

Project Title: Evaluation of Soft White Spring Wheat Varieties

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Objectives: To evaluate soft white spring wheat varieties and experimental lines for agronomic performance in environments and cropping systems representative of northwestern Montana.

Results:

Cool temperatures persisted throughout much of the growing season. These conditions delayed planting as well as heading and anthesis (flowering). Heading dates varied by eight days. Pettit had the earliest heading date, while Wakanz was the latest. Although cool temperatures may have delayed heading, this same set of conditions appeared to have suppressed foliar diseases and extended the grain filling period, benefiting yields in the process. Yields averaged 106 bu/A, ranging from a high of 119 bu/A for WA008008 to a low of 83 bu/A for the hard red check variety Choteau.

The long grain filling period also helped test weights. Test weights averaged 62 lb/bu and ranged from a high of 64.3 for Jubilee to a low of 59.3 for Calorwa. The highest protein levels were observed for the two hard red check varieties Choteau (15.5%) and Vida (14.7%). Of the soft white varieties evaluated, the highest protein levels were observed for Treasure and Wakanz (12.1) while the lowest proteins were observed for Pettit and the experimental line BZ604-00 (11.4). Plant height averaged 29 inches, ranging from 24.7 inches for Pettit to 32.2 inches for Zak. Lodging was not observed.

Summary:

While cool weather delayed planting and crop development, it did extend the grain filling period, which ultimately benefited yields and test weights.

Future Plans:

Continue to evaluate soft white spring wheat varieties for agronomic performance and yield potential in district 1.

Table 1. Agronomic data from the soft white spring wheat nursery grown at Kalispell, MT.

Planted: April 28, 2008		Harvested: August 25, 2008						
Entry	Cultivar	Yield	Test weight	Grain moisture	Plant height	Heading	Anthesis	Protein
		bu/ac	lb/bu	%	in	Julian		%
5	WA008008	119.4	60.4	12.6	30.2	179.0	187.0	12.2
4	NICK	118.5	61.7	11.3	29.8	179.0	187.7	11.8
11	PETTIT	116.5	63.8	11.3	24.7	177.3	186.3	11.4
10	CATALDO	113.5	62.2	10.9	28.9	178.0	186.0	12.1
15	BZ604-00	113.4	62.3	12.7	29.3	179.7	187.7	11.4
2	ALTURAS	109.8	61.6	11.8	28.7	182.0	188.3	11.5
7	TREASURE	108.1	60.2	12.3	29.7	184.0	188.7	12.6
18	CALORWA	107.9	59.3	11.9	27.7	180.7	186.7	12.2
20	VIDA	106.6	61.2	11.9	29.7	181.7	188.3	14.7
13	ZAK	106.0	62.1	11.2	32.2	182.7	189.3	12.4
16	BZ604-02	104.5	62.4	12.6	26.5	181.0	188.3	12.4
1	ALPOWA	103.9	63.2	11.7	31.8	183.3	188.7	12.5
3	LOUISE	103.5	61.9	11.3	31.0	182.7	189.7	11.6
8	CENTENNI	103.2	62.7	11.0	28.3	180.0	188.0	11.6
12	JUBILEE	103.1	64.3	11.4	31.0	181.7	188.7	12.1
6	WA008039	103.1	62.2	12.2	29.5	181.7	187.7	12.1
17	EDEN	100.2	63.6	11.4	28.9	182.0	187.7	11.6
14	WAKANZ	100.1	60.7	10.6	30.1	185.0	190.3	12.6
9	WHITEBIR	96.3	63.5	12.5	29.7	182.7	190.0	12.1
19	CHOTEAU	83.1	60.5	12.5	27.8	180.7	188.7	15.5
Mean		106.0	62.0	11.7	29.3	181.2	188.2	12.3
C.V. (%)		6.87	1.76	10.17	5.06	0.37	0.42	
LSD (0.05)		12.04	1.81	NS	2.45	1.10	1.31	