

PROJECT TITLE: Spring Wheat Variety Evaluations

YEAR/PROJECT: 1991/756

INVESTIGATORS: Bob Stougaard and Todd Keener, NWARC, Kalispell, MT.  
Luther Talbert, Plant and Soil Science, Bozeman, MT.

OBJECTIVE: To determine the adaptability of new and introduced spring wheat varieties grown under high moisture conditions in Montana.

RESULTS: - Western Regional Spring Wheat Nursery -

High yields were taken from the 1991 Western Regional Spring Wheat Nursery. All forty-five entries had yields in excess of 100 bu/A. Owens had a yield of 129 bu/A while Fenawawa had a similar yield of 127 bu/A. The top yield was 147 bu/A for the variety WA 7668. Test weights were average with the nursery mean being 59.9 lb/bu. The high test weight of 62.3 lb/bu was recorded in ID 412. Eight hard white spring wheats were evaluated this year with two of those entries yielding more than Owens ( 129 bu/A ), and equal to, or above McKay ( 133 bu/A ). Lodging was minimal throughout the nursery. The lodging index, a product of the severity and prevalence of lodged grain, was only recorded in nine entries. Septoria was observed in all varieties with infection levels of .5 to 20%. Table 1.

- Advanced Yield Spring Wheat Nursery -

Newana had the highest yield of the forty-nine entries in the Advanced Yield Nursery grown at Kalispell in 1991. The yield for Newana was 116 bu/A while Fenawawa and Owens had yields of 111 and 110 bu/A, respectively. Hi-Line, a newly introduced hard red spring wheat, yielded 99 bu/A. Several varieties that demonstrated the greatest tendency to lodge had the lowest yields. Test weights did not vary greatly and averaged 60 lb/bu. A Septoria leaf spot complex was noted in the majority of varieties but appeared to have little effect on cereal yield and quality. Table 2.

- Triticale Variety Nursery -

Excellent yields were harvested from the triticale nursery this year with six of the ten varieties averaging over 100 bu/A ( using 60 lb test weight ). Test weights were also very good with the average for the nursery being just below 50 lb/bu. Heading dates and height for each entry were comparable to previous years. Table 3.



Table 1. Agronomic data from the Western Regional Spring Wheat Nursery grown on the Northwestern Agricultural Research Center in Kalispell, MT. Planted: April 12, 1991 Harvested: August 8, 1991 Field Y-5

