The University of Georgia
Cooperative Extension
College of Agricultural and Environmental Sciences

Georgia Cotton

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Irrigation maintenance and repair (*Perry*) - Now is the time to check out center pivot irrigation systems so they will be in top form when it's time to begin irrigating our cotton fields. Check the tires for proper inflation and any abnormal wear and tear. Inspect and service gearboxes and drivelines. Bring your system up to proper operating pressure and note any leaks, blow-outs, etc. from sprinklers, boots, drop hoses, etc. Repair any substantial leaks. If your sprinklers and pressure regulators have some age on them, it would be a good investment to replace worn units with new ones. Sprinkler manufacturers have many new types of sprinklers available to help match your conditions, crops, soils, etc. A sprinkler uniformity test (catch-cup test) is always a good way to check out a system and fine tune the timer chart. Contact your local Extension Agent for more info. Make every drop count!

US and Georgia 2011 Planting Intentions (*Shurley*) - Farmers say they intend to plant 12.57 million acres of cotton this year. If realized, this would be a 15% increase from last year. This is based on USDA's Prospective Plantings report released on March 31st. This much anticipated report is a survey-based estimate of what farmers say they intend to plant this year. The first estimate of what is actually planted will not be released until the end of June.

The 12.57 million acre estimate was on the low side of most expectations. The general expectation was that the report would be in the neighborhood of 13 million acres or higher or about 20% above 2010.

The report suggests a double-digit acreage increase in every state except Georgia and Florida. Georgia acreage is expected to be 1.45 million acres—50,000 acres less than the modern high of 1.5 million set in 1995 and 2000. I believe the Georgia estimate is lower than what will actually be planted.

US Cotton Acres Planted[1]

	2009	2010	2011[2]	Change[3]
Alabama	255	340	410	21%
Florida	82	92	100	9%
Georgia	1,000	1,330	1,450	9%
North Carolina	375	550	750	36%
South Carolina	115	202	260	29%
Virginia	64	83	125	51%
SOUTHEAST	**1,891**	**2,597**	**3,095**	**19%**
Arkansas	520	545	630	16%
Louisiana	230	255	290	14%
Mississippi	305	420	530	26%
Missouri	272	310	360	16%
Tennessee	300	390	470	21%
MID-SOUTH	**1,627**	**1,920**	**2,280**	**19%**
Kansas	38	51	68	33%
Oklahoma	205	285	320	12%
Texas	5,018	5,567	6,115	10%
SOUTHWEST	**5,261**	**5,903**	**6,503**	**10%**
Arizona	147	198	234	18%
California	190	306	385	26%
New Mexico	34	50	69	39%
WEST	**371**	**553**	**688**	**24%**
TOTAL US	**9,150**	**10,973**	**12,566**	**15%**

1/ Thousand acres.
2/ *Prospective Plantings*, USDA, March 31, 2011.
3/ Percent change from 2010.

The rebound of acreage in the Mid-South is still limited by competition from soybeans and corn and by some loss in infrastructure due to the large acreage decline that occurred from 2006-2009. California acreage appears to rebound somewhat due to increased availability of irrigation water.

Georgia farmers say they intend to also plant more corn and less peanuts and soybeans. Wheat acreage is up and tobacco is also expected to be up. If cotton acreage actually planted is higher than the 1.45 million acre intentions, the additional acreage will most likely come from peanuts and soybeans. Georgia's hay acreage is also down and some of that acreage could be shifting to row crops.

Georgia, Acres Planted to Major Row Crops[1]

	2009	2010	2011[2]	Change[3]
Corn	420	295	330	12%
Cotton	1,000	1,330	1,450	9%
Grain Sorghum	55	45	45	0%
Peanuts	510	565	540	-4%
Soybeans	470	270	210	-22%
Tobacco[4]	13.8	11.4	12.0	5%
Wheat	340	170	250	47%

1/ Thousand acres.
2/ *Prospective Plantings*, USDA, March 31, 2011.
3/ Percent change from 2010.
4/ Acres harvested.

