



THE UNIVERSITY OF GEORGIA COOPERATIVE EXTENSION

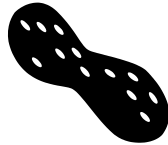
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Upcoming Dates

- July 12-14 - American Peanut Research & Education Society Conf. San Antonio
- July 19 - Stripling Irrigation Research Park Field Day – Camilla
- July 21-23 - Southern Peanut Growers Conference - Panama City Beach, FL
- September 7 – UGA Cotton & Peanut Field Day – Tifton

I'm out of the office these days.

Current Climate Situation: We have now moved into a desperate drought situation. Although we have been blessed with some merciful rains over the last two to three weeks, in many areas we have received very little rainfall and sub-soil moisture is not available. Last month we had received about half of the normal precipitation for the month, but we have had no improvements. The 30 day (from publication date) rainfall recorded at the USDA Multi-Crop Irrigation Research Farm in Shellman recorded 1.56" (30 year average is 5.58") inches with a daily average temperature of 84.12°F and an average daily maximum temperature of 97.55°F. Average daily temperatures are about 5-7 degrees higher than the 30 year average. This is a considerable deviation from the norm. In fact, June was the hottest in recorded history. Wells and reservoirs are still in dismal shape and many dryland crops never got established. The average minimum temperature was 70.69°F. The average 4" soil temperature over the last thirty days is 89.73°F. The evapotranspiration 30 day average is (.238) inches per day, which is way above average. To monitor soil temperatures and weather information at various weather stations including the USDA Multi-Crop Irrigation Research Farm visit www.georgiaweather.net.

CORN

When do we stop irrigating corn?

By Buster Haddock

I send this same article out every year about this time. We are getting close to wrapping up our corn crop. Unfortunately, we have had spotty rain this season and many have really suffered in the dry and heat. However, do not relax because a great deal of our corn needs a little more precipitation before we are ready to grease the combine. The best way to describe the milk line method of determining the water needs of your crop is it takes approximately 20 days for the kernel to create the starch. The top half (the darker half) is the starch. It will slowly progress down the kernel to the cobb. At this point, the kernels are completing their starch production, so any water deficiency will directly affect your bottom line. A good rule of thumb is to maintain a good soil moisture profile until the starch/milk line on the kernel reaches the 50-75% mark (which is about half way down the kernel ~ see photos below). Pick about six ears from different locations in the field, break the ears in half and pull kernels from the middle of the ear. Slice these kernels lengthwise and evaluate how far the starch layer has progressed. For pivot irrigation, we would like to see the layer progress from $\frac{1}{2}$ to $\frac{3}{4}$ down the kernel and have good soil moisture at that time before irrigation is terminated.

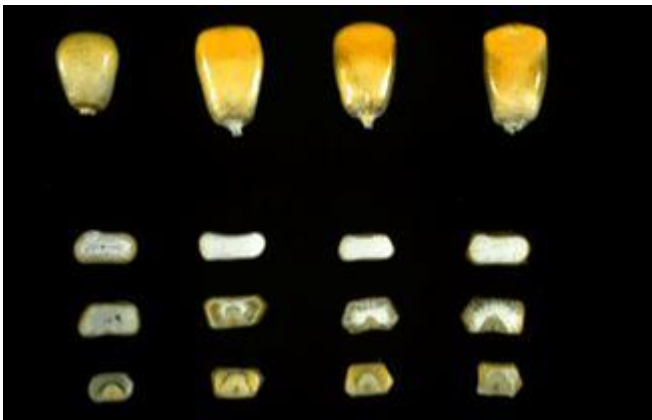


Fig. 1 Starch line progression in grain corn.



Fig. 2 Starch/milk line on the cob.

Once the corn has reached physiological maturity, precipitation in the form of rain or irrigation will not influence yield. It is the point at which the starch line disappears and just before the kernel black line forms at the tip of the kernels. Physiological maturity can be determined by examining the kernels in the same manner as monitoring the starch line. Once the kernels are sliced, the black line will be evident toward the bottom of the kernel (Fig. 3 & 4). Just keep in mind that different cultivars mature differently and at different speeds, but these maturity indicators should work universally.



Fig. 3 Black layer from kernel cross-section at bottom.



Fig. 4 Black layer at kernel bottoms.

