BLACKLANDS IPM UPDATE

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GENERAL:

Most of the area has received some good rainfall totals over the last two weeks, however some areas received heavy crop damage from some severe thunderstorms. Wheat is maturing nicely, and the recent moisture should finish the crop. Currently it looks like wheat harvest could starting in 10-14 for some areas. I am starting to find some leaf rust and stripe rust, but thanks to where we are in the season, they are not a major concern. The areas corn crop where not severely damaged from hail is progressing nicely thanking to the cooler temperatures and recent rains. The recent severe thunderstorms, however, have caused some damage to area fields that need to be assessed. Sorghum is progressing as planned with no current insect issues be found in area fields, but weeds are starting to emerge and weed control is going to be the number one management option to do in sorghum over the next week or so. Cotton is up and still emerging in some areas, and unfortunately this cooler temperature spell has made it a poor time for cotton to be in the ground and trying to emerge and grow. Not much is happening in our cotton crop currently, but we need to continue to evaluate stands and replant decisions and watch for thrips as I have started picking up on adults moving into area cotton fields.

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WHEAT:

The recent rains should allow the crop to finish out and help keep bushel weight up. I have been getting reports of and seeing both leaf rust (**Figure 1**) and stripe rust (**Figure 2**) starting to move up the plant following the recent rains. There have been a few producers calling me concerned about if there is something they should do for the leaf and stripe rust in their fields. Thankfully, where 98% of the area wheat crop is at in the maturation of the grain, we can expect little yield loss from leaf rust starting to infect the flag leaf. At this point in the growing season there are two reasons why there are not many management options for rust or even some insect pests. The first is pesticide pre-harvest intervals, or the time days that must pass after an application before you can harvest the crop. Most pesticides labeled for wheat have a 30-day PHI with some products carrying only a 14 day PHI. The second reason there is not much we can do for the rust currently increasing in area wheat fields is label restrictions, and the fungicide labels I am familiar with do not allow applications to be made in wheat after pollination (Feekes 10.5.1).

Figure 1. Wheat leaf rust. Photo credit: Donald Groth, Louisiana State University AgCenter, Bugwood.org

Figure 2. Stripe rust of wheat. Photo credit: Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org

CORN:

Overall, the areas corn crop is in good conditions and in the whorl stage, with the fields I have walked in ranging from V6 to V9. At this point in the growing season the growing point is now above the soil surface, and kernel rows and kernels per row are now being determined. The biggest issue with corn production in the Texas Blacklands, especially those acres in and around Hill and McLennan Counties is hail damage from the recent severe thunderstorms last week. I have seen some pictures of fields that have been significantly damaged from the hail these storms produced (**Figure 3**), but most of the corn acres I have seen appear to have either missed the hail or been minimally damaged. We are roughly one week past these hailstorms and now is the time to evaluate the severity of hail damage, so you can make better decision about putting additional inputs on the field(s).

Figure 3. Corn damaged by hailstorm. Photo credt: Daren Muller, Iowa State Univeristy, Bugwood.org.