Considerations for planting and management of early season growth:

Seed quality: warm and cool germination tests (*Collins and Whitaker*) – Seed quality is something that is often ignored, but could provide some insight on seed performance in various planting conditions, which could influence planting rate in some cases. Seed companies generally move forward with only high quality seed, however seed quality is something that all growers should monitor for all varieties in every season. Seed germination and subsequent seedling vigor can greatly influence stand establishment and ultimately yield, especially when encountering adverse weather that often occurs during the early portion of our planting window. When evaluating the germination of cotton seed, consideration should be given to both the warm (standard) and cool germination test percentages. The warm germ ratings can usually be found on the seed bag, and is likely the only germination criteria that most growers observe. The warm germ test is generally conducted at temperatures alternating between 68°F and 86°F for various lengths of time, which may be more indicative of seed performance in near-optimal, or warmer, planting conditions. However, we may encounter less than optimal temperatures during the early portion of our planting window, thus the warm germ rating may not be the best measure of actual seed germination in the presence of adverse environmental conditions. The cool germ test, which is generally conducted at 64.4°F, is a more accurate assessment of potential germination at our minimum recommended soil temperature for planting cotton (65°F). This information is not usually printed on the seed bag, but it can often be provided by the dealer and/or the seed company. In previous years, some growers may have achieved adequate germination and emergence when planting in soil temperatures ranging from the mid to high 50's to the low 60's. This is not generally recommended for anyone, and it is very important that growers understand that germination can be very erratic at these low temperatures, even when the results of the cool germ test suggests that germination is adequate to optimal. The cool germ test can not generally be used to make inferences regarding germination below 64.4°F with any consistent accuracy. Planting in soil temperatures less than 65°F can be very risky, especially when the cost of that seed is considered. Understanding both warm and cool germ test results allows us to somewhat predict the potential for losses in various environmental conditions, and also provides a basis upon which seeding rate decisions or adjustments can be made in order to achieve optimal stands in these conditions.

Planting conditions and soil temperatures (*Collins and Whitaker*)- The first five to seven days after seed imbibe water is generally the period when cotton is sensitive to cool temperatures, with the greatest sensitivity occurring during the first two to three days after imbibition. In general, cotton should be planted when soil temperatures are 65°F or greater and 30 to 50 DD60's (preferably the latter) are expected to accumulate within five days of planting. Remember that soil temperatures in no-till systems are generally a little bit cooler at any given time than what is usually observed in conventional tillage systems. Even though we may experience some high daytime temperatures, we must not forget the impact that low nighttime temperatures could have on germination, emergence, and seedling growth. If a cool spell occurs in the next few weeks, waiting a short time for suitable planting conditions to return is still feasible, as we are only at the beginning of our cotton planting window in Georgia. The urge to plant into moisture in dryland fields often takes precedence over waiting for optimal soil temperatures for some growers. Close observation of expected rain events and high/low temperatures within five days of the anticipated planting date can aid growers in making these

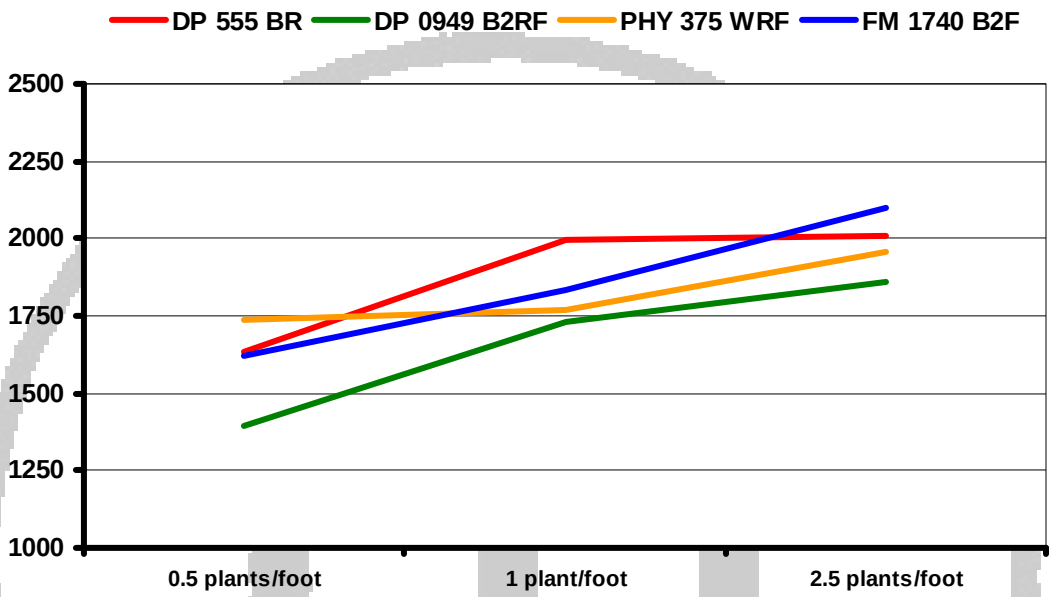
decisions. More importantly, observing soil temperatures at the 2, 4, and 8-inch depths (www.georgiaweather.net), and any steady changes or fluctuations in soil temperatures that occur over several days, can provide useful information in determining when it is safe to plant. Temperatures at the 4 and 8-inch depths could also be an indicator of the warming capacity of the soil, or the likeliness of temperature fluctuations or rapid cooling when encountering a short-lived cool spell. Vast differences in soil temperatures between the shallow and deeper depths may indicate that the soil is just beginning to warm but could cool down rapidly if low nighttime temperatures or a cool spell is expected. However, if soil temperatures are relatively warm in both the shallow and deeper depths, then the soil may have some level of temperature "buffering capacity" which may somewhat protect against drastic temperature fluctuations or rapid cooling depending on the intensity and duration of an expected cool spell.

