



UNIVERSITY OF GEORGIA
EXTENSION



Flag Day is Tomorrow June 14th



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IRWIN COUNTY EXTENSION AGRICULTURE NEWS - Vol. 20 Mon. June 13, 2022

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In this issue: Recent, Row Crop Update, Peanuts and Gypsum, GA Grain News, Aquifer and Weather, Weather Outlook, Tarnished Plant Bug in Cotton, Recent Crop Scouting Photos, Nutsedge in Cotton, Important Links and Information

Recent

●As always for more information contact your Irwin County Extension Office.



Tucker Farm GA Hwy 32 and Waterloo-Rebecca Hwy Southern Regional Small Fruit Consortium (SRSFC) visit to Irwin Co. with Gary and Chris at Paulk Vineyards



The SRSFC group also visited with John Crawford at Southern Sweet Citrus.....

Also our first 4-H Day Camp visited with John Crawford as well.....



And then visited the Irwin Co. Canning Plant and Wesley Paulk

Agent training with Ext. Row Crop Specialists peanut weed options - note the check

Row Crop Update

Kemerait

It's going to be hot today. It's going to be hot tomorrow and for the rest of this week and next week. It may be hot forever for all I know. That's why UGA has Pam Knox. Not only can she tell you how long it is going to be hot, but also why it is hot. All I

can tell you is that “hot and hotter” coupled with high humidity, scattered showers, and irrigation adds up to more white mold in our peanuts and more southern rust in our corn.

My advice is that peanut growers be aggressive in fighting white mold this year. When this disease is killing some cotton in GA and I saw a picture of white mold on corn in FL, you KNOW it is a big year for white mold.

Corn growers as well must remain vigilant for southern corn rust. Hopefully it is too hot for tar spot.



A little eye-candy this morning from Colquitt County. *Fusarium* wilt on cotton in GA is always ALWAYS associated with nematodes. See in these pictures the wilt, the leaf damage, the stunting, and the vascular discoloration where Jeremy split the lower stem. Nothing we can do this year. But before we close the furrow next year, the grower has options. A few more counties added to the corn rust list – Still not found or confirmed in Irwin

Should I Use Gypsum on my Peanuts This Year? Or Maybe an Alternative Source of Calcium? Harris

There doesn't seem to be as much talk about a gypsum shortage this year, but there are still “supply chain” issues and price of input concerns to the point where there is plenty of talk about whether to apply gypsum or maybe use an alternative.

To review, UGA Extension recommends using gypsum when you take a pegging zone soil sample (4 inches deep) soon after peanut emergence and when the results say you have either 1) less than 500 lb Ca/a or 2) a Ca:K ratio of less than 3:1. If either of these criteria are not met then we recommend applying 1000 lb/a gypsum m at early bloom (approximately 30-45 days after planting). All peanuts to be saved for seed get 1000 lb/a gypsum automatically since calcium levels in the nut are critical to good seed germination.

Can I use lime instead of gypsum? Yes, but lime needs to be applied before planting since the calcium in lime is not as soluble as the calcium in gypsum. So timing is important. Also if you deep turn you need to deep turn before applying lime so you don't bury it. So placement is important. The calcium needs to be in the “pegging zone” (top 4 inches). And technically, lime should only be used when you either need a pH adjustment (below 6.0) or start around 6.0 so the lime will not raise the soil pH too high.

What about “liquid lime”? There is a product currently available called “Topflow” that has been field tested at a 12 gal per acre rate, surface applied at planting. This may not provide as much calcium to the pegging zone as 1000 pound per acre of gypsum and won't raise the soil test calcium as much but can be considered an alternative if you cannot get gypsum. Even though it is a liquid, it is still lime so it needs to be applied before or at planting.

