

PROJECT TITLE: Agronomic Performance Evaluation of Soft White Winter Wheat Cultivars.

PROJECT LEADER: Bob Stougaard, Weed Scientist, NWARC, Kalispell.

PROJECT PERSONNEL: Qingwu Xue, Research Associate, NWARC, Kalispell.  
Phil Bruckner, Winter Wheat Breeder, Bozeman.  
Jim Berg, Research Associate, Bozeman.

OBJECTIVES:

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

RESULTS:

The mild winter resulted in 100% winter survival in all tested entries during 2001-02 winter wheat growing season. Disease symptoms were very minimal and no disease evaluations were recorded. Yield ranged from 112.8 bu/a (Cashup) to 134.0 bu/a (Stephens), with an average of 123.0 bu/a. Test weight ranged from 53.9 lb/bu (Malcolm) to 62.7 lb/bu (Neeley), with an average of 59.2 lb/bu. Three entries had a low test weight (Lambert, Rod and Malcolm) (<58 lb/bu). Heading dates were delayed by the cool and moist spring season and ranged between Julian 165 (KW960195 and Lambert) and 173 (Eltan, Lewjain and Bruehl). All the soft white cultivars had a short to medium height and ranged from 30 to 37 inches. No any lodging was observed in any of the entries. The average grain protein content was 11.6%, and ranged from 10.1% (Stephens and Lewjain) to 13.5% (Malcolm).

SUMMARY:

Despite limited precipitation during grain filling, the stored soil moisture permitted good yields and test weights. High winter survival and no disease also favored the soft white winter wheat in 2001-02 season. Several cultivars exhibited superior yield performance and agronomic traits that may make them an excellent choice for planting in northwestern Montana.

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: October 1, 2001

Harvested: August 14, 2002

Cultivar	Yield	Test weight	Grain moist	Heading date	Plant height	Lodging index	Winter survival	Protein
	Bu/A	Lb/Bu	%	Julian	in	%	%	%
STEPHENS	134.0	61.5	10.5	169	34.8	0	100	10.1
ELTAN	132.5	58.0	10.5	173	37.1	0	100	11.9
MAC-1	127.9	61.4	10.5	167	36.0	0	100	12.3
NEELEY	127.3	62.7	10.9	167	38.8	0	100	12.0
LEWJAIN	126.4	60.8	10.2	173	32.3	0	100	10.1
BRUEHL	125.5	59.4	10.0	173	33.5	0	100	10.6
HILL 81	125.1	59.2	10.3	169	36.4	0	100	12.9
LAMBERT	125.1	57.8	10.0	165	35.8	0	100	12.8
KMOR	124.7	59.5	9.8	170	32.9	0	100	10.2
ROD	121.7	55.7	9.7	170	32.5	0	100	12.2
MACVICAR	119.2	59.8	9.8	168	33.2	0	100	10.3
KW960195	118.1	60.9	10.1	165	31.2	0	100	11.5
MADSEN	116.5	58.5	9.9	169	31.4	0	100	12.2
DAWS	116.3	58.7	10.0	167	32.9	0	100	11.9
MALCOLM	114.3	53.9	9.6	168	32.5	0	100	13.5
CASHUP	112.8	59.8	9.8	167	30.2	0	100	10.5
<b>Mean</b>	<b>123.0</b>	<b>59.2</b>	<b>10.1</b>	<b>169</b>	<b>33.9</b>	<b>0.0</b>	<b>100</b>	<b>11.6</b>
<b>LSD (0.05)</b>	<b>7.55</b>		<b>0.51</b>	<b>0.99</b>	<b>2.03</b>			
<b>C.V. (%)</b>	<b>3.68</b>		<b>3.04</b>	<b>0.35</b>	<b>3.59</b>			