Some growers, especially dryland growers, may also want to utilize or capture available soil moisture by deep planting. Cotton in Georgia should be planted at depths between 0.75 and 1.25 inches but not greater than 1.25 inches. Planting on the shallower end of this spectrum is advised when encountering unfavorable soil or environmental conditions (cool wet weather), or if surface crusting is likely. Deep planting in unfavorable soil temperatures, or in soils that tend to crust, could lead to germination and emergence problems. Planting at depths closer to 1.25 inches is only appropriate when planting in good soil moisture, warm soil temperatures, and in well-drained soils without the potential for crusting.

Optimal seeding rates and plant population (*Collins and Whitaker*) – Recently, there has been some discussion regarding seeding rates of newer varieties, and whether or not the generally recommended seeding rate (2.5 seed per foot of row, or 2 seed every 9-10 inches hilldropped, for 36 to 38-inch rows; 2 seed per foot of row, or 2 seed every 12 inches hilldropped, for 30-inch rows) should be adjusted. In general, these recommendations can be adjusted up or down by 0.5 seed per foot, with a minimum of 2 seed per foot, depending on particular planting conditions. Most of the recent discussion seems to be in regards to reducing these recommended seeding rates for two logical reasons. Most modern varieties include technologies such as WRF, LLB2, and B2RF technologies, which are more expensive than what we have been dealing with in the recent past. In general, the first impulse for many growers is to offset these costs by reducing seeding rates. Secondly, the majority of these newer varieties appear to be larger-seeded and more vigorous in terms of germination, emergence, and early season growth than DP 555 BR. Since DP 555 BR was smaller seeded and somewhat weaker in terms of early season vigor, many growers are questioning the necessity of our currently recommended seeding rates for these newer varieties. Research was conducted in 2010 investigating the yield response of some modern varieties to final plant populations (Figure 1). These varieties were planted thick and then hand-thinned to achieve the final plant populations, therefore this data does not reflect yield responses resulting from actual seeding rates. The data from the first year of this research suggests that yields of all new or modern varieties increased as plant population increased up to 2.5 plants per foot. Therefore, the currently recommended seeding rates are still probably as low as we need to go, in order to achieve optimal yields without adversely affecting plant canopy architecture or structure. This is especially true, if germination and emergence problems occur. Erratic stands not only lead to potential yield losses, but also lead to delayed and inconsistent maturity, incomplete canopy closure, and poor harvest efficiency if the number of vegetative branches and stalk thickness are influenced by

skips between plants. Keep in mind that our seeding rates are generally lower than in most other regions of the cotton belt, largely due to our warmer temperatures during planting season, and the length of our entire season which allows us to wait and plant when conditions are favorable.

Figure 1. Lint yield response of modern cotton varieties to final plant population. These varieties were planted at a high seeding rate and hand-thinned to achieve these final plant populations soon thereafter emergence.



Implications for early season management in 2011 (*Collins, Culpepper, Roberts*) – Nearly all of the previously mentioned recommendations would have implications in any season. However, recent developments in the cotton industry may require more attention to be given to planting practices and early season growth in 2011 and beyond, compared to what we have done in the past. Seedling vigor has always been a factor that growers consider briefly during the early season, but tend to forget shortly after. Let's be clear…for most folks, variety selection should still continue to be largely based on yield potential and stability first, unless some other factor is your most yield/profit-limiting factor (water, pigweed, nematodes, etc) for particular farms or fields. In the latter cases, technology options, maturity, or nematode tolerance may play a more important role in the variety selection process as opposed to strictly yield potential. Seedling vigor alone has generally been, and will likely continue to be, a low priority when selecting varieties. With that said, once a variety is selected based on the previously mentioned criteria, the subtle differences with regard to early season vigor, may require a little extra attention this year and beyond. The good news is that most modern varieties tend to be somewhat larger seeded and more vigorous than DP 555 BR during the early season.

