

BLACKLANDS IPM UPDATE

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GENERAL:

Warmer drier weather over the last 10 or so days has allowed for wheat harvest operations to take off, and cotton to finally kick into gear and start growing. Wheat yield reports have been very good this year, where Hessian fly were not a major issue with reports ranging between 65 bushel/acre to as high as 92 bushels/acre. Corn continues to progress nicely, and the warmer temperatures have reduced the risk for Northern Corn Leaf Blight, but Southern rust in corn remains a potential issue. Cotton is finally growing good, and most of the cotton is no longer susceptible to thrips injury. Some fields are close to setting squares and reaching the stage where fleahoppers will be moving into area fields.

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CORN:

The wet May and late April has provided great soil moisture in the area, except for low lying areas, and along with the mild temperatures has created excellent conditions for growth and development. This is honestly some of the tallest and best-looking corn I have seen in a long time. Our temperatures have started to warm up, which has reduced the risk for severe Northern Corn Leaf Blight issues. Southern rust and spider mites are two pests of corn we need to continue to watch for, as they could potentially become an issue in are corn fields.

The risk for Southern rust ([Figure 1](#)) in corn remains, especially if we receive the rain they are call for over the next few days. This disease is favored by warmer temperatures, but still needs periods of leaf wetness for infection to take place. Southern rust pustules are circular in shape and are a light orange in color. These pustules will be densely located on the leaf surface. Of the two rust pathogens in corn, this is the one that can reach levels that can cause economic loss, and a fungicide application is recommended when 50% of the plants have 5% of the leaf area infected. Once the crop reaches the dent stage, it is no longer susceptible to economic loss, and fungicides will not provide an economic benefit at or beyond the R4 growth stage. Selecting a fungicide when treating corn for Southern rust should be based on the crops growth stage, and how long it is expected to take for the crop to reach the dent stage. If the crop is still early in the reproductive growth stage (VT-R2) a longer residual activity fungicide is preferred as it could provide sufficient control and you would avoid needing to make a second fungicide application.



Figure 1. Southern rust (left) and common leaf rust of corn (right). Photo credit: Tom Isakeit

Spider mites in corn is common during periods of hot and dry conditions. The recent weather pattern has not been very conducive for spider mites in Hill and McLennan Counties, but I have received multiple reports of spider mite populations increasing in portions of Williamson County. The good growth in our ditches has allowed plenty of vegetation that can harbor our spider mites, and as we shred our ditches and cut adjoining hay meadow spider mites could soon be infesting area corn fields. Especially, if we hit a period of warm and dry weather. This pest can do significant damage to corn by feeding on the leaves and causes infested leaves to develop white to yellowish spots giving the leaf a stippling appearance (**Figure 2**). When looking at infested leaves from above the leaf can also develop of silverish cast, and on the underside of leaves webbing can be observed when spider mite populations are reproducing rapidly (**Figure 3**). Treatment for spider mites is justified when 21-30 percent of the leaf area of the plant is damaged (**Table 1**). Management options include the application of miticides like Zeal, Portal, Oberon, and Onager. Other products like dimethoate and bifenthrin are also labeled for spider mite management in corn, but these products tend to provide some control before the spider mites come back with vengeance. These miticides like Zeal, Onager, Portal, etc. do not provide quick control of the spider mite populations, and it may take up to 10 days before you start seeing these products working. Therefore, application of these products should be made before the mite populations exceed the economic threshold.



Figure 2. White and yellow stippling of corn leaf caused by spider mite infestation. Photo Credit: Daren Mueller, Iowa State Univeristy, Bugwood.org



Figure 3. Webbing on the underside of corn leaves caused by a spider mite infestation. Photo credit: David Kerns, Texas A&M University

COTTON:

Cotton is finally turning around and starting to grow rapidly. Most of the acres in the Central Blacklands are past thrips issues, but replanted fields can still be damaged. This replanted cotton will be protected by the insecticide seed treatments up until the 2nd true leaf starts to come out, or roughly 28 days after planting. Looking at the weather forecast, thrips may not be an issue in these fields, but we should still use a threshold around 1 to 1.5 thrips per true leaf depending on how rapidly the plants are growing once they emerge.

Now that cotton is finally getting to the point where it will set squares, cotton fleahopper could soon become an issue ([Figure 4 & 5](#)). The damage from fleahopper could be worse this year than in recent years because our crop is roughly 1 month behind where it should be. The fleahoppers feeding on the small developing squares causes the damaged square to be shed from the plant, which can delay the onset of blooming, which can further delay the crop reaching harvest readiness. The economic threshold for fleahoppers in the Blacklands is 10-15 fleahoppers per 100 plants, and with how late our crop is at starting to set squares the first application is likely justified at about 10 fleahoppers. For the second and potentially third fleahopper applications we can adjust the threshold in the 10-15 per 100 range based on the crop's square set. Fields with exceptional square set, say 90% or higher can withstand a little more feeding than fields with poor square sets. Therefore, if we have fields with square sets at 90% or higher, we could get away with using a threshold closer to 15 per 100 plants. However, in fields with poor square set such as 75% or less, we do not have much room for additional square loss and the threshold for additional fleahopper treatments should be closer to the 10 fleahoppers per 100 terminals. There are many options for the management of fleahoppers in cotton and including products like Centric, Bidrin, PQZ, Sivanto, Sefina, and acephate at 4 oz plus a max rated of imidacloprid (2-3 fl oz., depending on formulation). Looking at fleahopper trials over the last few years, the acephate plus imidacloprid treatment is a very cost-effective option for fleahopper management, but will likely only provide control for about 7-10 days depending on the fleahopper pressure ([Figure 6](#)). Centric is another great product which has a labeled application rate for fleahopper that range from 1.25-2.0 oz, with this product application rate should be adjusted based on the level of fleahopper infestation, using higher rates when the fleahopper population is higher. The other neonicotinoid products like PQZ, Sefina, Transform and Sivanto can provide great control and a little longer residual, but are slower at control the fleahopper populations. The benefit to using products like these is they also can provide control of aphids present in the field. Products like Centric and imidacloprid are not as strong on aphids in cotton but can provide some level of aphid population suppression which is one reason imidacloprid is typically tank mixed with acephate for fleahopper management.



