Texas IPM Partners With Nature

Blacklands IPM Update

Texas A&M AgriLife Extension

GENERAL:

The area's wheat crop has turned around nicely over the last two weeks. Currently pest issues are very low with some aphids in some area wheat field and are well below the economic threshold thanks to high numbers of beneficial insects. There is also some leaf rust and stripe rust in some area fields, but these pustules are old and not actively producing spores, but as we move into spring and our weather changes both diseases could become an issue. Corn planting is wrapping up for most producers in the area just as some frigid temperatures are expected to move into the area, but it does not look like it will damage the corn crop too bad at this time thanks to the current growth stages.

WHEAT:

There is no doubt that as you look at area wheat fields that this dry period has negatively impacted the wheat growth and development. At this point in time, it appears that most of the wheat in the area is a little behind where it has over the last 3-4 years. Pest issues so far this year have been low, with currently some bird cherry oat aphids, leaf rust and stripe rust being found in area wheat fields at levels well below what would justify a treatment.

Bird cherry oat aphid (**Figure 1**) is the predominant aphid species being found at the time, but I have also picked up the occasional greenbug in random fields. Both aphid species are well below the economic threshold recommended for their management. Currently there is a good number of beneficial insects around, especially parasitic wasp, that are helping keep the aphid populations well below their respective economic thresholds. With the number of beneficial insects in area wheat fields I do not recommend applying any insecticide in fields even if you are going over the field to treat for weeds, diseases, or top dressing to help preserve these beneficial insects. If for some reason you do have to treat a wheat field with an insecticide it is recommended that you select an insecticide that is selective and does not negatively impact our beneficial insect populations, if one is available for your target pest. By doing this you will keep the beneficial insect population high and floating around the field to keep aphids and other pest below the economic threshold.

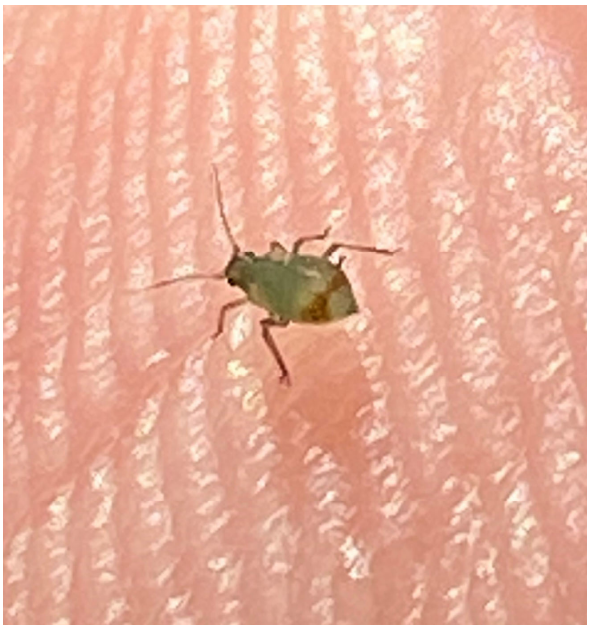

Figure 1. Bird cherry oat aphid.

Both leaf rust and stripe rust has been found in a few fields in the area, but these pustules are old and not actively producing spores. Our current weather pattern is not conducive for development of either disease as the weather is going in and out of the optimum temperature range and there has not been enough moisture to facilitate infection of the crop by these diseases. Leaf rust produces a pustule that is round to oval with a dark red color and is favored by temperatures between 77°F and 86°F with high humidity from rain or heavy dew. Stripe rust pustules are yellowish orange in color that are elongated and form stripes on the leaf surface and is favored by temperatures between 50°F and 64°F with high humidity. Looking at the 10-day forecast there are very few days that favor leaf rust development, but it does appear that it could be favorable for stripe rust if there is moisture received. Additionally, I have heard reports of both leaf rust and stripe rust piking up in South Texas around Castroville, and it will be a short time before those spores make their way into our area. With wheat prices over $10.00 per bushel and wheat yields already looking to be low it will be imperative to prevent yield loss from external factors that can be controlled like diseases and insects. Also, it will be important to select a product that will provide you the best return on investment. Table 1 summaries the results of a wheat fungicide trial conducted last year, that found that two fungicide applications will significantly limit the amount of yield lost to stripe rust. This results also indicated that yield loss can be significantly lower when applying a multiple mode of action fungicide like Trivapro early followed by a strobilurin based product at head emergence.

