



Scout and Use Thresholds (Roberts)

Producers in Georgia have the opportunity to fully utilize an integrated approach to pest management (IPM) utilizing a variety of control tactics rather than relying solely on one method of control such as insecticide use. Scouting and the use of thresholds, cultural practices, variety selection, biological control, and insecticides used on an as-needed basis are the building blocks of an IPM program. Pests are managed so that economic damage and harmful environmental side effects are minimized while maximizing profits. In most IPM programs insecticide use decreases resulting in lower production costs, delayed resistance problems, and improved competitiveness and profitability. A successful and economical cotton pest management program mandates the use of this multi-tactical or IPM approach to insect control.

The most common insect requiring insecticide treatment at this time is stink bugs. Stink bug numbers are up compared with previous years and most fields will require insecticidal control. Scouting will allow growers to properly time needed applications or maybe even avoid having to treat. When treating stink bugs be aware of other pests in the field. The presence of corn earworm, whiteflies, and/or mites should influence insecticide selection when targeting stink bugs. Granted the primary objective is to control the problem pest (i.e. stink bugs) but we must also consider other pests while doing so. Avoid products known to flare the previous mentioned pests if present.

Corn earworm escapes in Bt cotton are very spotty and as a whole we would say infestations are generally low. However, there are some fields which have exceeded threshold and required treatment. None of the Bt technologies are immune to corn earworm damage. Differences in performance do exist. Three-gene Bt cottons provide the greatest control of corn earworm followed by the two-gene Bt cottons Bollgard II and TwinLink, and then WideStrike.

Agents, scouts, consultants, and growers are monitoring silverleaf whiteflies closely. We continue to see whitefly populations build, especially in areas historically infested by whiteflies. Hot and dry conditions favor whitefly development. There are some hot spots which were treated for whiteflies in recent days. It is extremely important that whitefly insecticides are applied in a timely manner when the threshold is met. Conserve beneficial insects when possible, only spray other pests if thresholds are needed based on scouting.

Irrigating Cotton Through Bloom (Porter)

Based on planting date most of the cotton across the state will be in peak bloom during August. Depending on what week of bloom you are in the water requirements for the crop will range from 1.3 (0.18" per day during week one of bloom), up to 1.5 (0.22" per day during week 3 of bloom). Once the crop moves later into bloom the water requirement begins to drop back off.

We have had an abnormally hot summer, and unfortunately we have not had ample rainfall across most of the state. The rainfall that we have been receiving has been very sporadic and is leaving many of our dryland crops in poor shape. If you are in one of the areas that is not receiving adequate rainfall, depending on the week of bloom your crop is in you may require irrigation every three days. The hotter days with lower humidity mean that irrigation efficiency is going to be lower than normal, and this should be considered when irrigation is applied and the next event is scheduled. With a water requirement of around 0.25 inches per day, an irrigation event of 0.75 inches would not last three full days when efficiency is accounted for. The typical efficiency of an overhead center pivot with drops is around 80-85%, meaning that you are losing about 1/5 of the irrigation you are applying during each event. Thus, it is critical, that the weather, environmental conditions, irrigation timing and amounts all be accounted for when making scheduling decisions.

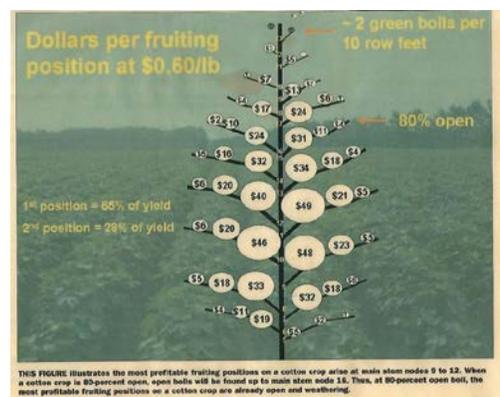
Even, with this scenario on rainfall it is very important in the state of Georgia that you do not over-irrigate the crop later in the season, especially when we are receiving rainfall and have high humidity. The additional irrigation in the canopy will cause boll rot issues. Monitor your field closely once you are between the 7th-9th weeks of bloom for signs of open bolls. Bloom is a critical time to ensure the crop is receiving the required amount of water, however, caution should be used, and it is strongly advised that you closely monitor the amount of rainfall that is received on each of the fields and adjust your irrigation applications accordingly. Let's make sure that we finish this crop off correctly from the perspective of irrigation management. All of the water requirements can be found in the cotton production guide irrigation section <http://www.ugacotton.com/2019/03/uga-cotton-production-guide-for-2019/>.