CI or State #	VARIETY	TYPE 1/	YIELD BU/A	TEST WT LB/BU	HEAD DATE	HEIGHT IN	LODGING INDEX	% SEPTORA
WA 7668	K80296/NK751	HR	146.93	59.30	182.00	40.03	1.47	3.50
OR488403	VS73.600/MRL.S/3/BOW	HW	141.43	59.43	177.67	28.22	.00	6.67
ID 409	TREASURE/ID246	SW	139.03	58.37	180.00	35.43	.00	15.00
UT 1601	UT78S147-125/906R	HR	135.47	60.20	179.33	33.46	.00	16.67
ID 410	A81515S-A/STERLING	SW	132.87	60.23	178.33	34.12	.00	15.00
CI 17903	MCKAY	HR	132.70	59.07	181.33	32.81	.00	.50
OR484027	SPSWE9	SW	131.43	60.83	178.00	34.12	.00	10.00
ID 377S	GALLO-YR'S'/AU X KAL	HW	131.23	60.87	177.00	33.46	.00	16.67
ID 430	ABERDEEN BREEDING LI	HR	130.83	61.07	178.00	35.43	.00	16.67
WA 7496	K7400315/PTM70S.47	SW	130.63	57.60	176.67	31.50	.00	6.67
ID 392	OWENS/ID159	SW	130.27	60.13	180.67	36.09	.00	6.83
CI 17904	OWENS	SW	129.03	59.17	180.00	34.12	33.03	13.33
UT613945	RICK/UT78S147-125	HR	127.77	57.33	182.00	34.12	26.67	5.17
ID 408	ID232/A75120S-2214-1	SW	127.13	57.50	179.33	33.46	.00	11.67
PI495916	PENAWAWA	SW	126.50	60.17	179.33	34.78	.00	10.00
OR487255	TAN.S/PEW.S	HW	126.17	62.17	174.67	33.46	.00	16.67
LEWIEM04	LEWI-EM,4(F9SEMIDWAR	SW	125.63	61.23	181.33	33.46	.00	18.33
OR487249	TAN.S/3/TI/TOB//ALD.	HW	125.53	61.07	177.67	30.18	.00	6.67
ID 367	A76102S-1-2/ID 134	HR	123.83	60.17	178.67	34.12	47.97	8.33
OR487456	CT.S	HR	123.53	61.57	176.67	30.18	.00	10.00
OR488189	BJY.S/4/TZPP//IRN46/	HR	122.57	59.73	177.00	28.87	.00	6.00
OR487469	RPV/WW15/3/BJ.S/ON*2	HR	122.23	61.03	174.67	30.84	.00	5.00
OR487400	SN64/HN4//REX/3/EDCH	HR	120.47	61.37	179.67	32.15	18.53	3.50
OR487453	SPHWE 11	HW	119.10	59.57	178.00	28.22	.00	11.67
WA 7183	K78504/K79129-33//K7	SW	118.83	59.53	180.33	32.15	.00	15.00
ID 420	A7612S-2/A75141S-2-1	HR	118.77	60.20	179.00	32.15	.00	8.33
WA 7176	K78504/K74129-33//K7	SW	118.67	59.00	182.00	36.75	7.40	11.67
UT 1723	UT77W1054-1777/MCKAY	HR	118.43	60.67	182.33	37.40	27.90	16.67
PI506350	SPILLMAN	HR	118.23	59.10	177.67	34.12	.00	11.67
OR487475	AGA/6*'YR'	HR	118.10	59.60	175.33	25.59	.00	13.33
UC 786	YOLO'S'/YRR,CA810041	HR	117.70	58.17	179.00	26.25	.00	11.67
ID 404	COR 422-ANA 75/ID 23	SW	116.77	58.83	181.33	32.15	.00	6.67
UT 1708	UT77W1054-1777/MCKAY	HR	116.17	59.37	182.67	39.37	5.57	6.83
OR487462	SPHRE 16	HR	116.03	60.77	175.00	30.18	.00	10.67
UT 1711	UT77W1054-1777/MCKAY	HR	115.87	60.07	182.00	36.75	.00	8.33
UC 638	SERRA	HR	113.87	59.87	176.67	30.84	.00	15.00
ID 412	A76102S-1-2/EMU'S'	HR	113.20	62.27	177.67	34.12	.00	5.00
SUNDER01	SUNSTAR 1	HR	112.53	61.90	175.33	32.15	.00	11.67
UT 1736	UT77W1054-1777/MCKAY	HR	111.87	60.37	147.67	35.43	.00	7.33
UC 784	STA/YRR,CA770284-OD-	HR	110.63	60.50	174.67	24.28	.00	20.00
NK 8022	KLASIC	HW	108.90	60.27	174.67	25.59	.00	20.00
OR487279	SPHWE9	HW	105.87	59.53	174.67	27.56	.00	7.33
OR487380	SPHWE 13	HW	105.53	58.60	175.67	24.28	.00	16.67
UC 785	STA/YRR,CA770284-OD-	HR	105.33	59.73	176.33	24.28	.00	13.33
CI 4734	FEDERATION	SW	102.80	57.80	179.33	43.31	4.43	11.67
EXPERIMENTAL MEANS			121.92	59.90	177.72	32.39	3.54	10.87
F TEST FOR VAR.			2.61	15.62	1.08	34.03	1.78	1.80
C.V. 2: (S OF MEAN/MEAN)*100			5.03	.51	2.80	2.23	200.73	32.74
LSD (0.05)			17.24	.86	13.99	2.03	21.68	10.01

1/ TYPE: HR = hard red, SW = soft white, HW = hard white

\*\* Indicates statistical significance at the .01 level



Table 2. Agronomic data from the Advanced Yield Spring Wheat Nursery grown on the Northwestern Agricultural Research Center in Kalispell, MT.  
Planted: April 12, 1991 Harvest: September 8, 1991 Field Y-5