What about other “Liquid Calcium's”? Well, it depends on which “liquid calcium: you are talking about. For example, recent research has been conducted showing 10 gallons per acre of calcium chloride (or 20 gallons of calcium thiosulfate) through the pivot during peak pod fill (around 75 days after planting) can have some benefit. Again, this is not as good as a timely gypsum application but can be viewed as an “emergency” or “insurance” application. The calcium in both of these products is basically 100 % soluble and therefore can be applied during peak pod fill. Also, calcium chloride should be the more affordable option but check on price and availability.

What if I get delayed getting gypsum? Or how late is too late to put out gypsum? Again, gypsum should be applied at “early bloom” or approximately 30-45 days after planting. Since “peak pod fill” is around 60-90 days after planting you can still see benefit from gypsum applications made any time before 60 days after planting. It can also depend on water or irrigation since you need water to dissolve the calcium and get it through the hull into the developing kernels.

Does every field of peanuts in Georgia need gypsum? Probably not, so if supply is short or budgets are tight how do you decide which fields get gypsum? First, any peanut being saved for seed should automatically receive 1000 pound per acre of gypsum, regardless of soil test calcium levels. Second, any field where results from a pegging zone test show you need gypsum should get it. Remember, if the soil test calcium (Mehlich 1 Extractant) is 500 or higher and the calcium to potassium ratio is 3:1 or higher in a pegging zone sample then the soil test calcium will be considered adequate and no gypsum will be recommended. This is based on research field trials looking at yield and grade. Research also shows that gypsum is even more important in dryland compared to under irrigation since water will be more limiting in dryland and less soil test calcium will be available.

Can I base my gypsum or calcium needs on a Fall soil sample? You can, and this is better than nothing, but it is still better to base your calcium needs on a pegging zone sample. Soil samples taken in the Fall were likely taken at a deeper than the pegging zone. Also, calcium can leach out of the pegging zone between a Fall sample and early bloom and give you a false

sense of security. Finally, if you take a fall soil sample and then deep turn before planting peanuts you can very possibly turn up soil into the pegging zone that is low in calcium.

How important is gypsum for peanut production? This probably should have been the first question answered. And the answer It is very or extremely important! Since peanuts as a deep tap-rooted legume can fix nitrogen and scavenge residual soil phosphorous and potassium, calcium is the most critical element. Lack of calcium in the pegging zone to be absorbed through the hull can result in "pops" or no kernels which obviously reduces yield. Calcium deficiency on peanut can also lead to pod rot. And again, calcium is critical to germination for peanuts saved for seed for next year.

Georgia Grain News 6-11-22 Ethredge

Soybeans

Early System **Indeterminate** soybeans are now setting pods. They set them starting at the bottom of the plant and work their way up. The plant keeps growing and blooming. **Determinate** varieties, like what is mostly grown in Georgia, do it differently. They grow their full height first and then begin flowering and setting pods at the top of the plant.

The different maturity groups grow different amounts of time before beginning to flower, depending on night length. So a group 5 will stop growth and flower about a week before a group 6 variety. So generally, later in the planting season you plant a little later variety so it doesn't bloom when still very short. But each variety is different so it takes some investigation to see what is suited for the timing and where you are in Georgia. See the UGA Soybean Production guide and the UGA Statewide Variety Testing site for more info.

Here's photos I took today of an indeterminate group 4 variety that is setting pods at the bottom of the stalk and blooming and plants are pocket high and still growing. The roots are impressive and full of Nitrogen fixing nodules, look for pink inside them if they are actively working, (remember they are attached to the root whereas root knot nematodes would be a swelling of the root, although at first glance it's hard to tell the difference). These were planted on April 20th so are 52 days old. We are watching for caterpillars and stink bugs, especially the very destructive red banded one, and whiteflies and diseases on these now. Its important to keep these wet now as well for best yield as they are beginning to fill pods.



Corn

This week in corn we are seeing some Southern rust in several counties and some smut along the edges is fairly common, especially if stink bugs are present. Dr. Kemerait showed us in Tifton this week that it is edible by eating some raw.

