

Project Title: Agronomic Performance Evaluation of Advanced Spring Wheat Experimental Lines.

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Objectives:

To evaluate advanced spring wheat experimental lines for agronomic performance and disease resistance in environments and cropping systems representative of northwestern Montana.

Results:

Precipitation from May to July was only 50% of the normal, which reduced the length of grain filling and resulted in lower yields than previous years. The yield average was 78 Bu/A and ranged from 52 Bu/A in MT 0253 to 91 Bu/A in MT0261 and MT 0245. However, nearly half of the entries yielded more than McNeal (79 Bu/A). Grain test weight ranged from 51 Lb/Bu (SX1501B) to 62 Lb/Bu (MT 0202), with an average of 58 Lb/Bu. Heading date was 10 days earlier than previous year and ranged from 167 to 177 (averaged 172). Plant height ranged from 27 inches in GM40020 and SX1501B to 44 inches in Thatcher, with an average of 33 inches. Due to dry conditions during grain filling, grain protein was very high and ranged from 14 to 17% and averaged 15.8%. No lodging and disease were found in the 2003 nursery.

Summary:

Low precipitation after heading reduced yields and test weights in 2003 spring wheat nursery. However, grain protein was very high in this season. MT 0261, MT 0245, MT 0248, MTHW0202 and BZ998447 were the top yielding entries (about 90 Bu/A) at Kalispell.

Future Plans:

Continue spring wheat evaluations for the purpose of identifying cultivars best suited for District 1.

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

Planted: April 21, 2003

Harvested: August 7, 2003

ID	Cultivar	Yield	Test weight	Heading date	Plant Height	Protein
		Bu/A	Lb/Bu	Julian	in	%
MT 0261	ND695/MT9653	91.2	58.1	171.3	37.3	16.4
MT 0245	MT9433/ND695	91.1	58.6	173.4	33.6	14.3
MT 0248	ND695/MT9433	89.2	59.4	172.7	34.4	15.3
MTHW0202	ID377S/MTHW9701	88.8	60.2	166.6	32.3	15.0
BZ998447	SPILLMAN/906R	88.7	54.4	169.1	32.7	15.8
ND 695	Reeder	87.5	59.0	173.0	35.2	16.0
MT 0266	ND695/MT9755	87.4	55.0	169.3	33.7	16.1
GM40004	BR 7030	87.2	59.0	169.7	30.7	14.4
MT 0237	GRANDIN/WA7802	87.0	59.4	170.0	32.2	16.2
MT 0249	ND695/MT9433	86.3	58.4	170.0	30.1	16.1
GM40020	BLANCA GRANDE	86.3	60.9	167.0	27.2	14.8
MT 0265	ND695/MT9755	85.9	55.0	170.7	35.5	16.9
MT 0205	MCNEAL/MT8808	85.8	57.0	172.7	31.2	16.8
MTHW0203	ID377S/MTHW9701	85.6	59.0	170.3	31.9	15.1
MT 0255	MT9755/WA7802	85.3	56.1	171.6	34.8	15.9
MT 0247	MT9433/ND695	85.2	61.0	169.9	33.9	15.8
GM40019	PLATA	84.8	59.4	173.0	27.7	14.2
AGRIPRO2	KNUDSON	84.6	60.0	173.0	32.7	15.5
MT 0225	ND695/MCNEAL	83.8	56.3	174.0	31.4	15.3
CI 17430	NEWANA	83.7	57.9	175.6	31.7	14.7
AGRIPRO1	NORPRO	82.2	58.9	173.3	31.3	15.7
MT 0212	MCNEAL/MT8808	81.3	57.1	171.4	30.9	16.5
PI607557	SCHOLAR	81.1	60.3	174.3	37.3	16.3
MTHW0002	MTHW9520/MTHW9427	80.6	57.4	171.7	31.6	14.4
MTHW9901	MT9311/MTHW9417	80.6	60.3	172.7	38.1	15.4
BZ992588	Conan	80.5	58.7	171.4	32.2	15.7
MTHW0204	MTHW9427/MT9410	79.9	54.9	172.6	32.0	15.6
BZ996472	BZ992-634/GOLDEN86	79.8	61.7	167.0	31.0	14.3
MT 0228	MCNEAL/WA7802	79.8	55.8	171.7	33.3	16.3
MT 0013	MCNEAL/MT9410	79.4	56.0	170.0	31.0	15.7
MT 0244	MT8808/WA7802	79.2	56.8	172.9	31.5	16.5
PI574642	MCNEAL	79.1	55.5	173.1	31.8	15.5
MT 9918	MT9328/MT9419	79.0	58.0	171.4	37.3	15.0
MT 0134	MT9410/ERNEST	78.8	59.5	174.3	37.4	15.3
PI527682	AMIDON	78.5	58.2	173.0	39.7	16.0
MT 0260	MT9653/REEDER	78.4	59.0	175.0	33.7	14.9
MTHW0201	ID377S/MTHW9701	77.8	57.2	169.3	30.7	15.4