PEANUTS

Insect Pest Situation

Buster Haddock

We are already starting the 2011 peanut season with a bang. Drought conditions have been tough and if you were lucky to get a stand of peanuts you are finding new challenges in the field. We began with another early season infestation of tobacco budworms. The budworms were not as bad as previous years, but there were some fields that warranted sprays. Now we are entering the July 4th moth flight and already I am seeing the establishment of foliage feeders in the crop.

Beet armyworms, southern armyworms, yellow-striped armyworms and granulated cutworm seem to make up the majority of the foliage feeders with beetles comprising the majority of the population. The threshold for foliage feeders is 4 worms per foot of row or when defoliation reaches 30%. There are several good choices for worm control, but it is important to scout and treat the worms when they are small. Cutworms are especially difficult to control once they have matured so be timely. Also, do not forget tobacco budworms or cornear worms. They can eat foliage, but they will also eat blooms as well. A good practice is to note the color of the worms when you find them. If a worm that is normally green (beets) is yellow . . . guess what? It is probably eating blooms so keep an eye out for that.

We must also remember that July is the month that three-cornered alfalfa hoppers become prevalent. There is some debate as to how problematic they are in the overall yield. It is my

belief that some control is warranted because they damage the plant so that many limbs can be deficient in nutrient uptake and ultimately not be as efficient as they would normally be. I also believe that this type of damage, under the right conditions, can promote disease. Nevertheless, if you see a small “green cloud” of them as you walk through the field or if you see a great deal of damage I would consider treating. The usual threshold is one per foot of row. Usually, an insecticide can be added to a fungicide mixture if the product labeling allows it.



Fig. 5 Beet Armyworm



Fig. 6 Granulate Cutworm



Fig. 7 Three Cornered Alfalfa Hopper

How Much Can I Apply?

Eric Prostko

Recently, I have had many questions about rates of application for postemergence herbicides in peanut. The lack of weed control in certain areas has forced many growers into pushing the limits of the label. The following table is a summary of application rates for postemergence herbicides labeled for use in peanut:

Herbicide	Normal Single Application Rate/A	Maximum Total Use Rate/A/Year	Pre-Harvest Interval (days)
Arrow	8 oz	32 oz	40
Aim (Harvest Aid)	1-2 oz	2 oz	7
Basagran	1.5-2.0 pt	4 pt	None listed
Cadre/Impose	1.44 oz	1.44 oz	90
Classic	0.5 oz	0.5 oz	45
Cobra	12.5 oz	25 oz	45
Dual Magnum	1.0 pt	2.8 pt	90
Firestorm/Parazone	5.4-10.8 oz	10.8 oz	None listed
Gramoxone Inteon	8-16 oz	16 oz	None listed
Fusilade DX	12 oz	48 oz	40
Me-Too-Lachlor	1.0 pt	2.67 pt	90
Parallel PCS	1.0 pt	2.67 pt	90
Poast	1.0 pt	2.5 pt	40
Poast Plus	1.5 pt	3.75 pt	40
Pursuit 2EC	4.0 oz	4.0 oz	85
Select Max	16 oz	64 oz	40
Stalwart	1.0 pt	2.67 pt	90
Storm	1.5 pt	3.0 pt	75
Ultra Blazer	1.5 pt	2.0 pt	75
2,4-DB (1.75 lb/gal)	14-18 oz	36 oz	45
2,4-DB (2.0 lb/gal)	12-16 oz	32 oz	45

Fig. 8 Normal & maximum pesticide rates for several peanut herbicides

Now the question that you (*and I*) always get asked is “What happens if I use more than the labeled rate?” My usual response to this question is one or more of the following:

~ **The label is the law! It is all that I can recommend.**

~ About 10 years of research and gobs of money were spent developing these use rates. Typically, the lowest rate that provides the best weed control and least crop injury is selected when developing an herbicide. In some cases, a 2X margin of safety is built into a rate.

~ Increasing rates will increase crop response (injury) and maybe even yield loss. It all depends upon the herbicide.

~ Increasing rates of certain herbicides, especially Cadre/Impose and Pursuit, increases the potential for rotational crop problems.

~ Over time, susceptible weeds that are exposed to high rates of any herbicide that are not adequately controlled are more likely to develop resistance.