The loss of Temik will undoubtedly change how we manage a cotton crop from this point forward. Early season vigor could very well be affected by the loss of this important tool, to which we have become accustomed. Seedling vigor is predominately influenced by temperatures during the early season, however, other factors may influence vigor as well. A common scenario in 2010 consisted of the following, and is illustrated in Figure 2: Several growers observed substantial thrips damage at 3 to 4 weeks after planting, predominately when

seed treatments were used in place of Temik, but not always. Upon further investigation, nearly all of the affected seedlings also showed symptoms of pre-emergence herbicide injury, which likely resulted from the frequent rainfall that occurred throughout the 2010 planting window. In summary, the injury from the herbicides apparently slowed seedling growth, allowing thrips to feed on developing leaves longer than usual (see the detailed discussion about this in Dr. Roberts section below). By this point in time, all growers in Georgia should realize that the extensive use of pre-emergence / residual herbicides is an absolute necessity in combating glyphosate-resistant Palmer amaranth, and that some injury will occur in some fields. This is nothing new; herbicide injury was prevalent in several years prior to the widespread adoption of Roundup Ready cotton varieties. Weed management decisions should continue to be made strictly for weeds, and should not be influenced by potential injury!! In most cases during 2010, replanting was not justified and the crop later grew out of the injury, but this scenario does illustrate the importance of planting in conditions that would promote high seedling vigor, rapid seedling growth, frequent monitoring for the presence of thrips, and timely foliar sprays if justified from scouting.

Simply put, growers should understand the potential relationships between herbicides, seedling vigor, and thrips, and should focus on the factors in this equation that can be controlled. Therefore, growers should plant when conditions are suitable for rapid emergence and rapid seedling growth, and should closely monitor the crop for herbicide injury symptoms and the presence of thrips. Any necessary insecticide applications should be made 1. if scouting suggests that such applications are justified, and 2. in a very timely manner, as opposed to waiting until severe damage has occurred.

Figure 2. Herbicide injury in 2010 resulting in slowed seedling growth, allowing for additional thrips feeding on developing leaves.

Preventive at-plant insecticides for thrips management (Roberts) - At-plant systemic insecticides provide consistent yield responses and are used by most growers for early season thrips control. Thrips are consistent and predictable pest of seedling cotton and will infest plants as seedlings emerge. In-furrow applications or seed applied systemic insecticides are taken up by the plant as it germinates and develops providing protection from day one. The length of residual control will vary by insecticide technology. Temik will provide control for about 4+ weeks after planting (rate dependent) whereas the commercial seed treatments such as imidacloprid (Gaucho, Aeris Seed Applied System, and Acceleron-I) and thiamethoxam (Cruiser, Avicta Complete Cotton, and Acceleron-N) provide control for about 3 weeks after planting. Research conducted in Georgia and South Carolina during the last two seasons has demonstrated that thrips protection during the first 14 days of seedling development is most important. This is likely the reason at-plant systemic insecticides for early season thrips control provide such a consistent yield response.

Temik will be in short supply this season and growers should be making arrangements for at-plant thrips insecticide treatments. Commercial seed treatments containing imidacloprid or thiamethoxam are our best option for early season thrips control in the absence of Temik. It will be a challenge for the industry to get all seed treated for the upcoming planting season. Some growers will have a limited supply of Temik and consideration should be given to which acres to use available product. Nematode populations will likely play a large role in where to use available Temik, but there are some factors related to thrips biology and ecology which should also be considered.

- Thrips infestations are generally higher on April and early May planted cotton compared with later planting dates. Temik is more efficacious on thrips compared with the seed treatments.
- Seedling injury and potential yield impacts from thrips feeding are compounded by slow seedling growth due to cool temperatures or other plant stresses. A rapidly growing seedling can better tolerate thrips feeding.
- Seedlings become more tolerant of thrips feeding as they develop. Small seedlings (<2-leaf) are more sensitive to thrips injury in terms of yield loss compared with 3-4 leaf seedlings. Slow growing seedlings will remain in the thrips "susceptible window" for a more extended time compared with a rapidly growing seedling. It is unlikely that seedlings which have reached the 4-leaf stage and are growing rapidly will benefit from supplemental foliar sprays.
- Thrips infestations are lower in reduced tillage systems compared with conventionally tilled systems (winter cover crops should be killed at least 3 weeks prior to planting and no green vegetation should be present at planting).
- Systemic foliar insecticides such as Bidrin, dimethoate, and Orthene should be used for foliar control of thrips if needed. Foliar sprays should be applied to cotton which had an at-plant systemic insecticide when 2-3 thrips per plant are counted and immatures are present. The presence of numerous immatures suggests that the at-plant systemic insecticide is no longer active.

