

PROJECT TITLE: Preliminary Hard White Spring Wheat Evaluation.

PROJECT LEADERS: Bob Stougaard and Doug Holen, Kalispell, MT.
Luther Talbert and Susan Lanning, PS&ES, Bozeman, MT.

OBJECTIVE:

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

RESULTS:

Overall yields were very poor in response to high levels of Pythium (also called browning root rot) infection. Yields for the 31 entries ranged from 55 (MTHW9603) to 26 (hard red check-HiLine) bu/A with an overall mean of 36. Test weights were fair with 81% below 60 lbs/bu. Test weights ranged from 62.4 (MTHW9718) to 56.4 (MTHW9704) lbs/bu. As a result of the Pythium, height and yield were significantly reduced, which led to minor lodging. Most entries displayed good straw strength. While Pythium was this years most performance limiting factor, ratings did not identify real susceptibility differences, such a response confirms the belief that no genetic resistance exists among small grain varieties. Proteins ranged from 13.9 (MTHW9418) to 9.8 (ID377S) %, and averaged 12.2%.

SUMMARY:

The Pythium epidemic severely hindered data collection as all agronomic measurements were drastically influenced. 1997 was the first year this evaluation was located in Kalispell so results could not be compared to previous years.

FUTURE PLANS:

Promising hard white spring wheats will continue to be evaluated at Kalispell to identify those with the potential to become a recommended variety in District 1.

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

Planted: May 10, 1997

Harvested: August 30, 1997

VARIETY	HD DATE JULIAN	HEIGHT INCH	YIELD BU/A	LDG 0-9	TWT LB/BU	PYTHIUM 1-3 1/	PROTEIN %
MTHW9603	187.00	31.87	54.93	1.33	58.60	2.33	12.2
MTHW9708	186.33	30.73	52.53	.67	59.00	2.33	12.6
MTHW9701	186.00	26.23	49.37	.00	58.00	2.33	12.1
MTHW9702	184.00	29.63	48.13	1.00	58.70	2.33	12.5
MTHW9420	184.33	26.53	41.73	.00	60.40	2.33	12.1
MTHW9712	181.00	31.00	40.87	3.33	60.80	2.00	12.9
MTHW9706	185.33	31.63	40.27	.00	59.50	2.00	12.9
MTHW9704	184.00	28.87	37.97	1.67	56.40	2.00	11.1
MTHW9718	181.33	31.77	37.53	2.00	62.40	1.67	13.9
MTHW9520	188.00	31.90	36.80	1.00	59.30	2.33	11.5
MTHW9418	182.00	26.90	36.77	.33	60.20	2.00	13.9
MTHW9705	184.33	27.93	36.73	.67	59.60	2.00	11.9
MTHW9709	185.00	29.40	36.13	1.33	58.40	1.67	12.8
MTHW9716	183.00	30.70	35.97	2.33	58.90	1.33	13.1
KLASIC	180.67	22.83	35.43	1.00	59.20	2.00	11.2
ID377S	183.67	28.23	34.87	.00	59.60	2.00	9.8
MTHW9717	184.33	30.43	34.03	1.00	59.60	2.00	13.5
MTHW9707	186.33	27.03	33.30	1.00	57.50	2.33	12.5
MTHW9714	184.00	35.17	33.07	2.33	61.60	2.33	12.2
MTHW9511	179.67	24.40	33.03	2.67	59.80	2.00	11.3
MTHW9713	184.67	28.07	32.23	1.67	59.30	2.00	10.9
MTHW9710	183.67	27.80	31.23	.67	58.70	1.67	13.5
MTHW9421	184.33	28.77	31.03	.67	57.40	1.67	11.5
MTHW9703	183.00	26.77	30.83	.67	58.60	2.00	12.1
MTHW9604	186.00	30.97	30.43	.33	59.10	1.67	11.1
MTHW9715	185.00	29.80	29.63	2.67	59.10	1.67	12.1
MTHW9515	179.00	25.60	28.83	2.67	61.30	1.67	11.9
MTHW9711	186.33	26.53	28.80	1.00	58.40	1.33	11.7
MTHW9422	184.67	26.10	26.87	.67	58.20	1.67	11.6
MTHW9508	179.67	28.37	26.50	2.00	59.80	1.67	11.6
HI-LINE	183.33	24.80	26.33	.33	59.60	2.00	13.0
MEAN	183.9	28.6	35.9	1.2	59.3	1.9	12.2
C.V.	0.6	9.1	34.5	63.9	NA	25.3	NA
LSD (.05)	1.8	4.2	20.2	1.3	NA	0.8	NA

1/ DISEASE LEVELS: 1=COMPLETE PLOT YELLOWING & STUNTING, 2=PARTIAL PLOT YELLOWING & STUNTING, 3=LITTLE OR NO PLOT EFFECTS