Irrigation Strategies *John Beasley*

We are faced with the widest range of peanut growth as of the first of July than we’ve seen in many years. The oldest peanut fields are in excess of 75 days after planting (DAP) while there are some fields that have just recently emerged. Almost all of the fields that have recently emerged are non-irrigated fields. Fields that could be irrigated were planted on a timely basis, for the most part. The intense heat and drought in May and June had a major negative impact on even irrigated fields. Growers with irrigation capacity have already had to irrigate more often than typical in a “normal” year in regards to rainfall and temperature. There are several approaches, or strategies, for irrigating peanut. For many years our official UGA recommendation was to apply 2 inches of water per week (less any rainfall) beginning when pegging starts (about 40 DAP) and backing off during the last 3-4 weeks so as not to apply too much water during the later stages of maturation. In that strategy you would be applying 2 inches of water per week starting with week 6 and ending with week 17, an 11-12 week period. During the last 3-4 weeks of the growing season it was recommended to irrigate to alleviate any drought stress. Excess water late tends to trigger problems with Rhizoctonia limb rot.

Since the early 1990’s growers have had Irrigator Pro as an irrigation strategy option. It has worked well for many growers who have taken the time to enter the information into the computer and monitor soil temperature and rainfall events. Scientists with the USDA-ARS National Peanut Research Lab have begun to fine tune the Irrigator Pro model and we expect to see some changes in the program in the near future. Any growers wanting to run Irrigator Pro can call on us to help them set the system up. If you are not as familiar with Irrigator Pro and want our assistance in setting up the program just give me a call or contact the NPRL in Dawson directly for instructions on set up and running the program. In the mid to late 1990’s the UGA Ag Engineering Department developed the UGA EASY Pan system for

irrigating peanut. This is the simplest system to run. All it requires is the EASY Pan tub and accurate adjustment of the “indicator arm” that indicates the level of water in the tub. Instructions on setting up the UGA EASY Pan are available on the UGA Ag Engineering web site.

During crop years 2005-2009 I worked with Dr. Jim Hook on evaluating a more accurate method of the old Extension recommendation of applying 2 inches of water per week starting at early bloom. This strategy looked at matching water requirement (Stansell and Pallas water curve for peanut) with the physiological growth stage. It targeted applying less water in weeks 5-6 and 7-10 when the water requirement was not as high. In other words, we didn’t want to apply excess water in the earlier growth stages when the plant didn’t need as much. We ran research trials 2005-2009 at UGA’s Stripling Irrigation Research Park near Camilla comparing Irrigator Pro, UGA EASY Pan, the old Extension recommendation, and the modified Extension recommendation (Growth Stage-Water Curve model). After several years of research, Amanda Smith then applied the economics to the results. In summary, the Growth Stage-Water Curve model resulted in the highest yield but triggered more irrigation events and total water than Irrigator Pro and UGA EASY Pan (but less than the old Extension recommendation). The UGA EASY Pan triggered less irrigation events and less total water but when economics were applied it turned out the best economic return was for the UGA EASY Pan.

All three strategies work well for irrigating peanut. We have not published the data for the Growth Stage – Water Curve model yet. However, several Extension agents have asked for the basics of implementing the model for irrigating peanut. We researched it at a 2-inch maximum and a 1.5-inch maximum. The reason for that was we know there are some growers that have fields that can not receive one-inch of water without excessive runoff. Therefore, we tested it with two applications of 0.75 inches twice a week and two applications at 1.0 inches twice a week. In the table below are the 1.5 and 2.0-inch maximum strategies in case any of your growers want to use this strategy for irrigating peanut.

Irrigation amount (inches) per week for peanut.

Weeks of Growing Season	1.5 inch maximum	2.0 inch maximum
5-6	0.5	0.75
7-9	0.75	1.0
10-12		1.5
10-17	1.5	
13-17		2.0
18-20	0.5	0.75

Fig. 9 The irrigation amount per week would need to be adjusted for rainfall.

COTTON

Buyout of Bale Contracts

Don Shurley

Cotton prices have been very attractive (above \$1.00 per pound) for 2 years—last year's crop and again this season. Prices have been high but also very volatile due to US and global economic uncertainty. To manage price risk, farmers often choose to price (contract) a portion of their expected production prior to harvest- sometimes even prior to planting the crop. Contracting provides a fixed price on the number of bales contracted.

While this reduces price uncertainty, it creates its own separate risk because (a) prices may increase after the contract and a potentially higher price is foregone on the bales contracted and (b) the farmer is contractually obligated to deliver the number of bales specified by the contract. Because contracting is done sometimes months before harvest or even prior to planting and because yield depends on the weather, there is always a risk of not being able to deliver on the contract if the contract represents a large proportion of the expected crop.

