



Blacklands IPM Update



GENERAL:

A much need rain was received early this week, and halted corn planting operations but will help the area wheat crop rebound after suffering various levels of damage from winter storm Uri. As I scout wheat this week, all the wheat fields I have seen have greened up and recovered from the leaf burn caused by the frigid temperatures two weeks ago. The warmer temperatures and moisture have caused wheat pests like bird cherry oat aphids and stripe rust to become more active. Stripe rust is being found in wheat fields around Abbott and Bynum, but I have not seen a widespread dispersion of the disease yet. Bird cherry oat aphid numbers are increasing in the area with the lack of beneficial insects being absent since the winter storm.

INSECTS:

The warmup from the arctic blast two weeks ago has caused insect activity to increase. Bird cherry oat aphid (**Figure 1**) numbers were starting to increase with the lack of competition from beneficial insects. Over the course of this week, I have observed an increase in the beneficial insect population, and I even found a few mummified aphids which is a sign of parasitic wasp activity. The resurgence of lady beetles, lacewings, and parasitic wasp should help keep the bird cherry oat numbers below the economic threshold. There is no established economic threshold for bird cherry oat aphids in Texas wheat and we recommend utilizing the economic threshold developed by the University of Nebraska. This economic threshold (**Table 1**) is based on the number of aphids per tiller during certain key growth stages.



Figure 1. Bird cherry oat aphid, photo credit: D. Tyler Mays, Texas A&M AgriLife Extension

Table 1. Number of bird cherry oat aphids per till to justify treatment.

Seedling to Boot	Boot to Heading	Flowering	Milk Stage to Medium Dough
20	30	>5	10

Modified from University of Nebraska –Lincoln’s Crop Watch, Identifying and Treating Aphids in Wheat.

I also started finding some greenbugs in a field around the Hillsboro Municipal Airport this week, and right now their population is well below the economic threshold. Greenbugs are pale green and typically have a stripe of darker green on their back (**Figure 2**). This aphid injects a toxin into the plant while feeding that causes the leaf tissue to turn yellow and then eventually die and are also known vectors of the barley yellow dwarf virus. Their numbers can increase rapidly when temperatures range between 55F and 95F and cause economic losses. There is an established economic threshold for greenbug in Texas wheat and is based on the plant height and the number of greenbugs per foot of drill row (**Table 2**).



Table 2. Economic threshold for greenbugs in Texas small grains

Plant Height	Number greenbugs per linear foot
3-6 inches	100-300
4-8 inches	200-400
6-16 inches	300-800

Figure 2. Greenbug, photo credit: Rick Grantham, Oklahoma State University

DISEASE:

The weather conditions we are currently in are optimal for stripe rust (**Figure 3**) development. Early this week I picked up on one field in the Abbott, and upon talking with others scouting wheat in Hill and McLennan County the only other known occurrence of stripe rust is in the Bynum area. As our temperatures remain between 45F and 65F which is the favorable temperature range for stripe rust this disease will start spreading to more fields in the area. The pathogen also requires the leaf to be wet for around 6 hours for infection to occur. Planting varieties with resistance to stripe rust is a major management practice, but just because a variety is labeled as resistant does not mean it will not be infected. This is since there is different race of the fungus that may not be susceptible to the resistance genes present in the variety, and the type of resistance. In terms of wheat resistance there are two forms, seedling resistance and adult-plant resistance. Adult plant resistance does not start being active until the plant shifts to the reproductive development stages, jointing through grain maturation, and becomes stronger as the plants reach the flag leaf stage. Adult plant resistance is the most common type of rust resistance in our hard red winter wheat varieties. Seedling resistance is active throughout the growing season and is the most common in our soft red winter wheat varieties. This finding of stripe rust in Hill County indicates that conditions are favorable for stripe rust development and that we need to start monitoring fields for stripe rust infections.



Figure 3. Stripe rust on lower leaf of a wheat plant. Photo credit: D. Tyler Mays, Texas A&M AgriLife Extension

WHEAT FREEZE INJURY:

We are now two weeks past the winter storm, and the area wheat crop is responding well thanks to the rapid return to normal conditions and the recent rainfall. As of now it appears the wheat crop in Hill and Northern McLennan County will suffer minimal to no decrease in yield. There are however, a few fields that did have some tillers killed by the freezing weather, but these fields should still suffer a minimal impact on yield as the plants will be able to compensate for the death of these tillers.

AUDIO UPDATES:

The Extension IPM Program has started a regional audio update that will combine 3-4 IPM agents to discuss what is being seen in the field, and what we need to be ready for. These audio updates include South Texas, Texas Blacklands and Upper Gulf Coast, Rolling Plains and West Texas, as the High Plains/South Plains. This update will be posted weekly, and by going to the following link you can sign up to receive a text when an audio is posted, with a link to the recording.

[Signup Blacklands Upper Gulf Coast - Extension Entomology, Texas A&M AgriLife Extension \(texasinsects.org\)](https://texasinsects.org/signup-blacklands-upper-gulf-coast-extension-entomology-texas-a-m-agrilife-extension)

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