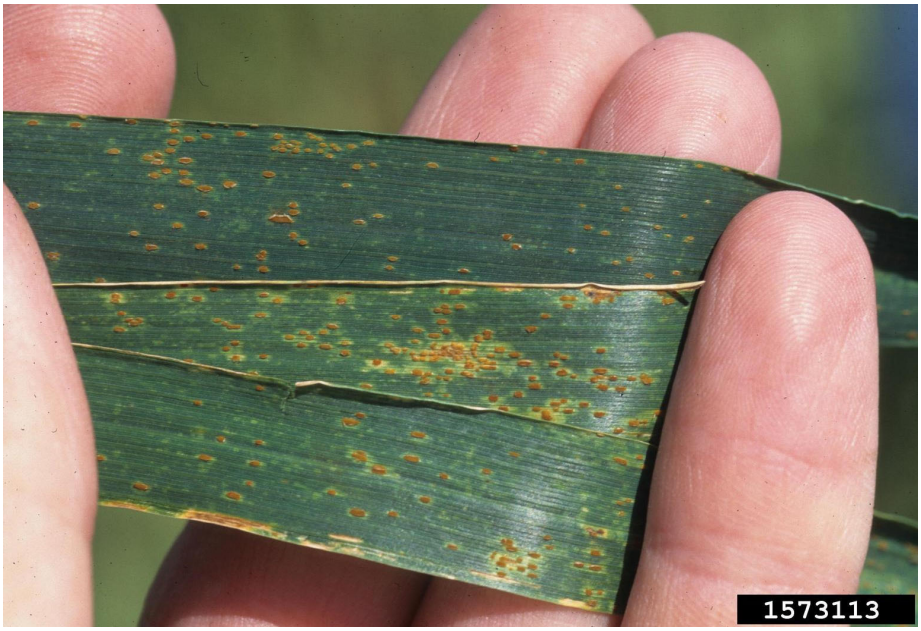

Figure 2. Leaf rust on wheat leaf. Photo credit: Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org

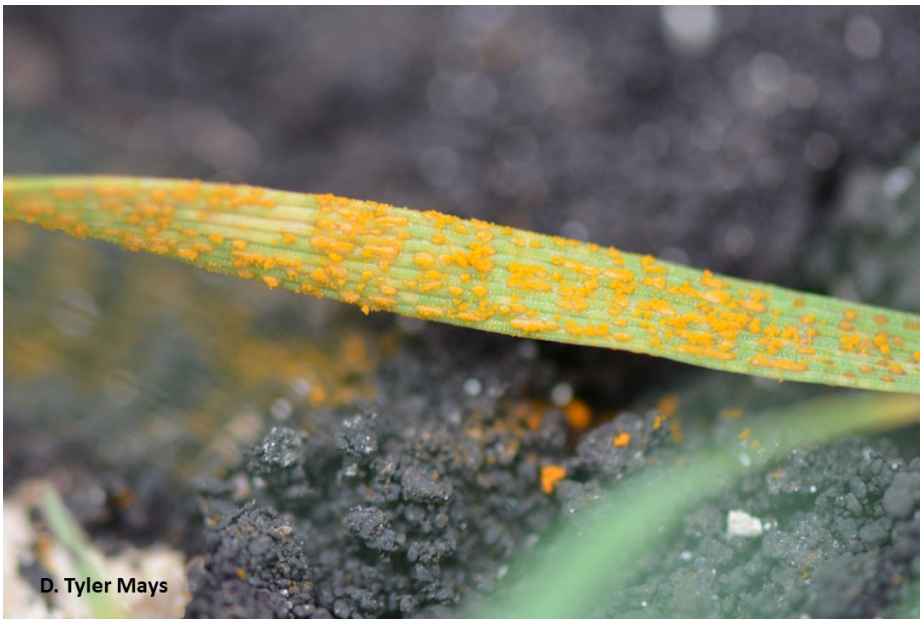

Figure 3. Stripe rust on wheat leaf

Table 1. Stripe Rust Severity, Yield, and Net Returns of three fungicide programs in Wheat, Hill County, TX, 2021

Treatment and rate/A (Feekes growth stage)	Stripe Rust Severity (% of flag leaf)					Yield (bu./acre)	Fungicide Cost ($/acre)[1]	Net Return ($/acre)[2]
	22 March	1 April	9 April	14 April	26 April			
Untreated Check	0	0	1.6	11.6	83.3 a[3]	45.26 b	$0.00	$271.53
propiconazole 4 fl. oz. (7) tebuconazole 4 fl. oz. (10.5)	0	0	0.9	3.5	24.3 b	55.35 ab	$3.56	$328.51
Alto 3 fl. oz. (7) Trivapro 13.7 fl. oz. (10.5)	0	0	0.9	5.0	7.3 b	60.28 a	$19.89	$341.76
Trivapro 9 fl. oz. (7) Alto 3 fl. oz. (10.5)	0	0	0.2	3.5	2.4 b	62.82 a	$14.34	$362.55
LSD (p=0.05	*ns*	*ns*	*ns*	*ns*	*31.92*	*11.62*	*ns*	*ns*

[1]Average cost of product from three local ag retailers.
[2]Net return was calculated by subtracting the fungicide cost from the gross return which was calculated on $6.00 wheat at local elevator.
[3]Means in the same column followed by the same letter are not statistically different based on F-protected LSD (p=0.05).

CORN:

Corn planting is wrapping up across the area, with some soil moisture present at the seeding depth that should help get the crop to emergence, but a rain is desperately needed to keep the young plant growing. The forecast is calling for the lows on Saturday and Sunday morning to be near or below freezing which can be scary as the crop was just planted. The biggest issues with cold temperatures and crop planting is when the seed in planted and then imbibes cold water, and when temperatures fall below freezing and kill the growing point of the plant. The first should not be a major issue for most producers as planting operations wrapped up on Wednesday though Thursday, but for those that planted through Friday (3/11) there may be some minor damage from cold temperatures. The second issues of killing the growing point is not likely to happen as at this point the growing point is still below the soil surface which will provide some insulation. If the crop is emerged, there may be some freeze damage to the leaf tissue, but if leaves do not get killed off and then stuck in the whorl, the plant should rebound nicely.

Blacklands IPM Update is a publication of Texas A&M AgriLife Extension IPM Program in Hill & McLennan Counties.

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