Be Timely at Harvest (Freeman)

Harvest may be the last thing on your mind in the 100 degree heat of early August but for many of our earliest planted cotton its right around the corner and it's never too early to make sure you're prepared to ensure a timely harvest.

Being timely in cotton is really a two-step approach as timing of defoliation and of harvest go hand in hand. Cotton defoliation is a sensitive process and must be carefully timed and carried out. If defoliation is triggered too early, we can see a loss of yield and/or issues with micronaire. If defoliation is too late, losses from boll rot and weathering can negatively impact yields. There are three techniques one can use to determine if the crop is ready for defoliant:

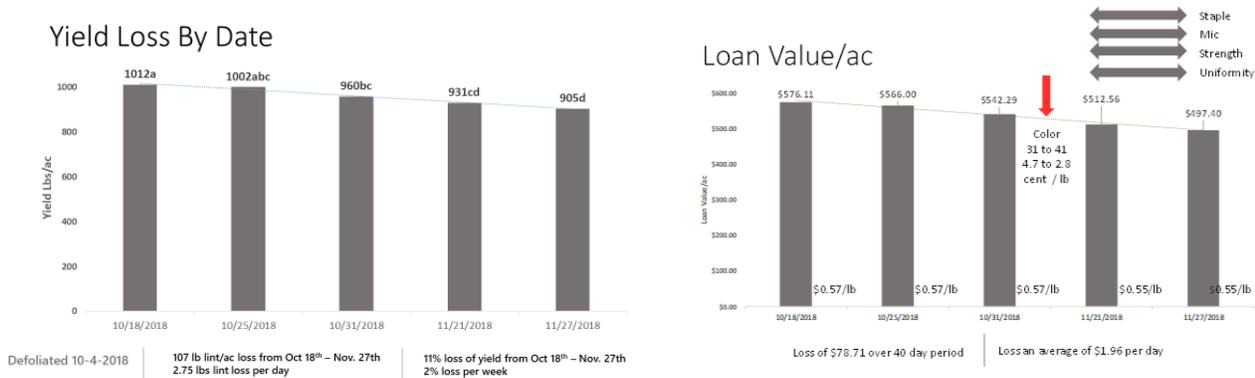
- Percent Open Boll – 60-75% open bolls. 60% may be too early for most but if the crop is uniform without fruiting gaps chances are it is mature enough and ready for defoliation. 70-75% is more realistic for most fields.



- Nodes Above Cracked Boll (NACB) – Count nodes from the uppermost cracked boll to the uppermost first position uncracked harvestable boll. If there are four or less nodes between the two it is likely safe to defoliate.
- Sharp Knife – Cut and cross section the remaining uncracked bolls with a sharp knife (or PVC pipe cutter). The cotton needs to “string out” and seed coats should be fully developed with a dark seed coat and visible cotyledons.

Since this can often be a confusing a stressful decision, growers should utilize all three of these processes in conjunction to make the best decision possible for their farm.

After the defoliation process has taken place, ensuring a quick harvest is critical and can have a huge impact on your bottom line at the end of the year. Although things like weather and equipment failures may be out of our control, focusing on logistics and other factors may allow us to keep and maintain the yields that we worked so hard to produce all year. Below are two graphs from research in 2018 at the Southeast Research and Education Center in Midville. In this trial, cotton was defoliated on October 4th at 70% open boll. Harvest was initiated two weeks later and followed with four subsequent harvest timings after that. Over the course of 40 days, a there was a loss of 107 lbs/ac lint yield which averaged 2.75 lbs/ac per day. The loan value was also calculated for each timing showing a loss of \$78/ac from the first harvest date to the last.



