

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:

In 2004 spring wheat growing season, temperature was near normal except a warmer April. The precipitation during grain filling was higher than previous season. As a result, the average yield (93 Bu/A) was higher than previous year (78 Bu/A). Yield ranged from 69 Bu/A (MT 0346) to 111 Bu/A (MTHW0357). Among the 64 entries, 12 entries yield more than 100 Bu/A and 50 entries yielded more than McNeal (87 Bu/A). Grain test weight was excellent with an average of 61 Lb/Bu. Several entries had a test weight over 62 Lb/Bu. Heading date was a few days earlier than previous year and averaged on Julian 168 (June 17), ranging from Julian 160 (June 9) to 174 (June 23). Plant height was normal and averaged 37 in. Although the soil moisture was high during grain filling, disease pressure and lodging were minimal in this season.

Summary:

The 2004 season was ideal for spring wheat and high yield was obtained in most of the tested entries. MTHW0357, MT0249, MTHW0202, BZ999592 and Newana were top yielding entries with a yield over 104 Bu/A.

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 6, 2004			Harvested: August 19, 2004					
Entry	ID	Cultivar	Yield	Test	Grain	Heading	Plant	Protein
			Bu/A	Lb/Bu	moisture %	date Julian	height in	%
60	MTHW0357	MTHW9420/BZ991408	110.7	62.8	14.7	166.6	34.5	12.8
21	MT 0249	ND695/MT9433	106.3	60.6	14.5	166.6	35.4	15.1
58	MTHW0202	ID377S/MTHW9701	105.0	62.6	14.7	160.3	34.9	14.4
48	BZ999592	MCNEAL/906R	104.6	63.1	14.6	167.9	36.1	14.7
3	CI 17430	NEWANA	103.5	60.9	14.4	172.2	35.0	13.8
12	BZ992322	HANK	103.2	59.1	14.0	166.5	34.1	14.9
25	MT 0266	ND695/MT9755	102.7	59.4	14.0	165.5	37.0	15.5
51	AGRIPRO3	FREYR	101.9	61.1	14.2	167.1	36.6	14.8
19	MT 0245	MT9433/ND695	101.7	60.6	15.6	169.5	37.8	14.7
22	MT 0255	MT9755/WA7802	101.5	61.0	15.0	166.3	38.6	15.0
31	MT 0315	MT9609/SCHOLAR	101.4	61.6	15.1	168.2	39.8	14.6
23	MT 0260	MT9653/ND695	101.0	61.5	15.4	171.2	37.5	14.3
2	CI 13596	FORTUNA	100.7	62.1	14.6	168.0	45.3	15.1
10	WB 926	WESTBRED 926	100.1	60.5	14.1	165.1	32.4	14.6
6	PI527682	AMIDON	99.4	60.7	14.6	168.6	42.0	14.2
8	PI607557	SCHOLAR	99.3	61.7	14.4	170.2	39.2	15.2
11	BZ992588	Conan	99.0	60.9	14.0	166.5	34.9	14.8
57	MTHW0002	MTHW9520/MTHW9427	98.9	59.8	15.3	166.7	34.8	12.8
30	MT 0313	MT9609/SCHOLAR	98.9	61.5	14.0	169.0	38.2	15.0
15	MT 0205	MCNEAL/MT8808	98.2	60.2	14.5	168.3	33.5	14.0
61	MTHW0361	BZ991408/MTHW9420	97.2	61.5	14.4	164.9	33.2	14.4
40	MT 0342	MT9719/MT9715	96.7	62.2	15.0	167.9	37.4	13.5
52	AGRIPRO4	01II 27-2-2 CL	96.5	62.5	14.7	166.5	38.6	15.0
43	MT 0351	MT9806/SD3345	96.1	60.5	15.0	166.9	36.5	14.3
13	PI632252	OUTLOOK	94.7	58.5	13.6	171.4	36.6	14.3
49	AGRIPRO1	NORPRO	94.4	61.3	15.7	167.7	34.8	14.1
33	MT 0318	MT9609/SCHOLAR	94.2	61.4	14.8	166.3	36.1	15.0
34	MT 0319	MT9609/SCHOLAR	94.2	62.2	15.0	167.2	37.1	14.6
53	AGRIPRO5	01II 27-20-1 CL	94.0	62.1	15.0	166.4	37.7	15.3
35	MT 0325	MT9609/SCHOLAR	94.0	61.7	15.1	168.1	37.4	15.7
63	MTHW0366	BZ991408/ID508	93.9	62.5	14.8	165.7	35.6	14.3
50	AGRIPRO2	KNUDSON	93.3	60.9	13.4	168.7	35.3	14.0
17	MT 0228	MCNEAL/WA7802	93.2	61.4	14.7	168.4	37.8	14.1
59	MTHW0204	MTHW9427/MT9410	93.2	60.1	15.1	168.0	34.3	12.4
9	ND 695	Reeder	92.4	61.7	14.2	167.6	37.7	16.1
20	MT 0247	MT9433/ND695	92.4	62.3	15.0	167.4	36.2	15.5
24	MT 0261	ND695/MT9653	92.2	61.2	14.8	169.3	39.4	15.0
37	MT 0336	MT9609/MT9806	91.9	60.6	14.6	167.4	37.7	14.0
29	MT 0311	SCHOLAR/MT9754	91.6	61.2	15.6	167.2	36.9	15.3
36	MT 0326	MT9609/SCHOLAR	90.8	61.9	15.8	166.1	39.9	14.3

