

Evaluation of Foliar Fungicide on several HRSW cultivars, Devils Lake, ND 2007.

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A field experiment was planted on 30 April near Devils Lake, ND. The previous crop was soybeans. Twenty HRSW cultivars were planted at a rate of 1.5 million pure live seeds/a. Seed was treated with Dividend. Plot size consisted of seven 6 inch rows 16 ft long. Barley FHB spawn was applied to the plots on June 11. Quadris fungicide at 6.2 fl oz/a was applied with a backpack sprayer June 4 at the 5 leaf stage to fungicide treated plots. Nozzels were oriented straight down and 8.5 gal/a was applied at 40 psi. At the first flowering treatment, a combination tankmix of 3 oz/a tebuconazole and 3 oz/a of Prothiconazole was applied to all fully headed and early flowering cultivars on June 25. The 7 cultivars not treated June 25 received the same tankmix combination June 29. The nozzels were oriented forward and angled 30 deg from horizontal. Ten gal/a of the fungicide solution was applied at 45 psi. Untreated plots were evaluated for FHB July 13 and 20. Leaf necrosis was evaluated on just untreated plots on July 13 and on both treated and untreated plots July 20. Leaf rust was evaluated on just the untreated plots on July 13 and 20. The experimental design was a split-block with four replications.

Disease pressure for FHB was light with only trace amounts observed. No detectable DON levels were seen. No FHB data is presented. Leaf rust and septoria were observed in moderate amounts. Fungicide and its interaction with cultivars were significant for yield, test weight, protein, and leaf necrosis. Cultivar yield response to fungicide applications ranged from -0.3 to 18.9 bu/a. Cultivars that were more susceptible to leaf rust and foliar diseases had the greatest reponse to a fungicide

Ramsey HRSW Variety * Fungicide Trial

ANOVA	Yield	DH	Height	Test Weight	Protein	Leaf Necrosis
Cultivar	**	**	**	**	**	**
Fungicide	**	NS	NS	**	**	**
C * F	**	NS	NS	**	**	**

P < 0.05**

NS=non-significant

Table 1. Cultivar response to fungicide averaged over fungicide treatments.

Cultivar	YIELD bu/a	Days to head	Plant Height Inches	Test Weight lbs/au	Protein %	Leaf Necrosis %
Alsen	59.8	55.6	35.4	61.2	14.7	41.0
Knudson	77.8	57.5	35.0	60.6	13.9	3.3
Briggs	75.1	53.0	35.3	61.0	14.6	6.5
Oklee	67.9	53.4	35.6	61.8	14.7	41.7
Trooper	85.0	53.5	31.8	62.2	13.6	37.7
Steele-ND	72.8	56.0	36.8	62.0	14.8	3.8
Freyr	76.9	56.3	35.9	60.5	14.3	19.2
Glenn	71.3	54.5	38.0	63.6	14.9	10.0
Bigg Red	55.4	57.3	37.5	61.8	13.9	49.2
Kelby	73.3	55.1	31.6	61.1	14.6	23.3
Fireball	57.6	60.0	32.8	58.9	15.5	13.8
Bakker Gold	59.6	61.6	35.1	60.2	14.0	26.2
Rush	67.6	52.3	34.1	61.8	14.7	36.3
Traverse	78.7	53.0	37.3	59.2	13.8	15.7
Ada	69.1	57.0	34.1	61.5	14.3	9.3
Howard	72.1	56.1	36.6	62.3	14.5	4.8
Faller	83.3	57.5	35.9	61.1	13.9	4.0
RB07	72.6	55.0	34.0	60.5	14.5	27.5
Kuntz	78.3	57.3	34.0	61.0	13.9	16.0
Hotshot	59.6	60.8	33.0	60.7	13.3	43.7
LSD 5%	4.5	0.9	1.0	0.4	0.3	11.6
LSD 1%	6.0	1.1	1.3	0.5	0.4	15.6
C.V. %	6.4	1.5	2.7	0.6	1.8	45.8

Table 2. Cultivar response to fungicide averaged over cultivars.

Fungicide	YIELD bu/a	Days to head	HT in	TW lbs/bu	PROT %	Leaf Necrosis %
No Fungicide	67.7	56.1	35.1	60.9	14.2	36.2
Fungicide	73.7	56.1	34.9	61.4	14.4	7.2
LSD 5%	1.2	NA	NA	0.1	0.1	3.5
LSD 1%	1.5	NA	NA	0.1	0.1	4.7
C.V. %	5.2	1.3	2.6	0.5	1.6	43.7

NA - non- applicable because ANOVA for Fungicide was NS

Table 3. Cultivar response to fungicide treatments.