CI or STATE #	VARIETY	YIELD BU/A	TEST WT LB/BU	HEAD DATE	HEIGHT IN	LODGING INDEX	SEPTOR %
CI 17430	NEWANA	116.40	60.33	183.33	33.46	.00	5.67
MT 8612	CI15838/MT7418//PONDERA	115.60	61.70	179.33	35.43	12.77	10.67
MT 8289	TANAGER'S'	114.07	60.73	177.00	31.50	.00	11.67
MT 9020	PONDERA/MT7732	112.50	60.93	183.67	32.81	.00	1.33
ND 606	AMIDON	111.87	60.43	182.33	40.03	.00	10.00
MT 8182	YDING "S"/PCI "S"-287	111.53	58.63	180.33	32.81	.00	10.00
WA 6920	PENAWAWA	111.13	59.27	182.00	33.46	23.33	6.00
MT 9002	EP-VOC-512/12/BUTTE	110.93	59.90	182.67	35.43	3.70	20.00
CI 17904	OWENS	110.13	57.80	183.00	36.09	46.77	6.00
GOLDEN86	GOLDEN 86	106.57	61.80	175.67	30.18	.00	11.67
MT 8849	RS6880/MT7819	106.33	60.63	183.00	36.75	.00	2.50
C982-324	RAMBO	105.90	60.90	182.00	33.46	.00	10.00
MT 9057	RS6880/MT7834	103.20	59.70	181.67	38.06	25.20	7.17
CI 17828	PONDERA	102.97	60.87	180.33	34.78	.00	9.00
MT 9025	PONDERA/MT7732	102.80	61.47	182.33	36.75	1.30	.50
MT 9023	PONDERA/MT7732	102.53	61.13	181.00	43.96	36.03	2.00
MT 9043	MT7648/MT7746	100.77	61.27	183.00	38.06	46.67	22.33
MT 9016	PONDERA/MT7732	100.57	59.30	182.67	41.99	.00	6.00
MT 9042	MT7648/MT7746	100.43	59.23	180.67	34.12	.00	23.33
MT 9058	MT7635/NACQZARI	99.23	60.97	181.33	34.12	21.10	12.33
MT 8402	HI-LINE	98.90	59.67	178.67	30.84	.00	21.67
PI486139	KLASIC	98.83	59.63	174.33	23.62	.00	28.33
MT 8858	MT7421/BUTTE	98.10	59.00	182.67	35.43	19.23	5.00
MT 9052	RS6880/MT7819	95.53	59.80	183.00	36.09	22.97	8.33
MT 9028	PONDERA/BUTTE	95.37	60.80	181.67	34.78	26.87	4.50
MT 9053	RS6880/MT7819	95.30	58.77	181.67	35.43	52.50	7.33
MT 9030	PONDERA/BUTTE	94.97	60.97	182.67	34.12	25.67	2.83
MT 9017	PONDERA/MT7732	94.43	59.63	181.33	41.99	.00	6.67
CI 17790	LEN	93.97	59.90	176.33	34.12	5.57	10.00
ND 582	STOA	93.57	59.87	182.67	41.34	.00	6.67
MT 9055	RS6880/MT7819	93.40	60.20	184.00	38.71	79.90	3.50
MT 8841	MT7648/MT7746	92.33	58.40	181.67	33.46	.00	31.67
MT 9019	PONDERA/MT7732	92.30	59.57	178.33	40.68	.00	8.33
CI 15930	DLAF	92.27	59.27	180.00	35.43	.00	21.67
MT 9040	MT7648/MT7746	91.73	59.67	180.67	38.71	37.23	30.00
MT 9021	PONDERA/MT7732	90.33	61.57	181.33	33.46	11.10	2.00
MT 9024	PONDERA/MT7732	89.50	60.07	179.00	41.99	31.83	10.00
MT 9045	MT7648/BUTTE	89.33	60.63	177.33	34.78	.00	21.67
MT 9027	PONDERA/BUTTE	88.50	60.93	182.67	34.12	13.90	3.17
MT 9032	PONDERA/BUTTE	83.80	59.63	181.33	40.68	72.97	14.00
MT 9044	MT7648/MT7746	83.57	58.67	181.00	36.09	63.27	23.33
MT 9039	MT7648/ANTIZANA	83.30	60.57	182.00	34.78	61.93	8.50
MT 9054	RS6880/MT7819	83.17	60.03	185.00	36.75	64.03	15.00
BZ984326	WFB BZ 984-326	82.53	59.57	175.33	34.12	34.80	6.83
PI483235	GLENMAN	80.80	59.27	183.00	34.78	78.60	3.67
ND CUT	CUTLESS	75.90	59.47	182.33	38.71	80.97	10.00
CI 13596	FORTUNA	74.67	60.97	182.33	41.34	75.00	21.00
CI 17429	LEW	72.87	60.57	184.67	43.31	88.00	18.33
CI 10003	THATCHER	64.40	59.23	184.00	45.93	91.67	.67

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CI or STATE #	VARIETY	YIELD BU/A	TEST WT LB/BU	HEAD DATE	HEIGHT IN	LODGING INDEX	SEPTOR %
EXPERIMENTAL MEANS		96.10	60.07	181.19	36.30	25.61	11.08
F TEST FOR VAR.		4.11**	7.62**	13.49**	36.35**	6.01**	5.98**
C.V. 2: (S OF MEAN/MEAN)*100		6.13	.56	.37	1.85	47.39	30.15
LSD (0.05)		16.53	.94	1.86	1.88	34.07	9.38

1/ Lodging Index: a product of lodging severity times prevalence.

0 = none, 10 = very severe

\*\* Indicates statistical significance at the .01 level