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

Planted: April 6, 2004			Harvested: August 19, 2004					
56	PI619086	EXPLORER	90.7	60.4	14.5	163.7	33.3	15.2
46	ALSEN	ALSEN	90.5	61.8	14.8	166.6	36.9	16.2
4	PI549275	HI-LINE	90.2	60.4	14.3	166.5	33.9	15.2
47	BZ996434	BORDER/CONAN	89.6	63.2	14.8	166.4	38.6	15.4
7	PI592761	ERNEST	89.3	60.7	15.2	170.7	40.0	15.1
54	AGRIPRO6	01II 27-24-1 CL	89.1	61.8	14.1	166.4	36.7	15.8
16	MT 0220	MCNEAL/ND695	88.8	61.0	14.4	166.7	34.3	16.4
14	MT 9929	CHOTEAU	88.6	60.0	15.1	167.7	35.2	15.2
64	BZ996472	BZ992-634/GOLDEN86	88.6	63.5	14.9	162.6	34.0	14.6
62	MTHW0362	BZ991408/MTHW9711	87.5	61.9	15.5	165.8	33.9	13.0
44	MT 0352	MT9806/SD3345	87.2	60.3	15.5	169.4	36.7	13.4
5	PI574642	MCNEAL	86.8	60.8	13.8	168.7	36.9	13.8
55	PI612605	MTHW9420	86.7	58.3	13.8	166.6	35.7	12.9
41	MT 0345	MT9754/SCHOLAR	85.4	59.7	15.0	168.6	34.9	15.1
18	MT 0234	ERNEST/ND695	85.1	62.2	14.8	166.2	36.2	15.4
32	MT 0317	MT9609/SCHOLAR	84.7	61.2	14.5	171.0	39.0	15.2
39	MT 0339	MT9715/SCHOLAR	84.4	58.0	15.5	166.8	36.6	13.9
28	MT 0307	MCNEAL/MT9719	82.9	61.5	13.8	168.5	35.6	14.2
26	MT 0305	MCNEAL/MT9719	82.9	60.9	13.7	171.8	34.6	14.9
38	MT 0338	MT9609/MT9808	81.6	57.9	14.5	172.1	36.7	15.4
45	MT 0354	MT9806/SD3345	81.5	58.6	13.8	168.7	32.8	13.2
1	CI 10003	THATCHER	81.4	59.4	14.6	173.9	48.0	14.9
27	MT 0306	MCNEAL/MT9719	76.4	62.9	14.8	166.5	37.5	14.6
42	MT 0346	MT9754/SCHOLAR	69.0	56.3	13.6	172.0	35.8	15.3
Mean			92.9	60.9	14.6	167.7	36.7	14.7
C.V. (%)			8.43			0.56	3.25	
LSD (0.05)			10.30			1.46	1.84	