

## GENERAL:

Not much has changed in the wheat crop over the last week, yet some producers are living life right and received a much-needed rain. There are a few pest situations that are present, but currently are not widespread nor are they bad enough to justify treatment. There are some fields that have tillers that have started jointing, but most of the tillers in area fields still have a while before they start jointing. Overall, this crop is about 3-4 weeks behind where it was at this time during the last three years, where jointing was observed the week of March 7, March 5, and March 10, during the 2019, 2020, and 2021 growing season respectively. This delay in crop maturity is caused by the drought conditions as well as the crazy temperature swings, we have experienced this year. Current pest I am finding in area wheat include some powdery mildew, army cutworm larvae, and bird cherry oat aphids. I have not found any leaf or stripe rust in area wheat, but there are reports of both diseases starting to be found in the Williamson County area. The strong winds experienced over this past week likely brought spores from those infections into our area, and if weather conditions remain conducive, we could soon see rust infections starting to pick up in our area.

## DISEASES:

Powdery mildew has been found in some area wheat despite the low rainfall, however, for the last couple of weeks the temperatures were very conducive for development. Symptoms of powdery mildew include fluffy white to gray fungal growth that can be found on either side of the leaf and on the leaf sheaths (**Figure 1**). As the powdery mildew infection ages, the fluffy growth develops a grayish-brown color with small black dots mixed in. This disease requires high humidity with temperatures between 59 and 71F, and unlike other common fungal diseases, it does not require a period of leaf wetness for infection. Management options include crop rotation, burying infected crop residue, planting varieties with resistance to the disease, avoiding excessive Nitrogen fertilization, and fungicides. Currently I am only seeing powdery mildew on a susceptible variety, but the severity of the disease is nowhere near bad enough to justify a fungicide application, especially as disease development is greatly reduced when daily high temperatures reach 77F.



**Figure 1.** Symptoms of powdery mildew on a wheat leaf.

I still have not found any active leaf rust (Figure 2) or stripe rust (Figure 3) in the area but have now heard of reports of both diseases starting to be found in wheat in Williamson County. With the strong winds over the last week, it is likely that spores of leaf rust and stripe rust have been brought into the area. Given the sporadic nature of the moisture received earlier this week, along with the chance for rain this coming week we could see some area wheat fields starting to show symptoms of leaf rust and stripe rust infections. Over the next few weeks, it will be important to check wheat for symptoms of rust and treat to protect the flag leaf from being infected as it accounts for roughly 80% of the energy produced to fill out the kernels.



**Figure 2.** Leaf rust on wheat leaf. Photo credit: Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org



**Figure 3.** Stripe rust on wheat leaf

## INSECTS:

Insect activity has been low this year, but some fields still have very low populations of bird cherry oat aphids that are being kept in check by the beneficial insect population. The second insect pest being found in some area wheat fields is the army cutworm. This insect is not widespread across the area, nor are they extremely heavy in any wheat fields that I have seen, but I have seen a good amount of by armyworm moths and army cutworm moths flying around flood lights at night. Army cutworms feed much like true armyworms by feeding on plant tissue above the soil surface, but they do go down the canopy during the day to hide in the soil or below crop residue. They can cause significant damage to wheat by defoliating the plant, and even clipping the plant from the root system as the soil surface. Fields that have thin stands due to factors like poor germination and/or tillering are the most susceptible to significant damage from army cutworms. They are more commonly an issue in fields with a lot of weeds and/or crop residue. The larvae can grow to be between 3/8th and 1 1/2 inches long by the time they enter the pupal stage in early to mid-spring. The larvae have a light brown head, and a body that is a pale grayish color with white blotches and a faint brownish line down its back (**Figure 4**). Treatment for army cutworm in wheat and other small grains is recommended when there are four to five army cutworm larvae per square foot. If you do need to spray for army cutworms for some reason, there are numerous insecticide options including various pyrethroids, spinosad, and methomyl based insecticides



**Figure 4.** Army cutworm larvae forming the typical C-shape when disturbed. Photo credit: Frank Pearis, Colorado State University, Bugwood.org

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