Treatment	YIELD	Day	HT	TW	PROT	Leaf Necrosis
	bu/a	to head	in	lbs/bu	%	%
Ada	68.6	56.8	34.3	61.2	14.2	16.7
Ada+F	69.7	57.3	34.0	61.8	14.3	2.0
Alsen	57.1	55.8	36.5	61.0	14.7	65.3
Alsen+F	62.4	55.5	34.3	61.4	14.7	16.7
Bakker Gold	52.1	61.5	34.8	59.6	13.7	50.0
Bakker Gold+F	67.0	61.8	35.5	60.8	14.3	2.3
Bigg Red	46.7	57.3	37.8	61.6	13.2	90.0
Bigg Red+F	64.2	57.3	37.3	62.0	14.6	8.3
Briggs	73.8	52.8	35.5	60.9	14.6	6.7
Briggs+F	76.3	53.3	35.0	61.2	14.6	6.3
Faller	81.0	57.5	35.5	61.0	14.1	5.0
Faller+F	85.7	57.5	36.3	61.2	13.7	3.0
Fireball	52.7	59.8	32.8	58.5	15.6	25.0
Fireball+F	62.5	60.3	32.8	59.3	15.5	2.7
Freyr	77.1	56.3	36.3	60.3	14.2	33.3
Freyr+F	76.8	56.3	35.5	60.8	14.5	5.0
Glenn	69.3	54.5	38.3	63.4	15.0	15.0
Glenn+F	73.3	54.5	37.8	63.9	14.8	5.0
Hotshot	50.2	60.8	33.3	59.7	13.3	80.0
Hotshot+F	69.1	60.8	32.8	61.7	13.3	7.3
Howard	71.7	56.3	36.5	62.4	14.5	6.7
Howard+F	72.5	56.0	36.8	62.2	14.6	3.0
Kelby	71.0	54.8	32.0	60.8	14.7	41.7
Kelby+F	75.6	55.5	31.3	61.3	14.6	5.0
Knudson	76.3	57.3	35.0	60.5	13.9	4.3
Knudson+F	79.2	57.8	35.0	60.7	13.9	2.3
Kuntz	77.1	57.3	33.8	61.0	14.0	25.0
Kuntz+F	79.5	57.3	34.3	61.1	13.9	7.0
Oklee	64.5	53.8	36.3	61.5	14.5	68.3
Oklee+F	71.3	53.0	35.0	62.2	14.8	15.0
RB07	72.1	55.8	34.0	60.6	14.4	21.7
RB07+F	73.1	54.3	34.0	60.5	14.5	33.3
Rush	63.9	52.5	33.8	61.6	14.7	66.7
Rush+F	71.3	52.0	34.5	61.9	14.7	6.0
Steele-ND	72.8	56.0	36.8	61.9	14.7	5.0
Steele-ND+F	72.8	56.0	36.8	62.1	14.9	2.7
Traverse	75.9	53.0	37.3	59.2	13.7	30.0
Traverse+F	81.5	53.0	37.3	59.2	13.8	1.3
Trooper	79.4	53.5	31.5	61.6	13.3	66.7
Trooper+F	90.6	53.5	32.0	62.8	14.0	8.7
LSD 5%	5.2	NA	NA	0.4	0.3	15.7
LSD 1%	6.9	NA	NA	0.6	0.4	21.0

NA - non- applicable because ANOVA for Fungicide * V was NS

Table 4. Disease rating on cultivars on untreated plots.

Variety	July 13	July 13	July 20
	Leaf Necrosis %	Leaf Rust %	Leaf Rust %
Alsen	36.7	3.0	11.7
Knudson	1.0	0.0	0.0
Briggs	1.0	0.0	0.3
Oklee	13.3	5.5	31.7
Trooper	13.3	0.8	36.7
Steele-ND	1.7	0.0	0.0
Freyr	3.3	2.3	13.7
Glenn	11.7	0.0	0.0
Bigg Red	43.3	60.0	86.7
Kelby	2.0	0.1	6.7
Fireball	6.7	0.7	2.7
Bakker Gold	10.0	5.3	41.7
Rush	15.0	0.1	18.3
Traverse	4.0	0.1	8.4
Ada	2.0	0.1	4.0
Howard	1.7	0.0	0.0
Faller	1.0	0.0	0.0
RB07	2.7	0.0	0.0
Kuntz	5.0	0.1	0.7
Hotshot	31.7	22.7	50.0
Trial Mean	10.4	5.0	15.7
C.V. %	68.7	163.2	86.8
LSD 5%	11.8	13.6	22.5