Figure 4. Adult cotton fleahopper. Photo credit: Pat Porter, Texas A&M AgriLife Extension



Figure 5. Cotton fleahopper nymph. Photo credit: Pat Porter, Texas A&M AgriLife Extension

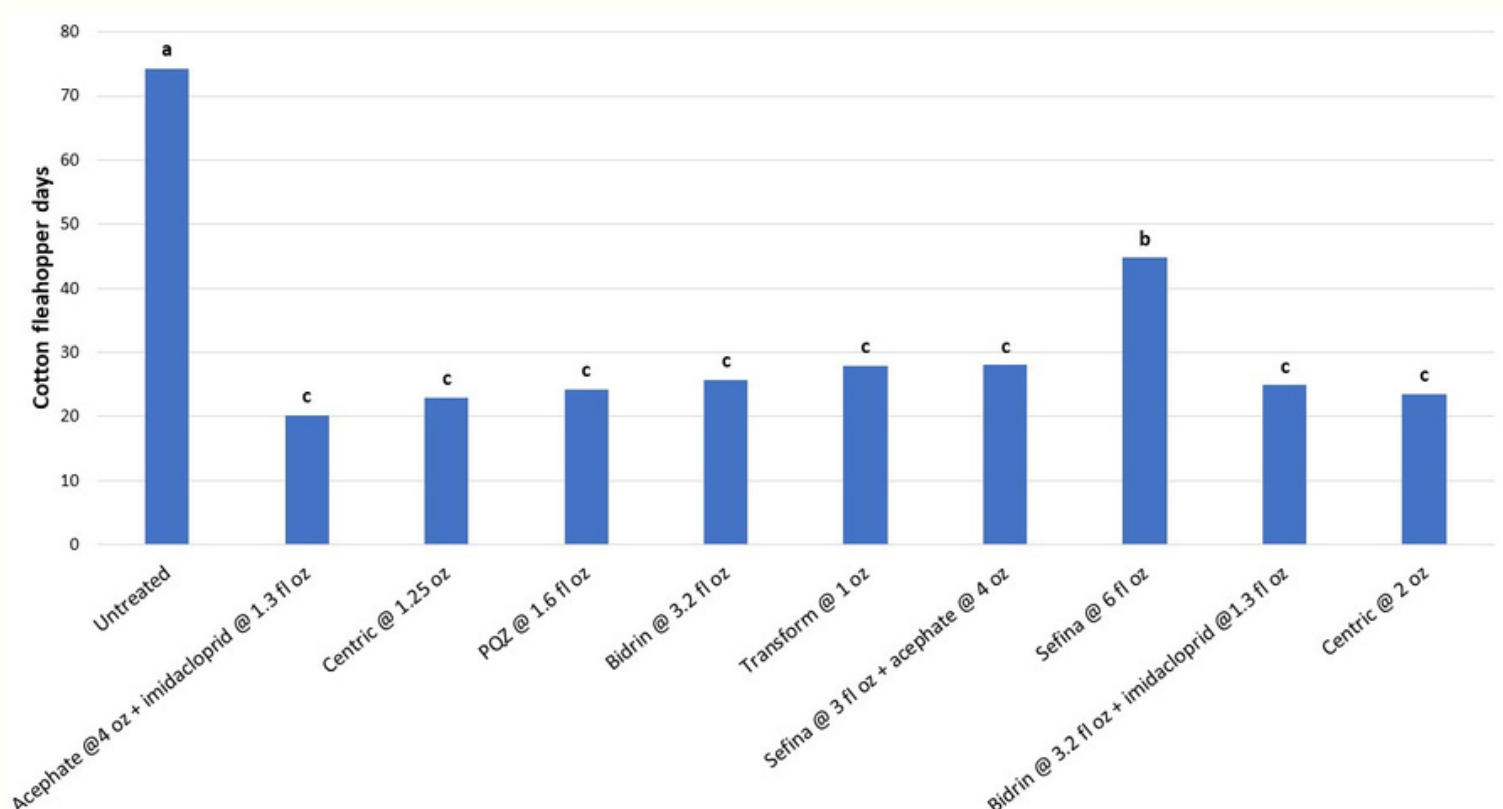


Figure 6. Cumulative pressure of cotton fleahoppers in various insecticide treatments in the 2022 Cotton Fleahopper Efficacy Trial in Hill County.

I am finding aphids in area fields, but currently in low numbers, and they are patchy across the field. Currently, these populations are not a major concern, but as we move into fleahopper season they are something we need to keep in mind when making insecticide selections. Aphids can be found feeding on the underside of leaves, the terminal, stems, and petioles. Signs on aphids infested plants include honey dew on upper leaf surface and the soil around the plant, and cotton leaves that are starting to cup downward. Their feeding can stress the plant, and impact yield and treatment is justified when aphids populations are between 40-70 per leaf. Since our crop was stress earlier this year by the rain and cool weather, which led to our delayed maturity we need to be cognizant of aphid populations and treat them in a timely manner to avoid additional stress to the plant. Due to how delayed our crop is, I would lean toward treating for aphids when they reach the lower end of the threshold. Products such as PQZ, Sefina, Sivanto, Transform, and Intruder all work well at controlling aphids in cotton, while Centric and imidacloprid are not as effective but can suppress the population.