August is an Important Month for Diseases and Nematodes (Kemerait)

In my world of all things “disease and nematode management” of Georgia’s cotton crop, August is a very important month for growers. It is important for two very different reasons. First, and most urgent in the minds of cotton farmers, is, “What should I be doing right now to protect my crop from losses to diseases?” Second, and equally important but less obvious is, “What am I seeing in the field between now and harvest that I can’t fix anymore but that is important in planning for the 2020 crop?”

There are generally six diseases that a grower might come across in his field in August. (It is hard to believe that cotton growers now must be concerned with SIX diseases late in the

season!) **Fusarium wilt**, characterized by stunted plants, “tiger-striped” foliage, and darkened pith when the lower stem is split, is of increasing importance in Georgia. There is nothing that can be done at this point in the season to protect the crop from Fusarium wilt.

Bacterial blight has been rarely reported this season, a few leaves here, a few leaves there. Characterized by dark, sunken lesions on the bolls, angular, blocky spots on the leaves and a “lightning bolt” appearance on the veins of the leaves, there is nothing a grower can do late-season to battle this disease, other than to avoid over-irrigation. The third disease is **Stemphylium leaf spot**, most often observed on potassium-starved cotton leaves with hues of red and yellow which look as if they are preparing for the autumn season. Characterized by small spots over the entire leaf canopy that are bordered by dark brown-purple rings, Stemphylium causes significant defoliation. However, this disease cannot be effectively managed with use of a fungicide because the underlying cause is a potassium deficiency.

The Cotton leaf roll dwarf virus (CLRDV) has been identified in some cotton fields in Georgia. Early-season symptoms appear much like the “bronze wilt” from 20 years ago to include reddening of leaves and petioles, a drooping and wilted appearance, and stunting. These affected plants can be quite obvious, especially as the season progresses. We are now working to identify late-season symptoms as well. Growers are encouraged to watch for this disease in their fields in order to educate themselves about the symptomology; however there is nothing that can be done to manage this disease at this point.

Target spot begins to develop deep within the plant canopy where high humidity and extended periods of leaf-wetness provide an excellent environment for infection and spread of the disease to occur. Management of target spot with a fungicide is warranted if, A) the disease is identified within the first six weeks of bloom, B) environmental conditions are favorable for development and spread of target spot, and C) plant growth throughout much of the field is both conducive for disease spread and for good yield potential.

Areolate mildew is sometimes found during the latter part of the season and is characterized by a white, powdery fungal growth on the foliage. Unlike Stemphylium leaf spot, which occurs when there is a potassium deficiency, and target spot, which typically develops in fields with excellent growth and yield potential, areolate mildew can occur across a variety of growing conditions. Areolate mildew can be effectively managed with judicious use of fungicides, typically one, or at most, two applications. If areolate mildew appears within 3-4 weeks of planned defoliation, I would not worry about it and would not spray. If the areolate mildew appears with more than 4 weeks until planned defoliation, I would consider use of a fungicide to protect yield potential. NOTE: In most cases, I would not recommend spraying “preventatively” for areolate mildew, but would recommend scouting for disease and consulting with your local county agent to determine the status of the disease.

After the furrow is closed at planting, there is very very little that can be done to further protect a cotton crop from plant-parasitic nematodes, from Fusarium wilt, or from bacterial blight. However, the damage caused by nematodes and Fusarium wilt (areas in the field that

are severely stunted despite adequate irrigation and soil fertility, and with the interveinal leaf necrosis, “tiger-striping”) becomes increasingly and painfully evident as we move through August. As growers work in their cotton fields now, whether applying growth-regulators, defoliants, or anything else, it is important for them to identify areas where nematodes and/or Fusarium wilt are/is a problem and to take time and effort to confirm the diagnosis. Understanding that these issues exist in a field growers are better able to develop management plans based upon crop rotation, variety selection and use of nematicides in 2020.

Important Dates

Midville Field Day – August 14th – Southeast Research and Education Center