

BLACKLANDS IPM UPDATE

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GENERAL:

Our first wave of triple digit temperatures arrived late the week, but thankfully most of the area received a fair amount of moisture to help the plants survive this heat wave. Corn is growing nicely, but these triple digit temperatures could lead to kernel abortion or poor kernel fill. Spider mites could become a major issue in corn with the high temperatures and is the main pest for corn between now and harvest. I have started to find some stinkbugs in corn, but currently nothing to the level that would be concerning. Sorghum has progressed nicely so far this season without pest issues. Midge could be a concern for the later planted sorghum fields, and sorghum aphids could soon become an issue in area fields with this warmer and dryer weather pattern. Early this week I started to pickup on stink bug moving into area sorghum, but numbers are currently below the economic threshold. Cotton has turned the corner and is growing nicely with most fields finishing up their second week of squaring. Fleahopper numbers remain very high as they continue to move from wild host to feed on the tender flower buds of cotton. Aphids remain present, but the heavy rains last weekend has reduced their populations a little bit but are something we need to keep in mind as we are treating for fleahopper. Cotton should continue to be monitored for fleahopper populations, and with the high temperature spider mites should also be on our radar going forward.

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CORN:

Spider mites (**Figures 1 & 2**) were being found in corn fields across the Blacklands last week prior to the heavy rain last weekend. Thankfully, looking at corn earlier this week the rain was strong enough to wash the spider mites off the leaves. However, during periods of hot and dry weather spider mite populations thrive and can significantly impact corn yields. Previous research has shown that yield losses from spider mites can reach as high as 45% grain production and 40% dry matter in a silage system. Yield can be impacted all the way up to black layer, and can lead to premature plant death, poor kernel weight and size. The need to treat will be dependent on the growth stage of the crop, amount of plant damage, the size of the colony, and how the crop will be harvested. Miticides that can be used in corn include Portal, Comite, Onager, Oberon, and dimethoate. These miticides are slow acting, so if treatment is needed it is better to apply it before the colonies become too large.



Figure 1. White and yellow stippling of corn leaf caused by spider mite infestation. Photo Credit: Daren Mueller, Iowa State University, Bugwood.org



Figure 2. Webbing on the underside of corn leaves caused by a spider mite infestation. Photo credit: David Kerns, Texas A&M University

SORGHUM:

Up until now there was not many concerns for area sorghum fields, but now that fields are at or beyond the boot stage and the warmer weather, pest activity is starting to pick up. The sorghum that pollinated this past week missed heavy midge pressure, but fields and head that emerge or start flowering after this weekend should be watched closely for sorghum midge. Historically, June 20th is the last day of blooming that can avoid significant midge damage. The economic threshold for midge depends on the yield potential, cost of production, and the value of the crop per 100 pounds. Pyrethroid based insecticides remain effective on midge but could cause concerns with sorghum aphids and spider mites. Spinosad could also be used if you are concerned with flaring other pest and wanting to protect your beneficial insects, but this product does also come with a little higher cost.

The sorghum aphid ([Figure 3](#)) could soon become a major issue in the area, especially if the hot and dry weather patterns hang around for a while. This pest has the potential to cause significant damage, and their populations can increase rapidly under hot and dry conditions. Treatment for sorghum aphid is justified when the field reaches 20% plants infested up to the boot stage or 30% infested plants between head emerge and hard kernel. Once the field has reached maturity, applications for sorghum aphids are only justified if the pest threatens to complicate harvest operations due to their honeydew. Currently I am not finding them in area sorghum fields, but they are present in the environment feeding on johnsongrass. As our ditches get gut or start drying out, they could soon move to area sorghum fields. Insecticide options for sorghum aphids include Sivanto, Transform, and Sefina. If you happen to treat fields for sorghum midge and/or spider mites, the pesticides used for them do tend to wipe out all insects active in the field which can lead to sorghum aphid population blowing up. If fields are treated for a pest using a broad-spectrum insecticide/miticide it is highly recommended to monitor sorghum aphid populations closely as our weather conditions are becoming favorable for them to reproduce rapidly.



Figure 3. Sorghum aphid. Photo credit: John Grantham, Oklahoma State University.

Stink bugs are starting to move into area fields with both rice stinkbug (**Figure 4**) and the conchuela stink bug (**Figure 5**) being found in sorghum in the Central Blacklands. Stink bugs will feed on the developing kernels which can negatively impact yield through reduced kernel size and weight, and the number of kernels per head. We can also see various species of both green and brown stinkbugs infested sorghum as well. Stink bugs tend to be very mobile in the environment and can move into fields very quickly. Their populations tend to be higher along field margins which is why it is important to avoid sampling heads only near the field edge. An easy way to scout for stink bugs and other head feeding pest is by taking a 1-gallon milk jug, cutting the bottom off, and beating the heads inside the jug. Pyrethroid can be very effective on our stink bugs, but with rice stink bug there is known pyrethroid resistance in Texas. The rice stink bug pyrethroid resistant populations are mainly along the Gulf Coast of Texas, and currently there is no indication of pyrethroid resistant rice stink bugs in the Texas Blacklands. Chemical options for stink bug management in cotton include pyrethroid, but if you are concerned about potential resistant rice stink bugs, dimethoate can be used. Treatment for stink bugs in wheat is justified with there are about 0.5 per head.



Figure 4. Rice stink bug adult. Photo credit: Winfield Sterling, TAMU retired.



Figure 5. Conchuela stink bug adults feeding on sorghum grain.

COTTON:

Cotton across the area is progressing nicely, and most fields in Hill and Northern McLennan Counties are in the second week of squaring. The biggest issue in area cotton fields is fleahoppers which have increased in pressure. Other issues in area cotton include hail damage, weeds, and plant growth management.

Cotton fleahopper ([Figure 6 & 7](#)) numbers this week are running extremely high with fields averaging between 15% and 50% infested, with most fields averaging above 30% infested. Currently, there are a lot of fleahoppers in the environment that is supporting a constant migration of adult fleahoppers into fields. This high fleahopper pressure was supported by our spring rains that allowed weedy plants like silver leaf night shade, parthenium ragweed, wooly croton, and others to grow very well and host fleahoppers. Last week treatments were going out which included acephate plus imidacloprid and Sivanto, but due to the higher fleahopper pressure these years these treatments only provided about 4-5 days of control before fields were reaching the economic threshold again. These treatments are working as our square sets this week are still in the mid-80s and or higher, which is very good for our part of the state. They will remain a threat until fields start blooming, but the overall pressure of fleahoppers should start slowing down as we approach first bloom.



Figure 6. Adult cotton fleahopper. Photo credit: Pat Porter, Texas A&M AgriLife Extension



Figure 7. Cotton fleahopper nymph. Photo credit: Pat Porter, Texas A&M AgriLife Extension

Thunderstorms last weekend brought much needed moisture to most of the area, also came with some hail that damaged cotton along with corn and sorghum (**Figure 8**). Cotton can withstand hail damage a little better than our other crops like corn and sorghum because of its indeterminate growth. I have seen a few areas field where the hail broke off the terminal (apical meristem) which is the main growing point for the plant. Despite the loss of apical dominance, the plant will continue to grow and mature bolls, by putting on vegetative branches at the different places around the stem. Determining how much yield was lost from the hailstorm is hard to determine because how the plant responds and how good the field can yield is affected by the current and future weather conditions. These will have a delayed maturity and will require a favorable weather pattern in August and September to maximize yield and fiber quality.



Figure 8. Hail damaged cotton, after storms on June 3rd.