- If no at-plant thrips insecticide is used, multiple well timed foliar applications will be needed. Early season foliar sprays for thrips, especially multiple applications, will increase the likelihood of secondary pests such as aphids or spider mites developing.

COTTON INSECT CONTROL (continued)

PEST	INSECTICIDE	FORMULATION PER ACRE	LBS. ACTIVE PER ACRE	REMARKS
Thrips (seedling cotton), At-Plant Treatments	acephate			
	(Orthene 97ST)	Commercial seed	treatment	
	(Orthene 97)	0.5-1.0 lb	0.49-0.97	
	(Orthene 90S)	0.56-1.1 lb	0.5-1.0	
	(Acephate 97)	0.5-1.0 lb	0.49-0.97	Apply acephate as a spray into the seed furrow at planting.
	(Acephate 90)	0.56-1.1 lb	0.5-1.0	
	aldicarb			
	(Temik 15G)	3.5 lbs	0.525	Apply Temik granules into the seed furrow at planting.
	thiamethoxam			
	(Cruiser)	Commercial seed	treatment	
	imidacloprid			
	(Gaucho Grande)	Commercial seed	treatment	
Thrips (seedling cotton), Foliar Spray	acephate			Apply when 2-3 thrips per plant are counted and immatures
	(Orthene 97)	3.0 ozs	0.18	are present. Treatment is rarely necessary after plants have
	(Orthene 90S)	3.2 ozs	0.18	4 true leaves and are growing vigorously.
	(Acephate 97)	3.0 ozs	0.18	
	(Acephate 90)	3.2 ozs	0.18	
	dicrotophos			
	(Bidrin 8)	1.6-3.2 ozs	0.1-0.2	
	dimethoate			
	(Dimethoate 4)	0.25-0.5 pt	0.125-0.25	

<u>Are you willing to spray bare soil throughout the season to manage pigweed?</u> ***(Culpepper)***
For the past 15 years, some growers enjoyed the ability of allowing as many weeds as possible to emerge and then spraying a little Roundup to kill them all. Of course, in Georgia, those days are long gone. In fact, the mentality of the Roundup Ready cotton grower must change. The new approach should follow the *concept of over lapping residual herbicides* (Figure 1), from planting until cotton canopy closure. Examples of programs using the tactic of over lapping residual herbicides are provided in Figure 2 (note applications timings). In these examples, secondary residual herbicides are applied <u>and activated</u> prior to the previously applied residual herbicide reaching concentrations that no longer control pigweed. These programs are effective but application timing is critical (Figure 3).

Figure 1. Concept of Overlapping Residuals

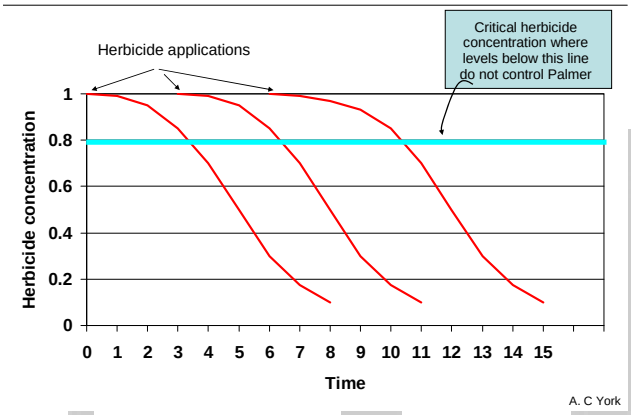


Figure 2. Controlling GR Palmer amaranth in RR conventional IRRIGATED cotton. 2011.

PRE	POST1 1-lf cotton	POST 2 5-6 lf cotton	Layby
1. Reflex + diuron 2. Reflex + Prowl	RU + Staple (emerged pigweed)	RU + Dual or Warrant	diuron + MSMA
3. Reflex + diuron 4. Reflex + Prowl 5. Reflex + Staple 6. diuron + Staple + Prowl	RU + Dual or Warrant	RU + Dual or Warrant	

Figure 3. Overlapping residual herbicides….can't be late or you will be hand weeding!!

