

IPM NEWSLETTER

Update for Field Crops and Their Pests

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Past newsletters and other information can be found at UTCrops.com

Cotton Situation (Dr. Chris Main, Extension Cotton Specialist)

The Tennessee Agricultural Statistics Service reports cotton condition as 19% excellent, 55% good, 24% fair, 2% poor, and 0% very poor. 53% of the crop has open bolls compared to 40% last week, 85% last year and 89% for the five year average.

Harvest Aid Publications: [Cotton Defoliation Timing](#), [Cotton Harvest Aids](#)

Continued highs in the upper 60's to mid 70's. Lows from mid 40's to 60. The chances of low temperatures in the upper 30's increase beginning October 14th. You should strongly consider making the first defoliation application to all cotton by the end of next week (October 7th). This will allow time for leaf drop to occur and provide a 5-7 day window to make follow up applications before the first frost hits. We are not maturing any fibers with current temperatures. What we need is dry weather with low humidity to help dry the crop and bolls out to hasten boll opening over the next two weeks.

I have been trying to simulate defoliation and boll opening in June planted cotton by defoliating some cotton plots with 5%-10% open bolls. Consistently the best approach is to remove leaves with a defoliant and low rates of boll openers then make a second application to stimulate boll opening and remove any remaining leaves. Def (6-8 oz), Ginstar (2-4 oz) or combinations (Def 3 oz + Ginstar 3oz) tank mixed with either Prep (8-10 oz) or Finish (10 oz) provides consistent results across a wide range of temperatures for the first application. Make a follow up application (5-7 days later when adequate leaf drop has occurred) of Aim (0.75 oz), ET (1.5 oz), Def (8 oz), or Ginstar (5 oz) tank mixed with Prep (24-32 oz) or Finish (24-32 oz).

In the first application quicker results will be accomplished using Finish instead of Prep. However, Prep is more economical and will provide equivalent performance with an additional two-three days of time before making the second application. When defoliating June planted cotton that has very few open bolls, **DO NOT** make an application of high rates of Prep or Finish (above 12 oz) in the first application. Application of 32 oz of Prep to 10% open cotton has 'frosted' the upper bolls (Figures 1 and 2). I use the term 'frosted' because the bolls turned black and have not opened 21 days after application much like what occurs after a frost. It appears that the cells in the suture layer accumulated ethylene too quickly and killed the cells before they could separate. If these bolls continue to dry I believe they may open. However, if rains continue they become prime candidates for boll rot and/or hard lock. In figure 3 the darker plots were treated with combinations of defoliant and Pre (32 oz) 21 days prior to the picture being taken. The whiter areas were treated with 32 oz of Prep in the second application 13 days ago.

Next week we will be looking at what rates of prep are needed to adequately open bolls in late maturing cotton. Please continue to call if you have questions or concerns about defoliating this year's crop.

Figure 1. 'Frosted' bolls from too much ethephon in a first pass defoliation.



Figure 2. 'Frosted' boll opening 21 days after application.



Figure 3. Overview of trial with 'frosted' bolls (darker plots).



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