Because of this year's drought, some farmers believe they will not be able to deliver the number of bales already contracted. Some cotton has been planted in very dry soil conditions, some has been planted late waiting on rain, some has been replanted due to poor emergence, and some farmers have even planted additional acres in hopes of being able to make the production needed to deliver the bales contracted.

Typically, the farmer (seller) is obligated to deliver the number of bales contracted regardless of the circumstances. This is especially the case if prices have increased since the contract because the buyer has taken a position in the futures market to offset the cash obligation of the contract and stands to lose considerable money if the physical cotton is not delivered. If prices have declined since the contract, however, the buyer will typically let the farmer out of the contract (not hold the farmer to deliver the number of bales) because the buyer will likely be able to find another farmer willing to sell and deliver at the higher contract price.

If the farmer believes he/she is unable to deliver on a contract, the contract can be "bought out" or the buyer can "unwind" the contract. Suppose the farmer contracted 500 bales in January for 97 cents/lb (\$1.00 December 2011 futures minus 3 cents basis). The farmer, however, believes he/she will only be able to deliver 300 bales. If December futures are currently at \$1.19/lb, the difference between the contract and now is 19 cents/lb (\$1.19 minus \$1.00). The difference between the contract and what can be delivered is 200 bales. The farmer can "buyout" on the 200 bales for \$19,000 (\$0.19/lb futures difference x 200 bales x 500 lbs/bale).

Why would the farmer (seller) want to do this? First of all, the farmer is obligated for the bales contracted, and if short, would otherwise have to pay the difference at the time of delivery. If prices are currently above the contract and should prices continue to go even higher, the penalty paid at harvest will be higher than the current buyout. It is cheaper to buyout now.

Why would the farmer not want to do this? Paying the difference can be difficult. No one knows what prices will do. Prices could move lower, in which case the buyer may not hold the farmer to the contract. Production is also unknown. The crop could do better than expected and the farmer may be able to deliver the bales contracted.

Making the buyout decision depends on (1) the contract price, (2) the current price, (3) the farmer (sellers) opinion whether prices at delivery will be higher or lower than the contract price, and (4) the farmers opinion of the chances of making full delivery on the contract.

If the farmer believes prices will remain above the contract price and perhaps go even higher, there is no advantage to not doing a buyout. It will be cheaper to pay the difference now rather than in the future and, if production ends up better than expected, those un-contracted bales could be priced at the higher price.

Cotton is currently over \$1.00/lb and has been over \$1.00 since around the first of the year. Some farmers could have cotton contracted at \$1.00 or less. Prices at harvest (delivery time) would have to retreat to less than the contract price, otherwise the farmer will very likely be held to the contract. If deciding to forgo a buyout, the farmer would be risking that he/she will be able to deliver on the contract and/or that the market will be below the contract.

Prices (December 2011 futures) have recently trended down from around \$1.40/lb to less than \$1.20. As prices have declined, this has reduced the cost of a bale buyout. For farmers considering a buyout, the cost of the buyout has declined significantly. On the other hand, this downtrend, should prices continue downward, may cause some farmers to hold on to their contract and hope even more to make the bales. From a production standpoint, you want to have more confidence you can make the crop before doing a buyout-- but unfortunately, that extra time could result in buyers less willing to do the buyout.

If a production shortfall is expected (likely) and the farmer is considering a buyout, the farmer (seller) should discuss this with the buyer as soon as possible. The sooner the situation can be discussed, the more likely the buyer will agree to a buyout. Most buyers would rather deal with a buyout sooner rather than later. If the farmer waits until later in the season, the buyer may be less agreeable to a buyout.

Rolling the Bales

Rather than a buyout, the farmer may also have the option of rolling (deferring) those bales to the 2012 crop. If December 2011 futures are at \$1.19, for example, and December 2012 futures are at \$0.98, the difference is \$0.21. Rolling to 2012 would mean that the farmer would have a contract on those bales for \$0.77 (Dec2012 at \$0.98 minus the \$0.21 difference) less the basis. This seems like a less attractive alternative.

