

Objective:

This trial was conducted to evaluate agronomic performance of selected hard red spring wheat (HRSW) varieties as affected by a fungicide program consisting of an early-season and late-season application.

Trial Description:

The trial was located on the North Central Research Extension Center south of Minot, ND. Fifteen HRSW varieties were sown on May 12th into wheat stubble that had 217 lb/acre urea spread and chisel plowed the fall prior to seeding. Each variety was sown at a rate of 1.4 million PLS/acre using a plot-drill with double disc openers on six inch spacing. Two plots were sown for each variety, one plot to receive fungicide treatment and one to be left untreated. Plots were 5 feet wide x 16 feet long and treatments were replicated three times. On June 13th the crop had reached the 4 leaf stage and untreated plots received Wolverine at 1.7 pt/acre for weed control and fungicide treated plots received 1.7 pt/acre Wolverine + 3 fl oz/acre Headline. Herbicides and early-season fungicide treatments were applied with a CO₂ pressurized tractor-mounted sprayer calibrated to deliver 10 gallons/acre through flat fan nozzles. Fungicide plots were treated with 6.5 fl oz/acre of Prosaro at early flower. The Prosaro treatments were delivered through a CO₂ pressurized hand-held boom calibrated to deliver 20 gallons/acre through twin jet nozzles. The trial was harvested with a plot combine on September 15.

Results/Discussion:

Foliar and head disease pressure were very low and visual evaluation at early heading provided inconclusive results. Flag leaf necrosis and fusarium head blight levels in untreated plots were <15 % and < 1%, respectively. Some wild oat competition and establishment problems related to trash clearance added variability to the trial. Yield and other agronomic parameters were not significantly impacted by fungicide treatment but differences were detected for yield, test weight, protein and height amongst varieties when analyzed across fungicide and no fungicide. Tough threshing conditions resulted in a noticeably higher number of un-threshed heads in grain samples of harder threshing varieties. Samples were cleaned prior to weighing and the removal of the un-threshed heads may have contributed to the lower yield of these varieties.

Variety	Yield				Agronomics					
	No Fungicide	Fungicide	Combined		Test Weight		Protein		Height	
	Bu/acre		Bu/acre	Rank	lb/bu	Rank	%	Rank	inches	Rank
JENNA	61.6	61.4	61.5	1	58.9	14	13.8	12	27.6	10
KUNTZ	63.0	55.6	59.3	2	59.4	10	12.5	15	26.1	13
BLADE	58.6	59.2	58.9	3	61.5	2	13.9	10	28.7	2
ALSEN	56.7	60.9	58.8	4	60.2	5	14.5	3	28.1	8
FALLER	57.2	60.0	58.6	5	58.7	15	13.3	14	28.7	3
BARLOW	56.9	59.3	58.1	6	60.8	4	14.3	8	28.1	9
RB07	58.2	57.6	57.9	7	59.6	7	14.4	5	26.3	12
BRENNAN	55.1	57.6	56.3	8	59.9	6	14.6	2	23.6	14
MOTT	54.4	56.7	55.6	9	59.5	8	14.4	6	29.6	1
FREYR	55.2	55.7	55.5	10	59.0	13	13.6	13	28.6	4
BRICK	53.6	54.2	53.9	11	60.9	3	14.4	4	28.1	7
KELBY	53.1	54.5	53.8	12	59.2	12	14.4	7	23.3	15
HOWARD	51.0	55.9	53.5	13	59.2	11	13.9	11	28.2	6
STEELE-ND	48.7	52.4	50.6	14	59.5	9	14.2	9	27.4	11
GLENN	49.0	51.5	50.2	15	62.1	1	14.6	1	28.4	5
Average	55.5	56.8	56.2		59.9		14.1		27.4	
LSD(P = 0.05)	NS		6.3		0.6		0.5		1.3	
CV	8.7				0.8		3.0		1.6	

Soil test: (N),(S) @ 0-6",6-24"=(27,93),(10,873)lb/a; (P),(K) @ 0-6"= (13),(360)ppm, O.M.=3.4%, pH = 5.6.