Assessing potential yield loss in corn from hail damage can be confusing, and the ultimate decision to keep or abandon the crop should be based on an assessment from your insurance adjuster. The following is 6just ways to assess the severity of the hail damage, and provided to give insight if you should contact your adjuster to get an assessment. The first step in assessing hail damage in corn is to identify the crops growth stage. There are two methods to identify corn growth stages. The first and most widely utilized method is the visible leaf collar method that commonly denoted with Vn, where "n" is the number of leaf collars visible (V6= 6 leaf collars visible). The second method is the droopy leaf method which is used by insurance adjusters for assessing potential yield losses from hail. Using the droopy leaf method, once a leaf tip comes out of the whorl and the leaf tip starts to drop toward the soil it is considered a leaf. To convert between the two growth stages, one corn reaches between 12 to 18 inches and the leaf collar stage is roughly 2 leaves behind the droopy leaf (V8 corn = ~10 leaf corn). The next step in assessing hail damage impacts on yield is to determine the percentage of the leaf area lost. This can be tricky to assess the earlier you go into a field after the hailstorm, but if you give the crop a few days to try and grow the leaves will start to untangle and a better assessment of leaf area remaining can be made. Based on data published by the National Crop Insurance Service when corn is in the 12-leaf stage (~V10) it takes roughly 55% of the leaf area to be lost to cause a 10% yield loss. The third step in assessing hail damage is to evaluate stalk integrity. In this step we want to look at both the strength of the stalk and the severity of hail damage to the stalk. To test stalk strength, stand next to the plant and grab a hold of the stalk and then extend your arm, if the stalk does not snap back to where it was before extending your arm the strength of the stalk has been compromised and may lodge with late season heavy winds. To determine if the stalk has been damaged internally by hail you need to pull the plant up and determine if the hail stone was big enough or hit the stalk hard enough to bruise through all the leaf sheaths. The best way to assess this is to remove the leaf sheaths from around the stalk and look for wounding on the actual stalk. If wounding is apparent on the stalk, we then need to slice the stalks from the crown of the plant up and assess if there was any internal damage to the pith or vascular tissue, tassel, and ear shoots. If you see a significant percent leaf area lost, poor stalk strength, or excessive damage to the stalk it is recommended to reach out to an insurance adjust for them to come and give them an assessment. Something else we need to watch out for as we move further into the year is hail damage to the lower stalk can provide an easier route of entry for our stalk rot pathogens, and these hail damage fields may need to be harvest sooner to avoid lodging.

COTTON:

Cotton in Hill County and other portions of Central Texas is having a hard time developing a respectable stand. This is mainly due to the heavy rains and cooler than expected weather over the last 7-10 days. For those fields that have developed a respectable stand, they are growing slowly due to some excess soil moisture and the cooler temperatures. All the fields I checked this week are still in the cotyledon stage, and some are just now starting to have the first true leaf increase in size. During these times of cool and wet weather leading to slower cotton growth the plant can become very susceptible to damage from thrips and seedling diseases. I have started picking up on adult thrips moving into some area fields, but thankfully I have not found any immature thrips (**Figure 4**). Based on these observations it appears that our insecticide seed treatments are still holding. However, as we continue to grow, we need to keep a close eye on thrips populations as our insecticide seed treatments will start breaking down as we reach the second true leaf stage. If you planted the new ThryvOn technology cotton sold by DeltaPine, thrips management will not be an issue for those fields. This Bt technology does not kill the thrips but does repel them so you may still see thrips in the field and some minor feeding damage, but an insecticide application will not be warranted in fields with this technology.

Figure 4. Adult flower thrips, note the black coloration of the wings on the top of the body. Photo credit: David Kerns, Texas A&M AgriLife

Right now, it is important to get out and assess the stand in your fields. Replant decision can be difficult to make because it is either kill the plant that are up and replant the entire field or try and patch in areas with poor stands which can often time cause more damage to the existing crop. When I am assessing the stand for replant decision, I am looking for the uniformity of the stand more so than the number of plants per acre. There is data from previous years that show plant populations can go down to less than 20k plants per acre before seeing a yield loss. For me I am looking for how big are the gaps between plants, and how common are there gaps bigger than 3 feet. Another thing to keep in mind when assessing cotton stands is your row spacing. The narrower the row spacing the more uniform spacing between plants you can have and not see plant develop a bushy growth pattern.

As our wheat crop continues to dry down and we continue to cut hay meadows, thrips will start moving in the environment and looking for young tender tissue. Thrips pressure could be significant again this year, and it is important to spray fields in a timely manner once the economic threshold is reached to avoid a delay in maturity and yield loss. The current economic threshold for thrips in cotton is 1 thrips per a true leaf (cotyledon stage is 1 true leaf). However, if we get into a pattern of warmer weather and the crop is growing fast we could potentially bump that threshold up to 1.5 to 2 thrips per true leaf. There are a number of products labeled for thrips management in cotton, but the most common ones used in our area include acephate and Bidrin. Last year we conducted 2 thrips efficacy trials in the area looking at different products on thrips. The first trial saw a severe infestation of thrips with thrips population exceeding 50 thrips per true leaf at the 3rd true leaf stage (**Figure 5**). Based on this data the products Acephate, Bidrin, dimethoate, Radiant or Intrepid Edge, and Renestra can all provide good control of thrips populations. For our area, though acephate at 4 oz will likely be the most cost-effective insecticide.