Prowl + Reflex PRE, Roundup + Dual Magnum POST 1, Roundup + Warrant POST 2, Direx + MSMA layby in both plots. Only difference is timing of POST 1.

Planting into a pigweed free seedbed…….do it or pay dearly! ***(Culpepper)*** Georgia growers should be well aware that there is no chance for economic sustainability if they decide to plant cotton into fields infested with emerged glyphosate-resistant Palmer amaranth. The use of diuron or Valor preplant can assist growers in avoiding this concern.

For diuron, mixtures with paraquat (Gramoxone, other) provide the most effective control of emerged Palmer amaranth (Figure 1). When applications using the appropriate water volume and spray tips are made, Palmer (5 in or less) control is excellent. Diuron, if activated by rainfall or irrigation, will also provide two to three weeks of residual control.

Valor is less effective than diuron in controlling emerged plants but Valor is far superior to diuron in providing residual control. In fields that will not be planted for an extended period of time or in fields with tremendous pressure, Valor will provide greater residual control and this control will last for a longer period of time.

Regardless of the burndown program, scout fields prior to planting and control all emerged pigweeds before planting. Remember that waiting until after planting to control emerged pigweed often leads to escaped plants due to soil from the planting process covering these pigweeds.

Be certain to follow plant back intervals as suggested on respective labels (Figure 2).

Figure 1. Controlling 5 inch Glyphosate-Resistant Palmer amaranth at Burndown. Macon Co., GA.

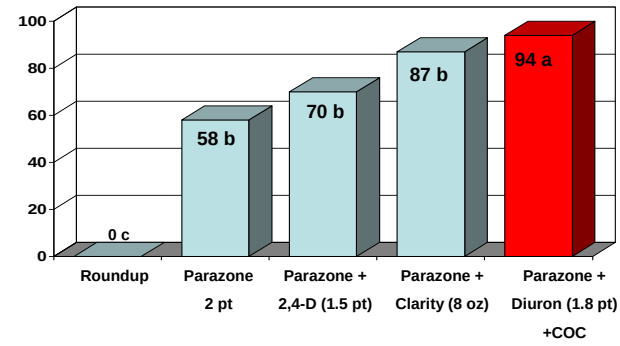


Figure 2. Plant back interval for Valor.

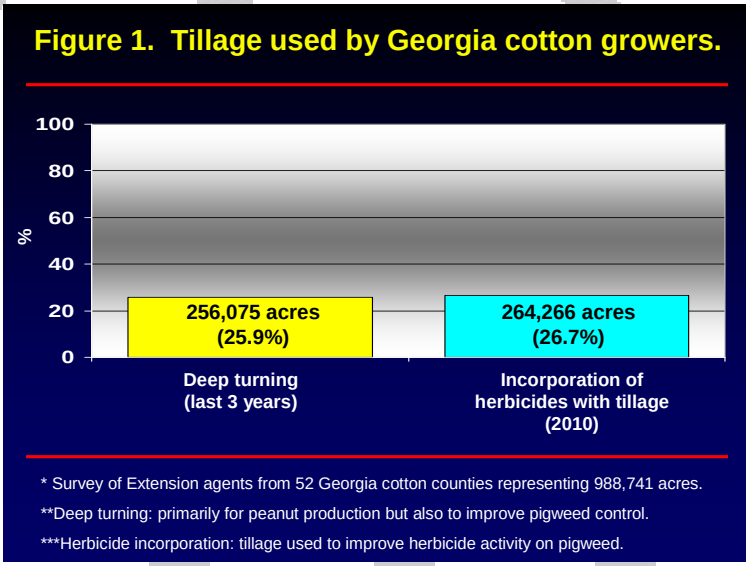
Strip-Till Production: Apply Valor at least 7 d ahead of planting as long as the strip operation occurs between applying Valor and planting.

No-Till Production or No-Tillage after application:

1. **<30% residue: 28 days and 1 inch rain**
2. **>30% residue: 21 days and 1 inch rain**

Tillage, an effective tool for controlling glyphosate-resistant Palmer amaranth? ***(Culpepper)***
Over the past several years, tillage has obviously become a more common practice across Georgia (Figure 1). Deep turning has proven to be an effective tool to reduce Palmer amaranth populations, often 50 to 70%. However, most deep tillage is used more closely with peanut production with a secondary benefit of improved pigweed control.

