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Wheat Update

TEXAS A&M UNIVERSITY COMMERCE

March 26, 2011

Feeks 7.0, Second node visible

Feeks 8.0, Flag leaf visible

The stripe pattern runs along the vascular bundles and resembles powdery stitches.

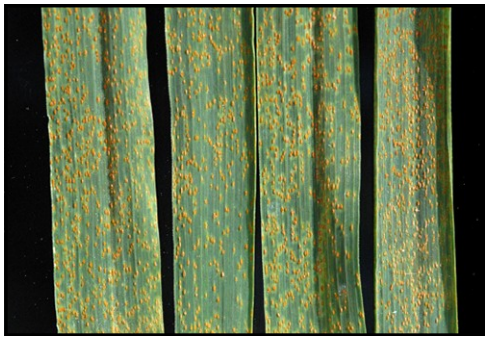
Most area wheat plants are at Feekes 8 (beginning of flag leaf emergence) to Feekes 9 (flag leaf fully emerged) . We found stripe rust (*Puccinia striiformis)* on March 14 in Patton SRWW, a variety we use for fungicide testing that is highly susceptible to stripe rust. The most commonly planted commercial varieties planted in this region (Coker 9553, USG 3295, USG 3555, AgriPro Magnolia, Terral LA 841, and Pioneer 25R47) show no evidence of stripe rust infection at this time.

Leaf rust (*Puccinia recondita)* was found on the lower leaves in Jackpot HRWW on March 21. It has not been observed in any of the other varieties in our trials. It is a later occurring disease than stripe rust, and does not usually appear in this region until Feekes 9 (flag leaf fully emerged) or Feekes 10 (boot to heading).

Barley yellow dwarf (BYD) is showing up in some area wheat fields. It is a virus disease that is transmitted by greenbugs (*Schizaphis graminum)* and bird cherry oat aphids (*Rhopalosiphum padi)*. Symptoms are yellowing of the tips of the leaves and stunting of the plants, and it usually occurs in spots in the field. Severity of this disease is dependent on the time of infection. Fall infections are more damaging than spring infections, and are more likely to cause more stunting, reduced seed set, and lower bushel weights. Some varieties are more susceptible to this disease than others. There is nothing that can be done at this point. Treating the seed prior to planting with Gaucho® or Cruiser® to control aphids will help minimize the effects of the disease by reducing fall infections.

The Foliar Fungicide Decision

A number of factors are usually considered in making a fungicide spray decision, including yield potential, wheat price, fungicide cost, and disease pressure. This year, two of those factors make the decision much easier: $8.00 wheat and $4.00 per acre tebuconazole. A producer only needs one more bushel of wheat to cover the cost of the fungicide and application.



Dark orange pustules of leaf rust.
Photo: James Kolmer

Glume Blotch in wheat. Photo Carl Bradley

Tebuconazole (sold as TebuStar, Monsoon, Onset and others) was synthesized by Bayer Chemical Company around 30 years ago and tested under the trade name Folicur®, but it did not receive a federal label for wheat until 2009. It is a triazole with both curative and protective properties on the rusts (both leaf and stripe), and glume blotch (*Stagnospora nodorum).* We have evaluated this product in almost all of our fungicide tests from 1984 to now, and it is as effective now as it was when we first tested it.

There is some misinformation in the marketplace that this product is inferior to some of the newer fungicides that have been labeled in the past 10 years. This is simply not true. Tebuconazole is as effective on rusts and glume blotch as anything else that is being sold to control these diseases in wheat, and at a fraction of the cost.

Over the last two years, we expanded our fungicide research program to include an economic evaluation of some of the most common commercial soft red winter wheat varieties in the region. These varieties included AgriPro Magnolia, Pioneer 25R47, Pioneer 25R57, Coker 9553, and Terral LA 841. These two years were characterized by a light to moderate leaf rust infection overall. Terral LA 841 and Pioneer 25R47 were infected with moderate to heavy glume blotch in the Royse City location in 2009.

The following table summarizes these results:

Barley yellow dwarf virus
in wheat.

Table 1: Yield Increase and Return on Investment Obtained by Spraying a Foliar Fungicide (Tebuconazole) on Five Commercially Grown SRWW Varieties in the Northern Texas Blacklands

Variety	Yield Increase				Average Return for Every Dollar Invested
	Royse City, TX		Howe, TX		
	2009	2010	2010	Average	
	Bu/A				$
AgriPro Magnolia	-1.4	3.1	4.0	1.9	$1.68
AgriPro Coker 9553	2.3	-1.2	4.0	1.7	$1.51
Pioneer 25R47	11.0	2.8	3.7	5.8	$5.16
Terral LA 841	9.6	3.1	2.8	5.2	$4.62
AgriPro Jackpot	Not in trial	21.1	3.4	12.3	$10.93

Bullet Summary

- We obtained a positive return on investment on all of the varieties evaluated in the trial. Using projected 2011 prices, we returned $1.51 to $10.93 for every dollar invested.
- The greatest return was achieved by spraying Jackpot HRWW, a variety that was heavily infected with leaf rust in 2010 at the Royse City location.
- The yield increases observed with Pioneer 25R47 and Terral LA 841 in 2009 are attributed to a late infection of glume blotch
- Based on two years of research, a foliar fungicide treatment with tebuconazole will be a wise investment this year, even under light to moderate disease pressure.

Fungicide Timing

For optimum results in controlling leaf rust and glume blotch, we suggest that tebuconazole be applied anytime between Feekes 9 and Feekes 10.5.1 (flowering). Based on multiple years of research, a single application of tebuconazole will provide 35 to 40 days of control which should protect the leaves throughout the grain filling period.

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