HRS Wheat Variety Response to Foliar Fungicide

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A study was conducted at the Carrington Research Extension Center in 2005 to evaluate agronomic performance of selected hard red spring (HRS) wheat varieties with early-flowering application of Folicur. The irrigated trial included 'Glenn', 'Reeder' and 'Steele-ND' planted on 2004 soybean ground (with supplemental wheat straw spread after planting) at 1 and 1.75 million pure live seeds (PLS)/acre (A) on April 28. Folicur at 4 fl oz/A + NIS (Induce) at 0.125% v/v was applied to early-flowering stage (Feekes 10.51) wheat with a hand-boom plot sprayer equipped with 8002 twin-jet nozzles delivering 18 gpa at 40 psi. Flag leaf disease (tan spot and *Septoria* spp.), leaf rust, and Fusarium head blight (scab) were visually evaluated at the soft-dough stage.

Established stands were 1,223,000 and 2,099,000 seedling plants/A with the normal and high seeding rates, respectively (Table 1). However, spikes/A were similar between seeding rates. Seed yield and quality were similar between seeding rates. Folicur application significantly reduced disease levels though scab index was still 16.1% (Table 2). Also, Folicur reduced DON by 38%, but the result was 6.2 ppm. Compared to the untreated check, Folicur increased yield by 13.3 bu/A and test weight by 2.2 lbs./bu. Scab index with fungicide was 8.2, 14.1, and 25.9% with Glenn, Steele-ND, and Reeder, respectively (Table 3). Leaf disease and leaf rust reduction with fungicide was greatest with Reeder. Fungicide improved yield 10.9 bu/A with Glenn, 11.8 bu/A with Steele-ND, and 17.3 bu/A with Reeder compared to the untreated checks. Fungicide improved test weight 1.3 lbs./bu with Glenn, 1.9 lbs./bu with Steele-ND, and 3.2 lbs./bu with Reeder compared to the untreated checks.

Table 1. Wheat response to seeding rate.

Seeding Rate	Plant Stand	Spike	Grain Yield	Test Weight
(million PLS/A)	(x1000/A)		(bu/A)	(lb/bu)
1	1223.1	1848.6	49.7	58.2
1.75	2099	1905	48.6	58.4
LSD 0.05	*	NS	NS	NS

Table 2. Wheat response to fungicide.

Fungicide Treatment	Scab Index	DON	Flag Leaf Disease	Flag Leaf Rust	Grain Yield	Test Weight
	(%)	(ppm)	(%)	(%)	(bu/A)	(lb/bu)
Folicur	16.1	6.2	4	0	55.8	59.4
untreated	33.6	10.0	21	5	42.5	57.2
LSD 0.05	6.7	3	4	2	3.5	0.34

Table 3. Wheat variety by fungicide.

Variety and Fungicide Treatment	Scab Index	DON	Flag Leaf Disease	Flag Leaf Rust	Grain Yield	Test Weight
	(%)	(%)	(%)	(%)	(bu/A)	(lb/bu)
Glenn Folicur	8.2	5.0	3	0	63.7	62.1
Glenn untreated	19.3	9.0	9	0	52.8	60.8
Reeder Folicur	25.9	7.5	5	1	49.3	56.7
Reeder untreated	47.6	12.4	37	16	32.0	53.5
Steele-ND Folicur	14.1	6.0	4	0	54.5	59.3
Steele-ND untreated	33.8	8.7	17	0	42.7	57.4