Stink bug sightings are common in corn fields this week, with some egg masses and immatures, and so many fields have been sprayed with a fungicide and insecticide combination.

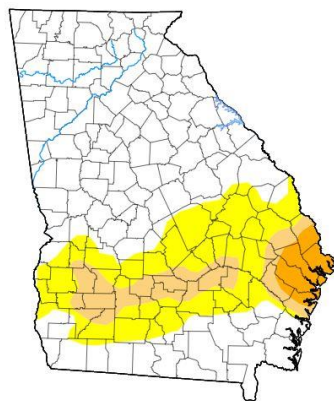
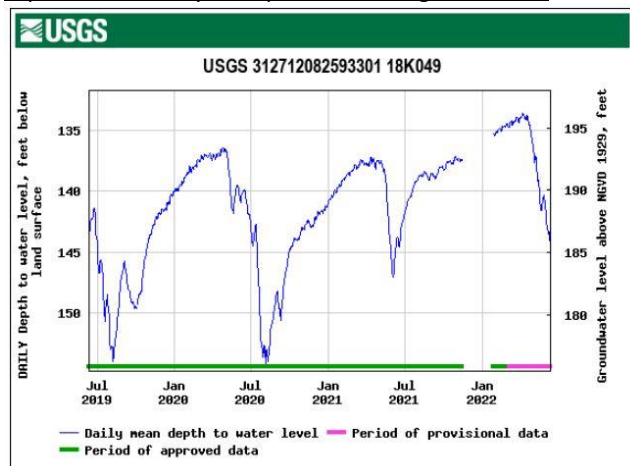
Many early planted fields are in the Milk stage (aka Roastin' ear stage), R3 which is the highest water use stage in corn, 2.4 inches a week. Kernel abortion can happen in the blister and milk stages under stress, where the kernel collapses and doesn't continue to fill.

Our oldest fields are in the Dough stage R4, seen in photo taken today below, so we generally need about 4.5 weeks until this field will be mature depending on heat unit accumulation.

When we are past the milk stage we don't abort any more kernels, but stress can cause lower kernel weight. Still need 2.3 inch a week during dough stage. Remember if you get a big maybe 3-inch rain you can't count the whole amount cause our soils can't hold that much for long. Usually count about an inch but there's more information on this with different soils in the UGA Corn Guide.

Water Levels and Weather

Aquifer Level, May Precipitation, Drought Monitor



Map released: Thurs. June 9, 2022

Data valid: June 7, 2022 at 8 a.m. EDT

Authors

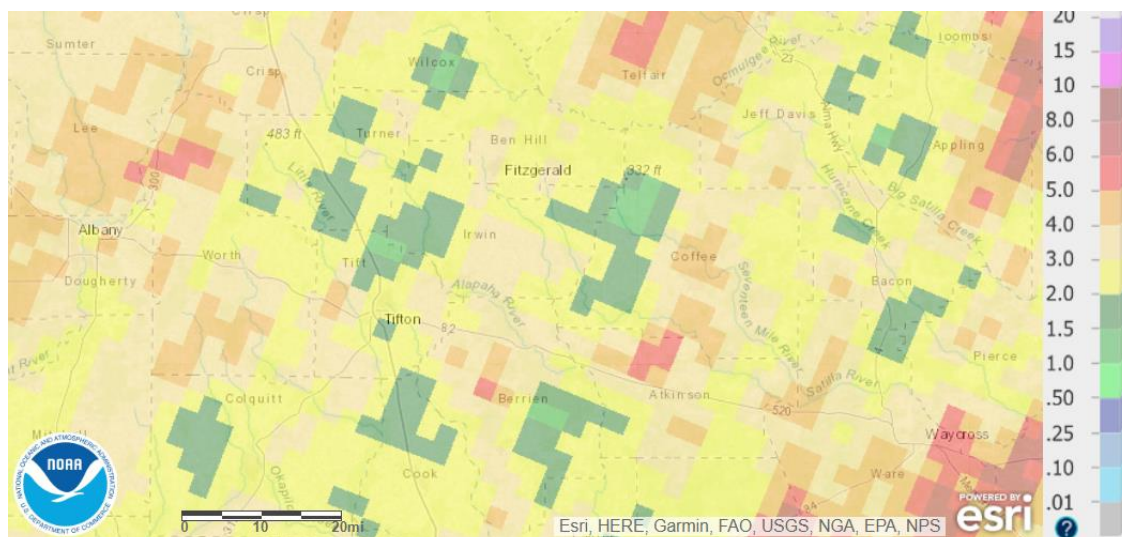
United States and Puerto Rico Author(s):

