PROJECT TITLE: Soft White Winter Wheat Evaluation.

PROJECT LEADERS: Bob Stougaard and Doug Holen, NWARC-Kalispell, MT.
Phil Bruckner and Jim Berg, Plant Sciences, Bozeman, MT.

OBJECTIVE:
To evaluate soft white winter wheat lines common to the Pacific Northwest for adaptability, quality, and disease resistance in northwestern Montana.

RESULTS:
Mild winter conditions resulted in healthy and full stands of winter wheat at the beginning of the 1998 growing season. However, by the end of April, Rhizoctonia Root Rot was prevalent across approximately 35% of this nursery. Injury symptoms expressed included thin stands, reduced height, hastened maturity, and poor seed fill. Yields were 50% of normal and test weights very poor. True varietal resistance is not believed to exist and was not witnessed to any degree. Yields ranged from 67 (Macvicar) to 45 bu/A (Madsen). Test weights varied from 55.5 (Daws) to 50.3 lbs/bu (Kmor). Lodging throughout the nursery was minimal with no varietal separation apparent. Good documentation of Tan Spot disease responses were recorded.

SUMMARY:
Rhizoctonia Root Rot made evaluations difficult as the genetic potential of these cultivars was severely hindered. Measured characteristics may reflect more disease pressure response than genetic and environment.

FUTURE PLANS:
Continued soft white winter wheat evaluations with this 18 entry nursery in an attempt to identify cultivars best adapted to the soft white production areas in Montana and specifically the northwest region.

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

Planted: September 25, 1997 Harvested: August 6, 1998

VARIETY	YIELD BU/A	TEST WT BU/LB	MOIST PERCENT	HD DATE JULIAN	HEIGHT INCH	LODGE 0-9	RHIZOCT PERCENT 1/	TAN SPOT 0-3 2/
MACVICAR	66.5	54.2	10.0	148.0	28.4	.33	33.3	1.67
LAMBERT	66.1	54.8	9.7	147.3	31.3	.67	18.3	1.33
MALCOLM	63.9	54.4	10.3	147.6	29.2	.00	28.3	1.33
DAWS	63.0	55.5	10.7	149.6	28.2	.00	30.0	2.00
ROD	61.4	52.6	9.6	154.3	27.8	.00	26.6	1.00
STEPHENS	56.9	53.4	10.0	155.0	30.3	.67	33.3	1.67
BU6393-477	56.1	54.1	10.4	150.0	29.6	.67	30.0	2.00
CASHUP	54.6	51.3	8.8	153.6	27.8	.67	48.3	1.00
LEWJAIN	54.4	52.1	9.1	159.0	27.9	.00	25.0	1.00
HILL 81	53.1	53.7	10.4	154.6	29.9	.00	26.6	1.00
NEELEY	53.1	56.7	10.5	150.0	33.6	1.00	38.3	1.00
ELTAN	52.0	50.5	9.1	158.0	29.0	.67	35.0	1.00
BRUNDAGE	51.9	50.9	9.4	143.6	25.6	.00	18.3	1.00
W301	51.1	51.4	6.0	147.3	26.6	.33	45.0	2.33
KMOR	50.9	50.3	9.0	155.6	29.0	.00	48.3	2.00
BU6W93-481	50.0	52.8	10.6	147.6	28.9	1.00	36.6	2.67
MADSEN	44.9	50.5	8.9	156.0	28.5	.33	35.0	2.33
MEAN	55.9	52.9	9.6	151.6	28.9	.37	32.7	1.55
C.V.	10.2		14.2	0.4	3.5	101.64	49.0	22.60
LSD (.05)	9.5		2.3	1.0	1.7	.63	26.7	0.58

1/ Rhizoctonia disease rating as percent of plot affected
2/ Tan Spot ratings 0=Highly Resistant, 3=Highly Susceptible