

NDSU : Carrington Research Extension Center
2003
Spring Wheat Leaf Rust : Variety Tolerance * Fungicide Evaluation

Table 1. Influence of spring wheat variety on characteristics of performance.

Variety	Fungicide Timing	Grain Yield	Test Weight	1000 KWT	L. Leaf Rust	M. Leaf Rust	E. Leaf Rust	Grain Protein	Don
		bu/ac	lbs/bu	gms	%	%	%	gms	%
2375		60.5	62.6	35.8	50.1	29.7	14.1	15.5	0.75
Reeder		58.8	60.5	32.4	46.5	23.5	18.5	15.4	1.58
Alsen		60.2	62.8	32.0	33.6	23.1	6.7	15.3	0.22
Briggs		64.6	62.8	33.4	22.1	20.0	2.9	15.7	0.43
	LSD.05	2.7	0.3	0.8	12.5	3.9	2.6	0.26	0.21
	LSD.01	3.6	0.4	1.1	16.7	5.3	3.5	NS	0.28
	#OBS	12	12	12	12	12	12	12	12

Table 2. Influence of the timing of fungicide application (*Folicur at 4 fl oz*) on spring wheat performance.

Variety	Fungicide Timing	Grain Yield	Test Weight	1000 KWT	L. Leaf Rust	M. Leaf Rust	E. Leaf Rust	Grain Protein	Don
		bu/ac	lbs/bu	gms	%	%	%	gms	%
	Untreated Check	56.9	61.6	31.9	77.4	40.3	26.5	15.6	1.01
	Feeke's GS 10.0	62.0	62.2	34.3	29.9	16.1	2.8	15.5	0.89
	Feeke's GS 10.51	64.2	62.7	33.9	6.9	15.8	2.3	15.3	0.25
	LSD.05	2.3	0.2	0.7	10.8	3.4	2.3	NS	0.18
	LSD.01	3.1	0.3	1.0	14.5	4.5	3.0	NS	0.24
	#OBS	16	16	16	16	16	16	16	16

Table 3. Influence of spring wheat variety and timing of fungicide application on performance.

Variety	Fungicide Timing	Grain Yield	Test Weight	1000 KWT	L. Leaf Rust	M. Leaf Rust	E. Leaf Rust	Grain Protein	Don
		bu/ac	lbs/bu	gms	%	%	%	gms	%
2375	Untreated Check	55.8	61.8	34.3	93.3	50.8	38.0	15.6	1.03
2375	Feeke's GS 10.0	61.5	62.6	37.0	49.8	20.0	2.3	15.6	0.83
2375	Feeke's GS 10.51	65.6	63.4	36.4	7.3	18.3	2.0	15.2	0.27
Reeder	Untreated Check	52.8	59.9	30.4	90.8	42.8	49.5	15.4	1.98
Reeder	Feeke's GS 10.0	64.1	60.3	33.3	43.5	13.5	3.3	15.5	2.08
Reeder	Feeke's GS 10.51	59.6	61.4	33.8	5.3	14.3	2.8	15.4	0.40
Alsen	Untreated Check	58.0	62.3	30.6	74.5	39.3	14.8	15.6	0.27
Alsen	Feeke's GS 10.0	58.6	63.1	32.6	18.8	15.8	2.5	15.2	0.15
Alsen	Feeke's GS 10.51	63.9	62.9	32.8	7.5	14.3	2.8	15.1	0.24
Briggs	Untreated Check	62.5	62.6	32.5	51.0	28.5	3.8	15.7	0.70
Briggs	Feeke's GS 10.0	63.7	62.8	34.2	7.5	15.0	3.3	15.7	0.51
Briggs	Feeke's GS 10.51	67.0	63.0	33.3	7.8	16.5	1.8	15.7	0.15
	MEAN	61.0	62.2	33.4	38.1	24.1	10.5	15.5	0.73
	C.V.%	5.2	0.6	3.0	39.4	19.6	29.8	2.1	33.7
	LSD.05	4.6	0.5	NS	21.6	6.8	4.5	NS	0.36
	LSD.01	NS	NS	NS	NS	9.1	6.1	NS	0.5
	#OBS	4	4	4	4	4	4	4	4

** Objective: Determine the effect of a cultivar's susceptibility to leaf rust to its responsiveness to fungicide.
** Variety leaf rust susceptibility rating: 2375 = Susceptible ; Reeder = Moderately Susceptible
Alsen = Moderately Resistant ; Briggs = Resistant
** Fungicide treatments consisted of applications of Folicur + Induce NIS are at 4.0 fl oz + 0.125 % v/v .
** Evaluated flag leaves for % leaf rust infection at three timings; Early = July 28, Medium = August 1, Late = August 7.
** Treatments were applied with 17.0 gallons of water/A at 35 psi pressure using 80015 (twinjet) tips.
** Spring wheat planted at a seeding rate of 1.4 M PLS on May 15, harvest on Aug. 21, and previous crop of soybean.