Brad Pugh, NOAA/CPC

Pacific Islands and Virgin Islands Author(s):

Richard Tinker, NOAA/NWS/NCEP/CPC

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



June 2022 Weather and Climate Outlook Knox

Pam Knox Ag Climatologist with UGA shared the following. Over the past month, the temperature across the Southeast has been warmer than normal in almost all locations. Rainfall has been variable, with bands of wet and dry conditions across the region due to the impacts of slow-moving fronts that have concentrated precipitation in some places while leaving others high and dry. The Drought Monitor has shown this with an increase in dry conditions depicted until late May but some decrease since then as rain has become more frequent.

The outlook for June and July is for warmer than normal temperatures to continue for most of the next six weeks, although it will not be as outrageously hot as the drought regions out west and will have some breaks with cooler weather interspersed.

Precipitation is expected to be fairly dry through early June with some daily thunderstorm activity scattered around the region. Rainfall is expected to pick up in mid-June for a week or two before dry weather returns to the region through mid-July. If you are applying field treatments that depend on the absence or presence of rain, you will want to watch the forecasts carefully to make sure you find the right timing. If the dry conditions in late June and early July do occur, I expect to see an increase in drought conditions since the warm temperatures will also increase water stress.

The first real tropical activity of the year was the Potential Tropical Cyclone #1 that just traveled through southern Florida, dropping as much as 15 inches in some locations in Miami and surrounding areas. Just a few areas in coastal Georgia received any rain from the outer bands of this storm, and most of us were sunny and dry. PTC#1 did not develop a closed circulation and so was not given a name, but after it gets back out over water and the warm Gulf Stream, it will likely be named Alex as it tracks off to the east away from the US. Just shows that it does not need to be a named storm to cause a lot of damage if it hits near you, and rain can be as much of a problem as high winds!

There is nothing else brewing in the tropics right now, but the Gulf of Mexico is warmer than normal and that is the prime tropical development region in June and July, so we could see more action later in June. The GFS model is hinting at another Gulf storm around the 3rd week of June, but it often does that far in advance. Most of the time, those predicted storms do not come to fruition, so don't get too excited if people post dire maps of hurricanes at hour 360 on social media, since they are usually just a single model without much support from other predictions. If a storm does develop, it will likely be in plenty of time for you to react as long as you are watching the forecasts regularly.

La Nina is still hanging on in the Eastern Pacific Ocean and has gotten a little colder, which means it will likely continue through the summer. That will enhance the storm activity in the Atlantic, making this another active year, as predicted. But of course, it really only matters if it comes near you, so be prepared but not worried at this point. The start of the season is a great time to make sure you are ready so that if a storm does head for you, you have planned what to do and have all your documentation in order.

Tarnished Plant Bug Management Roberts

Tarnished plant bug is an occasional insect pest of cotton in Georgia. Primary damage caused by plant bugs is feeding on small squares in plant terminals.

