

PROJECT TITLE:

Advanced Spring Wheat Nursery.

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

To evaluate spring wheat cultivars and experimental lines 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. MT9675 yielded best at 113 bu/A while Thatcher was at the bottom with 84 bu/A. Test weights were also high, ranging from 63.7 (MT9653) to 60.1 lbs/bu (MT9754). Mid season moisture and cool temperatures contributed to light levels of Leaf Rust and moderate to high levels of Tan Spot. While no cultivars stood alone for Leaf Rust and Tan Spot resistance or susceptibility, genetic differences did exist and were recorded. Many cultivars displayed good resistance to lodging under high yielding conditions with the exceptions of Thatcher, Fortuna, Lew, and MT9631.

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. Lodging notes identified cultivar differences in straw strength.

FUTURE PLANS:

Continued spring wheat evaluations for the purpose of identifying those varieties suitable for successful 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 10, 1998

Harvested: August 17, 1998

VARIETY	YLD 13% BU/A	TEST WT LBS/BU	MOIST PERCENT	HD DATE JULIAN	HEIGHT INCH	LODGE 0-9	LF RUST 0-3 1/	TANSPOT 0-3 1/
MT 9675	113.06	61.43	12.64	172.34	36.87	.78	1.02	1.70
BZ987331	111.02	61.68	10.62	165.72	35.24	2.11	1.65	1.97
AMIDON	110.75	61.56	11.29	171.72	39.73	.24	.01	1.36
MT 9738	110.57	62.08	11.90	171.11	42.08	.21	.02	.99
BZ991408	108.99	62.63	10.95	163.82	35.10	.22	2.09	2.99
BR 2306	106.54	60.92	12.53	168.40	37.32	.11	2.02	1.34
MCNEAL	106.03	62.61	11.45	171.68	35.54	.24	1.67	.99
MT 9653	103.82	63.71	12.36	172.42	41.17	1.97	0.00	.97
NEWANA	103.27	62.48	12.00	172.70	34.04	.18	1.62	1.69
MT 9709	102.92	62.15	12.69	172.24	39.60	.34	.97	1.30
MT 9772	102.70	62.56	11.44	171.25	40.10	1.86	.06	1.63
MT 9712	102.56	62.91	12.22	170.48	39.13	1.46	.66	2.00
MT 9758	102.50	60.59	11.60	172.89	39.61	.18	0.00	1.36
MT 9721	101.41	61.70	11.16	172.18	37.63	.03	1.34	1.32
MT 9433	100.98	62.27	12.21	172.01	36.74	.66	2.01	1.31
MT 9715	100.26	62.40	11.12	170.21	34.01	2.38	1.68	1.63
MT 9706	99.93	62.74	11.51	170.93	40.41	.55	1.25	1.02
MT 9755	99.77	61.53	10.51	165.92	33.89	1.31	1.09	1.33
MT 9631	99.75	63.28	11.88	171.62	40.95	3.12	.26	2.33
MT 9756	99.74	62.75	11.24	170.53	40.62	1.15	.36	1.32
MT 9770	99.69	62.61	11.58	169.18	40.34	.46	1.03	1.36
MT 9627	99.09	62.96	11.99	170.49	32.73	.25	0.00	2.06
MT 9704	99.07	63.37	11.85	171.98	34.54	0.00	1.99	1.64
MT 9739	98.98	62.29	11.89	170.85	40.02	1.58	.02	1.67
MT 9539	98.79	63.58	13.56	169.39	34.75	1.94	1.70	1.65
MT 9771	98.26	62.34	11.33	170.90	39.70	1.53	.05	1.31
WESTBRED 926	97.99	60.96	10.52	166.65	33.52	.23	1.70	1.97
MT 9754	97.66	60.08	10.16	170.53	32.15	2.70	1.93	2.02
MT 9609	97.31	63.05	11.80	170.05	40.91	1.89	.01	1.68
ERNEST	97.29	63.39	12.31	170.41	40.48	.18	.40	1.69
LEN	97.28	61.02	11.52	170.49	35.47	0.00	.02	2.01
MT 9759	96.84	60.83	11.13	170.97	34.19	.13	1.03	1.34
MT 9750	96.60	60.24	10.54	168.52	35.22	.15	1.81	1.98
MT 9748	96.07	63.01	11.37	171.32	38.96	1.14	1.26	1.01
MT 9735	95.87	62.07	11.22	170.75	32.45	1.41	1.67	.99
MT 9720	95.58	63.53	11.46	170.84	32.42	.00	1.72	1.02
GRANDIN	95.32	61.64	11.79	168.48	36.71	.31	.02	2.01
MT 9719	95.13	64.37	11.74	170.53	33.71	1.16	1.96	.99
MT 9757	93.95	61.24	11.51	172.14	40.75	.54	.28	1.05
MT 9736	92.37	60.38	10.49	169.57	32.77	0.00	1.53	1.37
LEW	91.70	63.31	11.70	173.66	41.81	4.44	1.29	1.37
MT 9754	91.14	62.16	11.02	170.29	33.03	0.00	2.04	1.34
MT 9716	89.95	61.81	10.82	171.33	37.86	.51	1.35	1.99
MT 9742	88.94	62.72	11.46	171.45	34.82	2.94	2.02	1.30
MT 9728	88.42	62.04	11.00	168.16	32.32	.41	1.24	1.35
FORTUNA	88.11	63.51	11.75	170.29	41.19	3.98	1.02	1.99
HI-LINE	86.79	61.10	10.09	168.01	33.89	.65	.60	2.64
MT 9558	84.25	61.18	10.49	171.96	33.99	1.27	1.69	2.65
THATCHER	83.53	61.33	11.21	173.96	45.58	3.32	1.67	1.01
MEAN	98.34	62.17	11.48	170.48	37.06	1.07	1.08	1.54
C.V.	4.46		5.28	0.51	3.40	69.10	49.97	26.54
LSD (.05)	7.71		1.07	1.47	2.19	1.28	0.90	0.69

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