BLACKLANDS IPM UPDATE

D. TYLER MAYS, EXTENSION AGENT-IPM, HILL AND MCLENNAN COUNTIES
ZACH T. DAVIS, CEA-AG/NR, HILL COUNTY

August 18, 2023 **Volume 5, Issue 13**

Corn and sorghum harvest has wrapped up for the most part, with a few fields of both still to be harvested. The dry and hot weather pattern we have been in since the middle of June has finally taken its toll on our area's cotton crop, and fields are ready or close to being ready for defoliation. I know most of us are tired of the year, and ready to get this cotton crop out of the field sooner rather than later, but I think there are some fields where we may be rushing to defoliate a little too soon. To maximize both yield and fiber quality, defoliation applications are typically justified when 60% of the bolls are open, or there are 4 nodes between the uppermost cracked boll and the upper most harvestable boll (NACB). However, given the hot and dry weather we experienced during bloom, and the fact that we set a lot of the bolls in a short period of time the NACB method will likely not be an effective way to determine harvest aid timing this year. This year to determine harvest aid timing we will need to look a the percent of bolls open, and also cut a cross section of the upper bolls on the plant to determine if they are mature enough for ethephon to open the bolls. A boll is deemed mature and susceptible to ethephon applications once the seed coat starts changing color, and the cotyledons are fully formed and do not have any jelly.

BLACKLANDS IPM UPDATE IS A PUBLICATION OF TEXAS A&M AGRILIFE EXTENSION IPM PROGRAM IN HILL & MCLENNAN COUNTIES.

213 STADIUM DR.
P.O. BOX 318
HILLSBORO, TEXAS 76645
PHONE: 254-582-4022
FAX: 254-582-4021
MOBILE: 979-482-0111
EMAIL:TYLER.MAYS@AG.TAMU.EDU

Choosing defoliation chemical can be tricky, because their performance can be impacted by multiple factors like weather, variety, and even the health of the plant. Defoliation of cotton typically is not that difficult when temperatures are around 80F or higher, however, drought stress can increase the difficulty of defoliation. When the plant gets severely drought stressed like last year and this year some defoliation chemicals may not work as good, especially those that are hormone based because the plant is not actively growing to process the products. Another issue with defoliation when in conditions like this year is getting the product into the plant because the leaves have hardened off and turned leathery. Over the last couple of years, I have been including a half rate of a Non-Ionic Surfactant in defoliation shots and it appears to help the products stick to the leaf and be absorbed by the leaf tissue. With temperatures predicted to remain in the high 90s to topping the century mark, application volume could also impact the performance of defoliation products and application volumes should be adjusted higher to insure adequate coverage of the crop canopy. Common defoliation products used in the Texas Blacklands include Ginstar and generics, thiadiazuron, Finish 6, or ethephon. In some years producers may even use a PPO-inhibitor like Aim or Sharpen to defoliate and kill the plant in a single application. Ginstar, thiadiazuron, Finish 6 and ethephon are all hormone-based products that help the plant create abscission layers at the based of leaf petioles and at the sutures between lock on the bolls. Herbicides like Aim and Sharpen can be used to defoliate the plant when applied at the correct rates, but these products have a higher tendency of sticking leaves. When cotton gets drought stressed like it is this year, hormonal based products may not work as good as when the plants are healthy. This is also a current issue in the Corpus Christi area where thiadiazuron is not working as expected and many producers down there have switched to Folex and are seeing great results. A lot of the fields in the area are already defoliation on their own, especially where Potassium deficiency was bad, and as long as we get good coverage of the crop canopy, we should get good results with our typical defolations mixtures of 2 fl oz Ginstar plus 2 fl oz Dropp (or generic), or 2 fl oz Ginstar plus 12-12 fl oz of Finish 6.

Kill shots this year will probably be mostly paraquat (Gramoxone) due to the market price and the crops yield potential. A few years ago the EPA mandated all users of paraquat based products taken an only training. This training is good for 3 years and can be found at: https://npsec.us/paraquat. When using sharpen or Aim for your second shot, some important reminders are to include a Methylated Seed Oil and spray grade Ammonium Sulfate to ensure adequate performance. Much like with our defoliation shots, application volume can impact their performance, due to the low humidity and high temperatures, and application volumes lower than ~10 gallons/acre may not provide good enough coverage for these products to work. This is because both Aim and Sharpen are contact herbicides and do not move within the plant and only kills what the spray droplets come into contact with.