However, plant bugs may also feed on large squares, small bolls, and terminals. Plant bugs insert their needle like piercing sucking mouthparts into fruiting forms and feed on the plant juices. After a pinhead square has been damaged, it turns yellow to brown or black and easily falls from the plant when touched. Healthy undamaged squares will be firmly attached to the plant. When the square is shed by the plant, an elliptical scar where the square was attached remains. No visible damage is apparent on the outer surface of squares damaged by plant bugs. Plant bug feeding in the terminal may alter the physiology and result in a malformed plant. Large squares which are damaged will often remain on the plant and appear healthy and normal, however when the square blooms the flower will have warty growths on the petals and darkened anthers. This type of flower damage is referred to as a "dirty bloom". Plant bugs may also feed on small bolls. Excessive feeding may cause boll shed, but most often localized lint and seed damage is the result. Callous warty growths on the inner surface of the boll wall will often form near the feeding site (appears very similar to stink bug damage)



Square shedding due to tarnished plant bug feeding (left) and a dirty bloom resulting from tarnished plant bug feeding on a large square. Images by Ron Smith, Auburn University, Bugwood.org.

It is important that we scout all fields and use thresholds. Insecticide should only be used if thresholds are exceeded since beneficial insect populations will be disrupted with plant bug applications. During 2021 we estimated that 30 percent of the

cotton in Georgia was treated for plant bugs. Our goal with a plant bug management program is to retain at least 80 percent of first positions when we enter bloom.

Adult tarnished plant bugs are about ¼ inch long with a general brown color mottled by patches of white, yellow, reddish-brown or black. A light-colored “V” on the scutellum (behind the head) and two light-colored patches further back on the wings are characteristic. Eggs are about 1 mm long and are almost always embedded into plant tissue, and thus not easily found. Immature tarnished plant bugs typically vary from yellowish-green to dark green or brownish. Early instars can look like an aphid, but tarnished plant bug nymphs run quickly whereas aphids are docile and move very slowly. Later nymphal instars have four dark-colored spots on their thorax and one spot in the middle of the abdomen. Plant bugs have a large host range and survive the winter as adults on wild host plants. Females lay 50-150 eggs which hatch in 7-12 days and nymphs develop into adults in 15-25 days.



Tarnished plant bug adult (left) and nymph (right). Images by Ron Smith, Auburn University, Bugwood.org

Scouting plant bugs can be accomplished by monitoring square retention and being observant for plant bugs, using a sweep net (pre-bloom), using a drop cloth (after bloom), or preferably a combination of monitoring square retention and sampling for plant bugs.

Square retention counts should be made once cotton begins fruiting and continuing into the 2nd week of bloom. As we get further into bloom, square retention is a less reliable indicator of possible plant bug feeding due to natural square loss for various reasons. To make a square retention count gently pull the top two main stem leaves apart and look for the presence or absence of a small square. Typically, we teach scouts to monitor a single fruiting site per plant. The threshold is when plants are retaining less than 80% of small squares and plant bugs are observed. It is also a good idea to randomly pull plants in the field to monitor overall square retention. Again, our goal is to maintain 80 percent of all first positions when we enter bloom. Plants with 80 percent first position square retention at first bloom still have maximum yield potential.

Sweep nets (15-inch diameter) are a good tool for monitoring plant bug adults on squaring cotton. Adult plant bugs are elusive, so walk quickly when sweeping. Drop cloths are the preferred sampling tool in blooming cotton and are much more effective in detecting plant bug nymphs.

Plant Bug Thresholds:

First two weeks of squaring:

Sweep Net:	8 plant bugs per 100 sweeps
Drop Cloth:	1 plant bug per 6 row feet

Third week of squaring through bloom:

Sweep Net:	15 plant bugs per 100 sweeps
Drop Cloth:	3 plant bugs per 6 row feet

Insecticides recommended for plant bugs include Orthene, Bidrin, Admire Pro, Diamond, Vydate, Transform, and Centric. A few comments on each:

Orthene and Bidrin are organophosphates. Orthene is very active on plant bugs, however it is also hard on beneficial insects and tends to flare spider mites. Orthene does not have activity on aphids and would likely exacerbate aphid populations if present. Bidrin is also very active on plant bugs and hard on beneficial insects. The Bidrin label only allows

higher use rates such as 4-8 ounces per acre from first bloom to 30 days prior to harvest. Bidrin will provide some control of aphids. Delaying use of Orthene and Bidrin until later in the season (after bloom) is advisable.

