

PROJECT TITLE: Evaluation of the advanced spring wheat nursery cultivars for disease resistance and agronomic characteristics.

PROJECT LEADERS: Bob Stougaard, Weed Scientist, NWARC  
Doug Holen, Research Associate, NWARC

PROJECT PERSONNEL: Luther Talbert, Spring Wheat Breeder, Bozeman, MT  
Susan Lanning, Research Associate, Bozeman, MT

OBJECTIVES:

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

RESULTS:

Cool temperatures extended from March through June which resulted in slow emergence and seedling growth. Extensive vegetative growth (tillers) resulted from the extended spring-like climate. While dry throughout the growing season, no moisture stress was noted as soil moisture never reached the wilting point. High yields were recorded ranging from 96 to 130 bu/A with a 49 entry mean of 112 bu/A. Test weights were also high, ranging from 59.2 (MT 9754) to 64.1 (MT 9719) lbs/bu. Most cultivars displayed good lodging resistance under high yielding conditions with the exception of Fortuna, Thatcher, Lew, MT 9835, and MT 9836. Protein percentage across the nursery averaged 13.3. Climatic conditions resulted in no measurable disease infections.

SUMMARY:

Yield and test weight excelled in the absence of disease and significant lodging pressure. Proteins were average with only 12 of the entries exceeding 14 percent.

FUTURE PLANS:

Continued spring wheat evaluations for the purpose of identifying varieties best suited for production in Montana.

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

Planted: April 7, 1999

Harvested: August 30, 1999

VARIETY	Yield Bu/A	Test Wt Lbs/Bu	Moist %	Hd Date Julian	Height Inch	Lodge 0-9	Protein %
MTHW9420	129.97	60.93	14.87	172.33	37.00	.67	11.8
BR 2306	129.53	61.97	18.03	173.33	39.77	.00	12.3
PRISTINE	126.87	63.50	15.80	170.33	37.93	.33	13.1
MT 9806	125.50	62.63	18.47	175.00	36.07	.67	13.5
NEWANA	124.83	62.00	18.57	177.67	35.53	.00	12.1
MT 9706	124.10	62.57	16.90	173.33	40.17	.67	13.9
MT 9675	123.23	60.63	17.00	178.00	39.00	.67	12.3
MCNEAL	122.83	61.90	15.77	175.67	38.73	.33	13.5
ZEKE	121.20	61.70	15.37	170.00	36.73	1.67	13.1
MT 9748	118.03	63.30	16.40	174.67	38.83	1.67	12.6
MT 9849	117.57	62.30	18.77	178.33	41.97	1.33	13.5
MT 9801	117.50	61.60	16.43	177.67	36.60	.67	13.1
MT 9755	117.00	61.03	16.07	171.67	35.80	.67	11.9
MTHW9603	117.00	59.80	16.10	174.33	36.73	.67	11.6
SCHOLAR	116.17	63.10	15.83	177.33	40.03	.33	14.0
HI-LINE	114.90	62.23	16.30	172.33	36.07	1.00	12.7
MT 9715	113.83	61.77	17.10	174.33	37.00	1.33	13.0
SDM50005	113.10	62.27	16.70	178.00	36.37	.00	13.0
MT 9874	112.60	61.60	17.23	179.33	37.80	.00	12.9
MT 9712	112.27	63.20	17.03	175.33	39.80	1.00	14.0
MT 9802	111.70	61.40	15.40	174.33	39.53	.67	14.3
GRANDIN	111.67	62.63	16.30	174.33	38.33	.33	14.7
MT 9834	111.63	60.60	17.10	179.33	35.67	.00	12.5
AMIDON	111.47	62.37	17.20	177.33	42.63	.00	13.7
MT 9772	110.97	62.63	16.80	176.67	42.23	1.33	14.4
MT 9754	110.43	59.23	17.17	174.33	33.23	2.33	13.2
MT 9720	110.43	63.30	17.97	175.67	35.53	1.00	13.6
MT 9850	110.40	61.77	18.83	178.33	40.93	.67	14.7
MT 9807	110.13	62.20	18.20	174.33	35.27	.00	13.5
REEDER	109.80	62.87	18.03	174.00	39.80	.33	13.8
MT 9835	109.77	62.17	17.63	172.00	35.67	4.00	12.9
MT 9836	109.50	62.27	17.07	173.00	34.90	3.33	12.7
MT 9719	109.43	64.10	17.47	172.67	35.80	.33	13.9
MT 9866	109.43	62.27	18.30	179.67	43.30	.00	13.6
MT 9735	109.33	61.63	17.53	175.33	36.20	2.00	12.6
MT 9771	108.90	62.43	15.83	176.67	42.37	.33	14.2
ERNEST	107.17	63.40	18.00	176.33	41.60	.33	13.7
MT 9739	106.60	62.60	17.17	175.67	41.73	.00	14.2
WESTBRED 926	106.17	61.57	14.80	171.00	35.17	.00	13.4
MTHW9701	105.03	61.03	16.50	173.67	32.43	.33	11.8
MT 9815	103.03	63.23	17.20	176.67	41.73	.67	14.5
CONAN	103.00	61.63	18.67	172.67	35.67	.00	13.2
THATCHER	102.80	61.67	17.53	179.00	45.97	3.67	13.6
MT 9875	102.30	62.07	14.77	175.00	37.67	.00	14.0
MT 9813	101.57	62.77	15.83	175.33	39.13	.00	14.6
PARSHALL	101.27	63.53	16.50	174.33	43.57	.00	14.0
LEW	98.03	62.77	17.43	179.00	40.67	4.33	13.4
BZ996472	96.90	63.50	16.90	170.33	33.87	1.67	12.8
FORTUNA	96.37	62.80	16.90	175.33	39.00	6.00	13.0
Mean	112.11	62.17	16.93	175.13	38.32	0.97	13.3
C.V.	6.44	0.91	4.96	0.55	2.23	72.6	
LSD(.05)	11.70	0.92	1.36	1.55	1.38	1.14	