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Blacklands IPM Update

Texas IPM Partners With Nature

Texas A&M AgriLife Extension

GENERAL:

Corn is starting to be planted and soil temperatures plummet as a strong cold front moved through over the weekend into the early part of the week. Low temperatures during the cold spell reached 20ºF on Monday morning. Wheat around the county is getting close to joint in some locations, and from this point until after the crop is cured wheat will be very sensitive to freezing temperatures. I picked up my first tiller jointing on Wednesday near Whitney and was only present on a few tillers in that field. I anticipate a lot of fields to start jointing next week with the way the weather forecast looks. Insect pest remains light around the area, while stripe rust is still being found in all the fields in the scouting program.

WHEAT

Stripe rust is still being found in all areas of the county, but only one field in the scouting program is bad enough it needs to be sprayed. There are multiple fungicides available. All fungicides labeled for stripe rust in wheat will effectively control the disease while also providing a short-term protection against future infections. If stripe rust is already present in the field, a fungicide that has both curative and preventative action is recommended. These include fungicides in the triazole and strobilurin classes which include active ingredients such as propiconazole and azoxystrobin, respectively. If you are spraying using an application rate of 10 gallons per acre, that will help increase coverage and increase the level of control and protection since these chemicals are only partially systemic, only moving into the leaves but not through the rest of the plant.

Insect pests remain low and include both greenbugs and bird cherry oat aphids. Greenbugs remain well below the economic threshold, but as the temperatures warm up over the next 7 to 10 days, we could potentially reach populations that need to be sprayed. Bird cherry oat aphids remain in area wheat fields but are also staying well below the level that would warrant an insecticide application. Beneficial insects were picking up prior to the recent cold front and consisted mainly of ladybugs. We will see how their population rebounds as temperatures warm up. Last week some parasitism of aphids was observed and after this freeze, parasitism rates will be low and gradually increase as our temperatures increase.

Most of the wheat around the area should have escaped the freezing weather with minimal damage as all the fields I have looked at have yet to joint. I ran a set of temperature sensors Monday night and are still deployed in the field. These sensors were placed in the wheat canopy on the soil surface. Sensor locations included Brandon, between Covington and Itasca, between Menlow and West, between Abbott and Bynum, and Whitney. The coldest temperature detected was 26ºF and lasted for an hour or less. Research indicates that wheat that has not yet jointed can withstand 14ºF temperatures for up to 2 hours before significant damage occurs. Wheat that has started to joint can withstand temperatures down to 24ºF before significant damage occurs. Ambient temperatures dropped down to the low 20s on both Monday and Tuesday mornings, therefore fields should be evaluated individually for freeze damage, but it appears that we should be safe from freeze damage at this point. It will take a while for freeze damage to appear, and as the temperatures warm up fields should be checked for water-soaked lesions on the leaves and dead growing points.

CORN

started collecting morning soil temperatures on Tuesday morning in a field around Hillsboro. At 8am Tuesday morning the 4-inch soil temperature was 33ºF, and by 6pm on Tuesday increased to 47ºF for a daily average 4” soil temperature of 40ºF, which is below the recommended threshold for corn planting. Syngenta has a website available to view current soil temperature, 24-hour average temperature, and the 5-day average temperature. This website is called GreenCast and has been accurate to 1-2 - degrees Fahrenheit. Ideal corn planting conditions include soil temperatures that are 50ºF or warmer, with a favorable forecast and good soil moisture. Below is a table of soil temperatures taken at a 4-inch depth, and readings occurred at 8:00 am and 6:00 pm, our soil temperatures at this location are still a little cold, however each field’s soil temperature will be different. Soil temperatures can vary based on soil moisture, ground cover, terrain of field, soil type, and soil organic matter content.

The following statement is from Dr. Ronnie Schnell about planting corn in cold weather. “Cold temps (soil less than 50F) during germination can cause injury. As soil temp drops to 45, the chance injury goes up. When the seed imbibes water, when cold, it cause cells to become rigid and possibly leaky. This results in swollen seeds that do not emerge. If the cold is encounter several days after planting and after imbibing water, there can still be some injury. You may see seedlings leaf before emerging or even cork screwing out of the ground. Corn planted well in advance of the cold air will have gone through early germination phases and is then only susceptible to freeze injury. So the big difference is that germinating seeds are sensitive to soil temp in the 40s while young seedlings are only susceptible to hard freezes. How cold we get and for how long will determine the impact. But uneven emergence and reduced stands is the concern. Pausing a day or two may be justified.” I have posted a document written by Dr. Ronnie Schnell on the Hill County Website under the IPM Corn Resources page.

Soil Temperatures at 4 inches in Hillsboro, TX			
Date	**Morning**	**Evening**	**Daily Average**
March 5	33	47	40
March 6	34	55	44.5
March 7	48	—	—

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

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