Transform is very active on plant bugs and provides good control of aphids and is not as hard on beneficials as the OPs. Centric provides good control of plant bugs and decent but sometimes erratic control of aphids. Both of these products would be good choices when targeting plant bugs on squaring cotton. Admire Pro (imidacloprid) has some activity on plant bugs and some activity on aphids and would not be the treatment of choice if plant bug populations were high. Vydate provides fair control of plant bugs and has little to no activity on aphids.

Diamond is an insect growth regulator and is only active on immature plant bugs. Diamond will not control adults. Diamond is used on many acres in the Mid-South where plant bugs are an annual problem. Diamond performs best when applied before the situation is out of control. If you have fields where high adult populations have been observed and nymphs are starting to be found, Diamond would be a good option. In situations where adults are also being found, a knock down insecticide for adults will also be needed.

It can be difficult to obtain control of plant bugs once nymphs are embedded in a field. Be sure to obtain good coverage and potentially make more than one application if populations are high.

Crop Scouting Photos from Brandon Phillips Crop Consultant



Cotton: Blasted damaged square



Aphid pressure



Signs of spider mites



Peanut: Lesser corn stalk borer



Foliage feeders showing up slightly below threshold

Is Nutsedge a Growing Concern in Your Cotton Field?

Culpepper, Randell, Vance, Wright

Historically, nutsedge is one of the most problematic weedy pests in all of agriculture. While often referred to as one species, yellow and purple nutsedge are actually two different species that are common in Georgia cotton exhibiting unique characteristics contributing to their ability to remain troublesome.

Yellow Nutsedge is a hardy, perennial sedge, tolerant of a range of moisture conditions as well as a wide soil pH range. It rapidly reproduces and spreads over large areas, due to a system of rhizomes and tubers.

Rhizomes are an underground stem system that produces either a single nutsedge shoot (to emerge from underground) or a tuber at the tip of the rhizome. Additional rhizomes are formed from the tubers, and the cycle continues. A nutsedge plant can often reach reproductive maturity in 3-4 weeks in our environment, from emergence to the production of another tuber. This allows for numerous flushes during each cropping season. Under optimum conditions, research has shown a single plant has the capability to produce more than 6,900 tubers, which can result in 1,900 new plants a year.

Purple Nutsedge, also a perennial sedge, is the more competitive of the two nutsedge species. It prefers well-drained soils and a warmer climate, where it produces an extensive underground stem system of rhizomes and tubers. The rhizomes either extend upward to form an aboveground shoot or down further into the soil where a tuber will form at its tip. These tubers will either produce shoots, or additional rhizomes and tubers, which will begin to grow together in a chain-like structure. Often in the 3-4 weeks following emergence, a purple nutsedge plant will have begun to form these reproductive structures in Georgia cotton. Compared to yellow nutsedge, purple nutsedge reproduces more aggressively.



Nutsedge control in cotton is complex but can be achieved through understanding the weed's biology, selecting and implementing timely management approaches, and making timely SEQUENTIAL herbicide applications THROUGHOUT the season. **Due to yellow and purple nutsedge having a perennial life cycle and vast underground reproductive systems, control is best achieved when the tuber is targeted.**

Tillage, when used repeatedly and in a timely manner can be an effective approach, especially when used in conjunction with herbicides. Repeated tillage can break up the rhizome/tuber system, which prevents the carbohydrate storage needed for germination, therefore reducing population expansion. However, if not timely, tillage can actually spread the pest throughout the field.