SOYBEANS

Soybean Irrigation Management

Kerry Harrison

Dryland soybean yields in Georgia range from about 5 to 50 bushels per acre. Extended drought during the "critical fruiting period" is the major reason for this yield variation. Timely irrigations can stabilize soybean yields at 45 to 50 bushels per acre and improve average yields about 20 bushels per acre. Irrigation is expensive and requires careful management to be economically feasible for soybeans. This can usually be accomplished when (1) soybean market prices are good, (2) irrigation overhead costs can be shared with a winter-spring crop and (3) when irrigation for soybeans can be targeted for soybean "critical periods" in July, August and September.

The following water balance method is suggested for 45 to 50 bushel soybean yields:

1. If needed, apply 1.0 to 1.5 inches of water for stand establishment. (Application ahead of planting is preferred.)
2. Prior to first bloom, irrigate with 1.0 to 1.5 inches of water if wilting is observed by late afternoon.
3. From first bloom (R1) to beginning pod elongation (R4) irrigate with 1.0 to 1.5 inches of water if wilting is observed by midday.
4. From beginning pod fill (R5) to full-bean stage (R6) irrigate, using some means of irrigation scheduling, to keep soybeans from wilting. (See methods below.)
5. From full-bean stage (R6) to physiological maturity (R7) irrigate with 1.0 inch of water if wilting is observed by late afternoon. **(The chart below from UI shows soybean growth stages)**

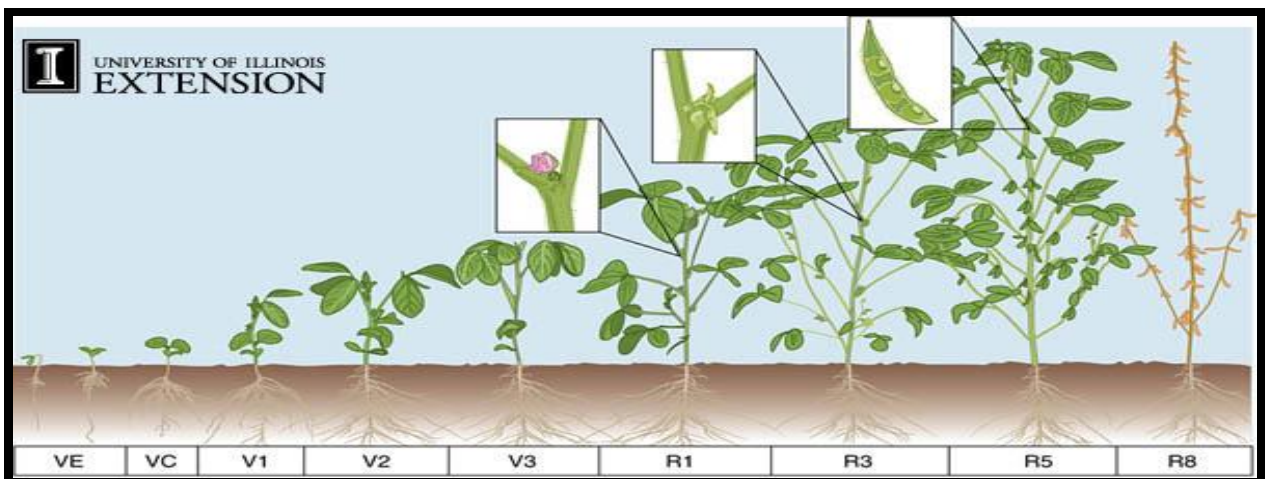


Fig. 10 University of Illinois soybean growth stage chart

Reflex + Classic Tank Mixes

Eric Prostko

Over the last few days or so, I have received many questions about tank-mixing Reflex + Classic. This mixture could be warranted in soybean fields that contain pigweed and sicklepod (coffeeweed). Here is what I know:

- 1) Both the Reflex label and Classic label indicate that these products can be tank-mixed.
- 2) A single application of Classic would rarely provide acceptable control of sicklepod. A sicklepod management program must include the use of a residual herbicide such as Python (flumetsulam) or metribuzin applied at planting.
- 3) I would anticipate significant soybean injury in the form of leaf-burn and stunting from this tank-mix.

Check out Figure 11.



Fig. 11 Soybean response to an application of Reflex (16 oz/A) + Classic (0.5 oz/A) + Clethodim (20 oz/A) + 80/20 (0.25% v/v). Pictures taken 3 days after application

Sincerely,

Buster Haddock

Buster Haddock
ANR Agent
Randolph County

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