

Project Title: Agronomic Performance Evaluation of Soft White Winter Wheat Cultivars.

Project Leader: Bob Stougaard

Project Personnel: Phil Bruckner, Jim Berg, Fernando Guillen, and Qingwu Xue

Objectives: To evaluate the agronomic performance of soft white winter wheat cultivars in environments and cropping systems representative of northwestern Montana.

Results:

Winter wheat had only reached the 1.5 leaf stage when cold temperatures occurred. As a result, winter injury was evident, and stand reductions occurred for all entries. In some cases stand reductions were as high as 25 percent. Daws demonstrated the best winter survival and was comparable to the hard red winter wheat control, Neeley. This juvenile growth stage also resulted in a lack of tillering and yields were much lower than normal. For example, the yield average in 2002 was 123 bu/A compared to 67 bu/A in 2003. The poor yields resulted in minor differences among cultivars; Malcolm had the greatest yield at 73 bu/A, whereas Cashup and KW960195p7005 had yields slightly less than 60 bu/A. Test weights averaged 56 lbs/bu, which is slightly lower than the 59 lb/bu average of 2002. Proteins were a percentage point greater than 2002.

Summary:

Although the poor yields prevented a rigorous assessment of yield potential among the cultivars evaluated in this study, the results did provide new insights into the winter hardiness of soft whites, with Daws demonstrating the best winter survival.

Future Plans:

Continue to evaluate soft white winter wheat cultivars for adaptation in District 1.

Table 1. Agronomic data from the Soft White Winter Wheat Nursery grown at the Northwestern Agricultural Research Center Kalispell, MT.

Planted: Spetember 27, 2002

Harvested: July 29, 2003

Entry	Cultivar	Yield	Test weight	Grain moist	Heading date	Plant height	Winter survival	Protein
		Bu/A	Lb/Bu	%	Julian	in	%	%
2	Neeley (HRW)	76.3	60.1	10.1	154.3	31.5	90.0	13.5
11	Malcolm	73.1	55.6	9.3	156.0	26.5	83.3	13.1
3	Eltan	71.3	55.2	10.7	162.3	26.8	86.7	13.0
6	MAC-1	70.8	57.5	10.7	156.3	28.3	85.0	12.7
10	Stephens	70.4	57.1	10.5	157.3	26.0	88.3	11.7
8	MacVicar	70.2	57.6	9.0	156.7	26.4	85.0	11.7
5	Rod	70.2	51.9	8.3	160.0	25.7	86.7	12.4
15	Daws	69.1	58.0	9.7	154.0	25.2	90.0	12.3
12	Lewjain	67.5	56.4	10.0	162.3	25.1	83.3	12.1
9	Madsen	65.7	57.0	10.1	157.3	24.9	83.3	12.8
7	Kmor	65.2	53.3	9.0	158.7	26.4	80.0	13.4
14	Hill 81	65.0	56.0	10.1	159.7	27.4	85.0	13.8
4	Bruehl (SWW Club)	60.1	54.5	11.9	162.7	25.3	75.0	12.3
16	Lambert	60.1	58.6	10.9	155.0	27.6	78.3	13.0
1	KW960195p 7005	59.8	59.4	9.5	153.3	24.0	86.7	13.2
13	Cashup	58.3	58.1	8.9	156.7	25.6	86.7	12.5
Mean		67.1	56.6	9.9	157.7	26.4	84.6	12.7
LSD (0.05)		10.92		1.27	1.56	2.44	7.50	
C.V. (%)		9.79		7.72	0.59	5.55	5.33	