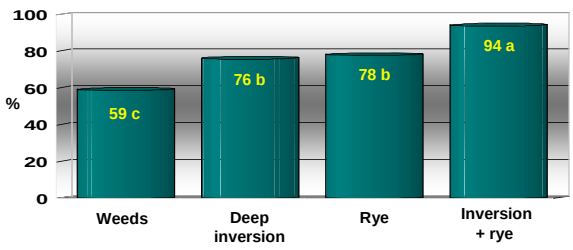
A significant increase in tillage to incorporate herbicides was noted in 2010 (Figure 1). This approach is especially popular in dryland Roundup Ready production systems and for a good reason. In dryland Roundup Ready cotton production, physically incorporating an herbicide such as Treflan or Prowl into a moist soil is the only method to guarantee herbicide activation and start the season off controlling pigweed. Remember to incorporate those herbicides as close to planting as possible to extend control into the season.



Heavy residue cover crops….an effective tool to aid in the control of glyphosate-resistant Palmer amaranth? ***(Culpepper)*** There is no doubt that glyphosate-resistant Palmer amaranth has greatly reduced Georgia's conservation-tillage and reduced-tillage cotton acres. Although tillage is an effective option for controlling Palmer amaranth, research is also showing extremely promising results of using rye residue in conservation tillage to improve Palmer amaranth control and increase dryland yields (Figures 1 and 2). Additional benefits from these heavy residue systems are numerous and include the following: 1) little to no sandblasting or erosion 2) reduction in the potential for glyphosate-resistant horseweed or ryegrass development, 3) reduction in labor, 4) less long term concerns over governmental regulations and 5) lower herbicide input costs and hand weeding.

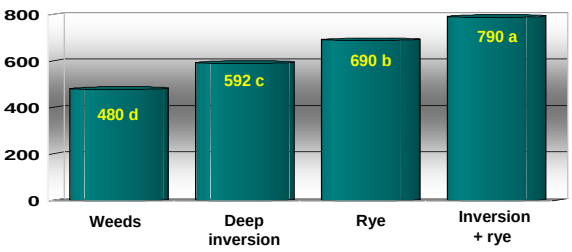
Although this heavy residue production practice is "scary" too many growers, significant efforts by UGA, USDA, and NRCS are currently underway to develop research methods and tactics to aid in an easier transition for interested growers. This information should be available by the fall of 2011 prior to the time one needs to plant rye, contact your local Extension office.

Figure 1. GR Palmer amaranth control by tillage, cover crop residue, and herbicides. At harvest.*



*RR System: Diuron + Reflex + Staple fb Roundup + Parrlay fb Direx + MSMA

Figure 2. GR Palmer amaranth influence on dry land cotton lint yield (lb/A) in the Roundup system. 2010*



*RR System: Diuron + Reflex + Staple fb Roundup + Parrlay fb Direx + MSMA

Residual herbicides are essential even in an Ignite-based program. ***(Culpepper)*** There is no question that the Ignite-based program offers growers more flexibility to control emerged glyphosate-resistant Palmer amaranth than does a Roundup-based systems. And because of this, especially on dryland, approximately 20% of our 2010 acres utilized Ignite-based programs. Many growers that used Ignite-based programs followed sound sustainable management programs. However, an alarming number of growers made EXTREMELY POOR decisions with their Ignite-based programs. Some growers decided that repetitive applications of Ignite throughout the season, without other herbicides, was a great idea…….holy moose…what are they thinking! What did we just do to Roundup??? Ignite-based programs should ALWAYS include residual herbicides. The most effective programs will include residual herbicides at planting and throughout the crop (Figure 1). Additionally, the use of no more than two Ignite applications is strongly encouraged and these two applications in cotton should be followed by a crop such as peanut or corn where no Ignite is used during the following season. Programs noted in Figure 1 are EXTREMELY effective as long as you make the Ignite application when the biggest pigweed in the field is 3 inches in height!!!

Our future depends on protecting the activity of Ignite…….DONT DESTROY IT!!!!!!!!!

Figure 1. Controlling GR Palmer amaranth in Liberty Link conventional DRYLAND cotton.

PREPLANT and PRE*	POST1 1-lf cotton	POST 2 6-7 lf cotton	Layby
1. diuron + Reflex 2. Cotoran + Reflex 3. Prowl + Reflex 4. Diuron + Staple 5. Cotoran + Staple 6. Diuron PRE 7. Cotoran PRE 8. Treflan PPI	Ignite 29 oz + Dual Mag.	Ignite 29 oz	diuron + MSMA

*Select the option that fits your total weed spectrum. Focus on grasses, spiderwort, pusley, and pigweed if they are present in your field.

