

PROJECT TITLE: Agronomic Performance Evaluation of Intrastate Winter Wheat Cultivars

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OBJECTIVES:

To evaluate new and existing winter wheat cultivars for agronomic performance and disease resistance in environments and cropping systems representative of northwestern Montana.

RESULTS:

The mild winter resulted in 100% winter survival in the 47 tested entries and only 2 entries had a winter survival between 98-99% during 2001-02 winter wheat growing season. Disease symptoms were very minimal and no disease evaluations were recorded. Yield and test weight were excellent for all tested entries. Yield ranged from 104 bu/a (Vanguard, BZ9W97-761, BigSky, and Norstar) to 136 bu/a (Gary), with an average of 119 bu/a. The highest test weight was recorded in Prowers 99 (65.1 lb/bu) and the lowest was in MTS9719 (60.5 lb/bu), with the average test weight being 62.5 lb/bu. The heading dates were about one week delayed as compared to previous years because of the cool and moist conditions of May and early June. The average heading date was 166, and ranged from 161 (Above) to 169 (Golden Spike, Norstar, MTS0023, and MTS9719). Plant height was shorter than normal, with an average of 38 inches and ranged from 32 (NuHorizon) to 50 inches (Norstar). There were no lodging problems for any of the tested entries due to a dry grain filling period. The grain protein content averaged 12.6%, and ranged from 10.8% (Golden Spike) to 14.4% (Vanguard and McGuire).

SUMMARY:

High winter survival, lack of disease and a moist early spring resulted in excellent grain yield, test weight and other agronomic performance characteristics in the winter wheat entries. Gary, DW Red, MT00117 and MT9951 were superior entries with high yields (>130 bu/a) during 2001-02 growing season.

FUTURE PLANS:

Continue winter wheat evaluations for the purpose of identifying those cultivars best suited for production in District 1.

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

Planted: October 1, 2001

Harvested: August 14, 2002

Cultivar	Yield	Test	Grain	Heading	Plant	Lodge	Winter	Protein
	Bu/A	Lb/Bu	moist %	date Julian	height in	score 0-9	survival %	%
Gary	135.8	61.6	10.6	166	40.7	0.0	100	11.2
MT00117	133.1	61.2	10.9	167	37.8	0.0	100	11.7
DW Red	130.5	63.4	11.0	167	35.0	0.0	100	12.5
MT9951	129.7	62.0	10.8	167	42.1	0.0	100	12.6
Judith	129.1	61.7	10.8	165	38.6	0.0	100	12.3
MT9904	129.0	62.1	10.7	166	40.8	0.0	100	12.3
Promontory	128.1	63.9	10.9	164	35.7	0.0	100	12.1
BZ9W96-895	127.9	63.2	11.3	165	36.6	0.0	100	11.9
Wahoo	127.6	62.1	10.6	163	34.4	0.0	100	12.2
MTR9997	127.5	63.5	11.2	165	38.6	0.0	100	12.6
MT0088	127.4	61.4	10.4	165	37.4	0.0	100	11.3
Pryor	126.9	61.6	10.3	167	33.9	0.0	100	11.6
MT9426	126.6	60.6	10.5	167	34.6	0.0	100	12.4
Rocky	125.5	64.2	11.2	165	40.3	0.0	100	12.1
MT9982	124.7	61.6	11.6	167	37.1	0.0	100	12.3
MT0097	124.5	62.7	11.4	166	36.6	0.0	100	12.6
MT00159	124.5	62.3	11.0	166	35.2	0.0	100	12.1
MTW0049	123.3	63.9	11.6	167	36.6	0.0	100	12.6
Quantum 542	122.8	62.2	10.9	164	39.5	0.0	100	13.4
Morgan	121.6	61.7	10.6	168	38.5	0.0	100	12.4
Neeley	121.0	62.9	10.6	167	39.1	0.0	100	12.5
MT00154	120.7	63.5	11.1	167	41.5	0.0	100	13.4
MT00118	120.6	62.7	10.8	165	38.7	0.0	100	12.5
MTS0023	120.1	61.3	10.6	169	40.9	0.0	100	14.2
MT0099	119.6	61.9	10.4	165	38.1	0.0	100	13.0
NuWest	118.6	62.2	11.0	167	37.0	0.0	100	12.6
NuFrontier	118.6	63.7	10.9	164	34.9	0.0	100	11.4
Golden Spike	118.4	62.0	10.6	169	39.4	0.0	100	10.8
Jerry	118.1	62.9	10.6	167	39.4	0.0	100	12.6
Ransom	117.3	61.2	10.4	165	39.8	0.0	100	12.5
MT9989	117.3	60.7	10.4	165	39.5	0.0	100	12.7
CDC Falcon	117.1	61.6	10.6	165	32.4	0.0	100	12.0
Prowers 99	115.9	65.1	11.2	163	39.8	0.0	100	13.4
Nuplains	115.5	63.7	11.3	164	32.7	0.0	100	13.0
NuHorizon	115.4	64.0	11.1	162	32.0	0.0	100	12.2

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Table 1 (continued). Agronomic data from the Intrastate Winter Wheat Nursery grown at the Northwestern Agricultural Research Center Kalispell, MT.

Cultivar	Yield	Test weight	Grain moist	Heading date	Plant height	Lodge score	Winter survival	Protein
	Bu/A	Lb/Bu	%	Julian	in	0-9	%	%
SD97457	115.0	63.6	10.9	162	35.0	0.0	100	13.6
Tiber	114.4	63.5	10.9	168	41.7	0.0	98	12.8
Erhardt	113.5	63.5	11.4	167	37.3	0.0	100	13.0
Bighorn	113.3	61.5	11.1	166	35.3	0.0	100	13.5
Above	112.8	63.2	10.4	161	35.3	0.0	100	13.2
NuSky	112.8	62.1	11.2	167	38.3	0.0	99	12.1
MTS0031	110.8	62.9	10.5	166	37.7	0.0	100	13.4
McGuire	109.2	62.3	10.6	162	35.6	0.0	100	14.4
Elkhorn	107.5	62.3	10.6	168	45.7	0.0	100	13.1
MTS9719	105.7	60.5	10.1	169	37.3	0.0	100	12.1
Vanguard	104.1	62.9	10.6	166	39.9	0.0	100	14.4
BZ9W97-761	104.0	61.5	10.6	165	38.5	0.0	100	12.3
BigSky	104.0	62.8	10.6	167	39.4	0.0	100	13.4
Norstar	103.9	63.1	10.8	169	49.9	0.0	100	12.2
Mean	119.4	62.5	10.8	166	38.0	0.0	99.9	12.6
LSD (0.05)	8.51		0.55	1.37	2.03			
C.V. (%)	4.39		3.14	0.51	3.30			