Herbicides, similar to tillage, can be successful but only when implementing a timely systems approach. *The theory of making a single herbicide application and expecting adequate control of these nutsedge species is scientifically flawed.* Herbicides to consider for management in cotton include the following: glyphosate, Envoke, and MSMA. Reflex can be effective on yellow nutsedge (not purple), but current use rates in cotton are quite low for consistent control with this herbicide.

An example of a cotton weed management program designed for a field heavily infested with nutsedge:

Start Clean at Planting: Tillage or glyphosate at 2.25 lb ae (rate equal to 60 oz RU PowerMax 3 which is the max use rate) applied 8 days prior to planting, followed by Gramoxone applied 1 day prior to planting (Reentry interval for Gramoxone is currently 24 hours).

At Plant: Always use two residual herbicides for pigweed, Reflex depending on rate and rainfall/irrigation may be helpful on yellow nutsedge.

POST 1: As soon as the cotton is fully emerged at about 7 days after planting (hopefully), spot spray glyphosate (rate equal RU PowerMax 3 at 30 oz/A) on nutsedge infested areas of the field.

POST 2: About 14-17 days after planting or 7 to 10 days after the first glyphosate application, apply the broadcast application designed for pigweed management making sure to include glyphosate (rate equal to Roundup PowerMax 3 at 30 oz/A)

POST 3: Envoke can be applied to cotton after the five-leaf stage through 60 days prior to harvest. The herbicide is expected to cause some cotton injury when applied topically, including stunting; thus, a sloppy directed application may be more acceptable for some growers. Mixtures with glyphosate are very effective on both nutsedge species.

Layby: MSMA mixtures are advised and can be very effective. Also, if Envoke was not applied earlier in the season, then a mixture such as Direx + MSMA + Envoke is outstanding; if grasses are present, one could apply glyphosate + Direx + Envoke as an alternative, although the MSMA mixture is preferred for nutsedge.

IMPORTANT NOTES:

1. For those relying heavily on a dicamba or 2,4-D system, which usually includes not running a layby or hooded sprayer, then science suggests you should be prepared for nutsedge to spread at an increasingly alarming rate.....just like spiderwort, grasses, and morningglory. Run the dang layby in these problematic fields!!!!!!!
2. This program relies too heavily on glyphosate, thus one should rotate to a crop allowing alternative nutsedge herbicides to be used in the following year!

Important Links and Information

- UGA Extension Publications <https://extension.uga.edu/publications.htm>
- Cotton Production Guides, Corn/Peanut/Soybean Weed Control, Peanut Quick Reference Guides available at our office
- UGA Peanut Production Guide, 2022 Peanut Pest Management, 2022 Disease Risk Assessment Worksheet, Peanut Agronomic Quick Reference, Peanut Scout Handbook, 2022 Peanut Budgets <https://peanuts.caes.uga.edu/>
- 2022 UGA Corn Production Guide (NEW) <https://grains.caes.uga.edu/content/dam/caes-subsite/grains/docs/corn/2022-Corn-Production-Guide.pdf>
- See link for 2022 crop budget information - <https://agecon.uga.edu/extension/budgets.html>
- UGA Irwin County Extension Webpage <https://extension.uga.edu/county-offices/irwin.html>
- Irwin County Extension Agriculture Newsletters – you can find all of our past newsletters by clicking on the link below. <https://extension.uga.edu/county-offices/irwin/agriculture-and-natural-resources/newsletters.html>
- Check your Georgia Private and Commercial Pesticide License credits here <https://agr.georgia.gov/pesticides.aspx>
- Georgia Forages YouTube Channel <https://www.youtube.com/channel/UCL6DgfaB8V2DRnGxzEBxU3w>
- Search find and like us on Facebook UGA Extension – Irwin County and also Irwin County 4-H Club

As always for more information contact your Irwin County Extension Office.

*Praying for Rain, Thank You, God Bless You,
Phillip Edwards - Irwin County Agent*



The mention of trade names in this newsletter does not imply endorsement by the Georgia Extension Service, nor criticism of similar ones not mentioned.

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