Nematode management remains critical for Georgia's cotton growers (*Kemerait*)
The recent announcement that Temik 15G will no longer be produced has caused considerable problems for a significant number of cotton growers in our state and elsewhere. To use the phrase that the situation has "inconvenienced growers" is grossly inaccurate and simply trivializes the crucial role that Temik has played in the management of nematodes, and thrips, in cotton production in the southeastern United States. Many growers who have depended on Temik 15G and who are not able to use the quantity that they have needed in the past will likely experience increased losses to nematodes in 2011. However, it is my hope that 2011 will also provide growers with the opportunity to better assess the extent of nematode damage in their fields and to further refine an integrated management program. Such a program should include a nematode sampling program, effective crop rotation, selection of tolerant/resistant varieties when available, careful selection of appropriate nematicides and combination of nematicides, and

adoption of “site specific” applications for the fumigant Telone II. Below are recommendations that cotton growers should review as they prepare to battle destructive populations of southern root-knot, reniform, Columbia lance, and sting nematodes affecting cotton in our state.

1. Where supplies of Temik 15G are LIMITED, growers should focus use (5-6 lb/A in-furrow) in those areas where nematodes are considered to be a threat. Where Temik has been used solely for management of thrips, growers may consider using other effective products in order to save the Temik for nematode management.
2. Growers should choose more-resistant (often referred to as “tolerant”) varieties where appropriate. (NOTE that varieties with resistance to "southern root-knot nematodes" will not protect against other nematodes like "reniform" and "Columbia lance"). For cotton we have ST 5458B2RF and PHY 367WRF; other varieties are on the way. Research at the University of Georgia has demonstrated that these varieties are less affected by southern root-knot nematodes than are non-resistant varieties, and that they may also lead to lower end-of-season populations of the nematodes in a field than would susceptible varieties.
3. A significant number of cotton growers in Georgia could make substantially more cotton if they would use Telone II for management of nematodes in their fields with nematode problems. This was true before the loss of Temik and it is especially true in the rapidly approaching post-Temik era. If growers have been undecided in the past as to the adoption of Telone, now may be a great time to "take the plunge". Dow AgroScience, maker of Telone II, is working with researchers across the cotton belt to develop effective strategies for “site specific” application of Telone II so that damage from nematodes is minimized and yield and profit are maximized. NOTE: Unfortunately, supply of Telone II will be limited again in 2011.
4. Consider use of Seed Treatments like AVICTA Complete Cotton from Syngenta Crop Protection, AERIS Seed Applied System (+ Trilex where seedling disease threatens) from Bayer Crop Science, or Acceleron N from Monsanto. Abamectin is the ingredient active against nematodes in AVICTA and Acceleron N; thiodicarb is the active ingredient in AERIS. There should be sufficient seed treatment available; however there will be a HUGE rush on trying to get the seed treated in time!! From numerous field trials conducted in Georgia, Temik 15G at 5 lb/A has provided better early-season management of nematodes where pressure from this pest has been more severe; however at lower populations of nematodes seed treatments often been comparable in performance to Temik. The key in 2011 is to use the Temik that is available in the more difficult fields (unless Telone is an option) and to position seed treatment nematicides where nematode populations are likely to affect the crop but at less damaging levels.
5. For growers wanting to supplement the control of nematodes provided by seed-treatment nematicides, a post emergent application of Vydate CLV (17 fl oz/A) may provide some additional benefits. Such an application is considered effective in the Mid-south cotton production region where reniform nematodes are of significant concern; results have been less conclusive in Georgia in areas where the southern root-knot nematode is of greatest concern.

Research will continue at the University of Georgia to develop and revise recommendations and strategies for nematode management on cotton and other crops in the wake of the loss of Temik.

Cotton Scout Schools: Tifton June 13, and Midville June 21, 2011

Cotton insect scouting schools are annually held at various locations in Georgia. These programs offer general information on cotton insects and scouting procedures and will serve as a review for experienced scouts and producers and as an introduction to cotton insect monitoring for new scouts. The annual Cotton Scout School in Tifton will be held on June 13, 2011 at the UGA Tifton Campus Conference Center. The Midville Cotton Scout School will be will be held on June 21, 2011 at the Southeast Georgia Research and Education Center. The training programs at each location will begin at 9:00 a.m. and conclude at 12:30 p.m.

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Your local County Extension Agent is a source of more information on these subjects.

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