PROJECT TITLE: Preliminary Hard White Spring Wheat Evaluation.

PROJECT LEADERS: Bob Stougaard and Doug Holen, NWARC-Kalispell, MT.
Luther Talbert and Susan Lanning, Plant Sciences, Bozeman, MT.

OBJECTIVE:
To evaluate experimental hard white spring wheat cultivars for yield, lodging, quality, and disease resistance in northwestern Montana.

RESULTS:
The 1998 growing season was good for spring sown small grains. Abundant rainfall through heading and heat with good soil moisture during grain fill resulted in high spring wheat yields. MTHW9750 was the top yielding at 114 bu/A while MTHW9805 was at the bottom at a still respectable 82 bu/A. Test weights were also high, ranging from 63.6 (MTHW9715) to 59.9 lbs/bu (MTHW9421). The included hard red check Hi-Line performed at 89 bu/A and 61.6 lbs/bu. Mid season moisture and cool temperatures contributed to light levels of Leaf Rust and moderate to high levels of Tan Spot. With light pressure from Leaf Rust, most entries demonstrated genetic tolerance with the exception of Klassic and MTHW9604 which were moderately to highly susceptible. Most entries were severely infested with Tan Spot with the following cultivars displaying a high level of tolerance; MTHW9520, MTHW9705, and MTHW9707. Overall lodging was defined as light to non-existent.

SUMMARY:
Favorable climatic conditions resulted in excellent variety performance in terms of yield and test weight. Disease ratings were recorded which indicated varietal differences in susceptibility to Leaf Rust and Tan Spot.

FUTURE PLANS:
Continued hard white spring wheat evaluations for the purpose of identifying those varieties suitable for successful production in Montana.

Table 1. Agronomic data from the Preliminary Hard White Spring Wheat Nursery grown a the Northwestern Agricultural Research Center in Kalispell, MT.

Planted: April 10, 1998 Harvested: August 13, 1998

VARIETY	YIELD BU/A	TEST WT LBS/BU	MOIST PERCENT	HD DATE JULIAN	HEIGHT INCH	LODGE 0-9	LF RUST 0-3 1/	TAN SP 0-3 1/
MTHW9520	113.9	61.5	18.6	172.0	34.7	.00	.00	1.00
ID377S	109.8	63.1	15.8	169.0	36.0	.00	1.00	2.00
MTHW9708	105.1	61.2	17.3	169.0	36.3	.00	.33	2.67
MTHW9603	103.4	60.0	18.3	171.0	34.7	.00	1.00	1.33
MTHW9420	103.0	61.7	17.8	168.3	32.1	.00	.33	2.00
MTHW9705	101.0	61.0	16.2	168.0	30.9	.00	.33	1.00
MTHW9716	99.8	62.5	11.8	165.0	32.9	.00	1.00	3.00
MTHW9709	99.7	60.8	11.4	168.0	34.6	.67	.67	2.00
MTHW9604	99.4	60.2	14.2	169.0	35.1	.00	2.67	2.00
MTHW9711	98.8	59.9	17.1	168.0	32.1	.00	.00	1.67
MTHW9713	96.7	62.6	12.0	168.0	31.6	1.67	.00	2.00
MTHW9804	96.3	63.5	11.8	168.0	34.1	.00	1.00	2.00
MTHW9706	96.1	61.2	18.0	168.6	33.4	.00	.67	1.67
MTHW9701	92.5	61.5	14.2	168.3	32.7	.00	.00	1.33
MTHW9715	92.4	63.6	12.2	166.6	35.5	.00	.33	3.00
MTHW9421	91.4	59.9	13.1	167.3	34.0	.00	.00	2.67
MTHW9803	91.2	62.1	11.7	169.6	35.0	.33	1.67	3.00
MTHW9710	91.0	61.6	11.8	165.0	32.3	.00	1.00	2.00
KLASIC	90.1	61.2	11.0	163.6	26.1	.00	2.33	3.00
MTHW9703	89.5	61.4	12.7	166.6	30.9	.00	.67	3.00
HI-LINE	88.9	61.6	11.6	169.3	31.7	.00	.67	2.67
MTHW9707	87.8	61.0	13.2	167.6	30.1	.00	.00	1.00
MTHW9802	86.5	62.1	11.7	165.3	31.5	.33	1.33	3.00
MTHW9714	86.0	63.3	12.8	166.3	39.1	1.33	.67	2.00
MTHW9702	85.7	60.7	11.9	166.6	32.5	.00	.00	3.00
MTHW9801	84.1	61.7	11.7	169.6	34.9	.00	.67	3.00
MTHW9805	82.0	63.5	12.1	171.0	36.0	.00	1.67	2.67
MEAN	94.9	61.6	13.8	167.9	33.4	0.16	0.74	2.21
C.V.	5.2		6.0	0.4	5.6	231.21	64.25	14.26
LSD (.05)	8.2		1.3	1.0	3.1	0.61	0.78	0.52

1/ Disease ratings 0=Highly Resistant, 3= Highly Susceptible