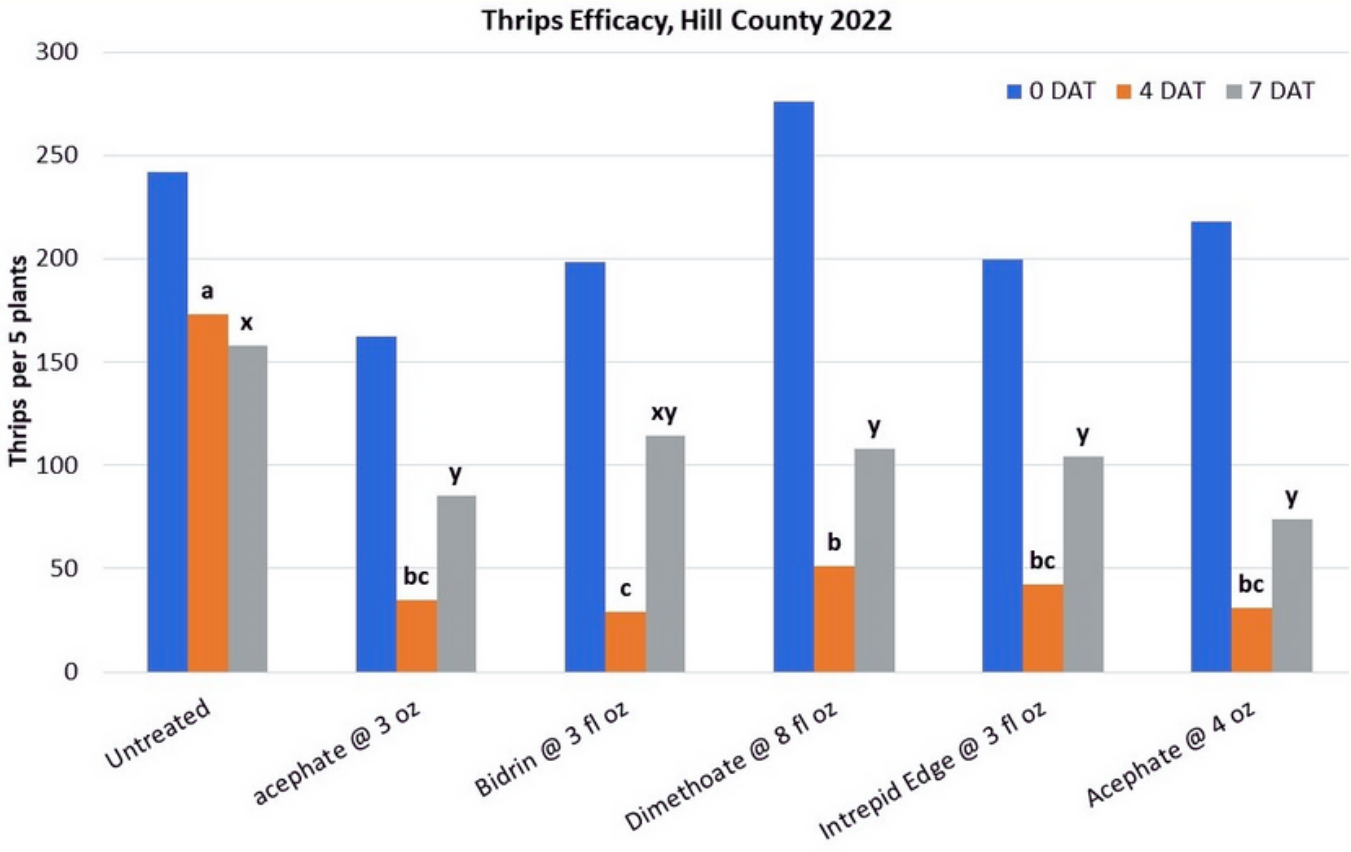

Figure 5. Thrips per 5 plants from the e fficacy trial conducted in Hill County , TX last year. 0DAT= 3rd true leaf, 4DAT= 4th true leaf, and 7 DAT=5th true leaf.