuticles prevent uptake of herbicides, thus weed control is not maximized. Windy conditions favor drift, the loss of a pesticide from its intended site by movement through air, and may cause injury to desirable plants . Such injury is subject to legal penalties.

State of Poor Pesticide Condition

Under some conditions, some pesticides can change into a form that is not effective. The age of the pesticide, moisture, and temperature extremes are the primary factors responsible. Chemical reactions caused by such conditions can alter the formulation's active ingredient, rendering them ineffective. Moisture is generally a problem when dry products are stored in bags or containers that have not been adequately sealed. Statements on the product's label often refer the user to not store the product in extreme heat. Heat may also cause volatilization of some pesticides if their containers are not adequately sealed. Such statements are found in the "Storage and Disposal" section of products' labels.

Pesticide Resistance

Pesticide resistance does not occur as often as some applicators of pesticides may think. Although there are documented cases of more than 500 arthropod, and 200 fungi and weed species, this is not the most common cause of pesticides to fail. Resistance often develops in pest populations that have been repeatedly treated with a single pesticide. Development of resistance in pest populations may sometimes be averted or delayed by avoiding the use of persistent pesticides, reducing the number of treatments and alternating pesticide modes of action.

Summary

There are many factors responsible for a pesticide's failure in controlling a pest. Although there are additional reasons, most often some type of human error is involved in the problem. Some failures can be avoided by simply following the product's label directions. Use common sense; read and follow all labels.

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