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

Planted: April 21, 2003

Harvested: August 7, 2003

ID	Cultivar	Yield	Test weight	Heading date	Plant Height	Protein
		Bu/A	Lb/Bu	Julian	in	%
MT 0238	MT8808/MT9653	76.8	58.6	167.4	35.5	16.5
PI549275	HI-LINE	76.5	54.0	169.7	30.6	17.0
MT 9929	MT9401/MT9328	76.2	57.2	172.0	31.4	17.2
BZ996434	BORDER/CONAN	76.2	60.5	170.3	31.9	15.4
MCNB	MCNEAL LARGE SEED	75.9	56.6	173.7	33.6	15.8
MT 9955	MCNEAL/KS27//MCNEAL	75.8	55.5	172.4	30.4	16.7
MT 0009	MCNEAL/MT9410	75.7	60.4	169.9	32.0	14.6
MT 0103	BZ992632/MCNEAL	75.1	58.1	173.7	32.1	15.8
WB 926	WESTBRED 926	74.9	57.8	169.6	32.0	15.9
PI592761	ERNEST	74.5	58.9	173.7	39.1	17.0
MT 0112	ERNEST/MT9410	74.4	58.3	171.4	36.6	16.6
CI 13596	FORTUNA	74.3	60.0	173.3	39.8	15.9
MT 0220	MCNEAL/ND695	73.9	56.2	170.0	31.4	16.9
MT 0252	ND695/MT9433	73.6	58.8	171.6	32.6	15.8
MT 0118	ERNEST/MT9410	73.1	56.7	173.0	34.8	16.5
BZ992322	HANK	72.9	55.0	170.3	31.0	15.9
MT 0202	MCNEAL/GRANDIN	72.8	62.3	169.0	32.7	16.2
MT 0147	MT9565/ERNEST	72.5	61.0	169.4	30.7	16.6
PI612605	MTHW9420	72.1	55.2	171.7	31.4	15.9
CI 10003	THATCHER	71.8	56.2	177.0	44.6	17.0
SX1502B	SEEDS SX1502B	71.2	56.5	175.7	30.1	15.9
PI619086	EXPLORER	69.5	58.1	168.3	31.0	15.3
MT 9874	OUTLOOK	69.0	53.9	175.4	32.9	16.8
MT 0148	MT9565/ERNEST	66.3	59.3	172.3	32.9	16.0
SX1501B	SEEDS SX1501B	58.3	51.1	177.4	27.0	16.2
MT 0234	ERNEST/ND695	52.6	58.5	169.4	33.1	16.2
MT 0253	MT9542/ND695	52.0	56.5	173.7	36.5	16.4
Mean		78.4	57.8	171.7	33.1	15.8
LSD (0.05)		17.6		1.5	2.2	