

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:

A cold-wet spring delayed planting. This was followed by a period of below normal rainfall, where total precipitation for May and June was two inches below the long-term average. The combined effect reduced tillering. The combined stress also caused the crop to head early, shortened crop height and reduced yields.

The average Julian heading date was 177 (June 26), which was four days earlier than the previous year. Pettit and Cataldo were the earliest heading varieties (174.3), while Wakanz headed last (182). Plant height also was less than the previous year. The average plant height for the nursery was 21.8 inches and ranged from a low of 18.8 inches for Calorwa to a high of 25.1 inches for Louise.

Not surprisingly, yields were less than the previous year. Yields averaged 61.8 bu/A in 2009 as compared to 106 bu/A during 2008. Yields ranged from a high of 70 bu/A for Alturas to a low of 47.7 bu/A for Cataldo. Test weights were good, averaging 60.3 for the nursery. The highest test weights were observed for Jubilee (62.2) while Calorwa had the lowest (57.8). Grain protein averaged 12.1 for the nursery. Interestingly, Calorwa and Cataldo had the lowest (10.9) and highest (15.1) protein levels, while they also were the two lowest yielding varieties in the nursery.

Summary:

Yields were low during 2009. Although the relative yield ranking of the varieties fluctuated between 2008 and 2009, Wakanz, Choteau, and Eden consistently yield poorly.

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

Cultivar	Planted:May 6, 2009		Harvested:August 21, 2009			
	Yield	Test weight	Grain moisture	Protein	Heading date	Plant height
	Bu/A	lb/Bu	%	%	Julian	inches
ALTURAS	70.0	60.1	11.5	13.2	178.3	21.8
BZ604002	69.5	61.4	11.5	11.9	176.7	23.4
VIDA	67.3	60.9	11.4	11.7	177.7	23.8
ALPOWA	66.4	60.4	11.5	11.4	179.3	23.0
LOUISE	65.3	59.8	11.5	11.7	178.7	25.1
WA008008	65.3	60.1	11.3	11.5	176.3	21.5
WHITEBIR	64.8	62.1	11.9	12.1	179.7	23.2
WA008039	64.3	60.2	11.5	11.9	178.3	23.0
ZAK	63.4	60.3	11.6	13.0	178.3	22.4
CENTENNI	62.7	61.0	11.5	11.6	176.7	22.6
JUBILEE	62.6	62.2	11.8	11.8	178.3	22.3
PETTIT	61.7	60.7	11.6	12.3	174.3	19.6
TREASURE	61.6	59.3	11.5	11.8	179.7	20.7
NICK	61.2	60.7	11.2	11.4	176.3	21.0
BZ604026	58.7	61.0	11.5	11.5	176.7	21.8
EDEN	58.6	60.1	11.4	11.5	178.7	19.7
WAKANZ	58.3	58.7	11.0	13.0	182.0	20.7
CHOTEAU	53.8	59.6	11.2	11.7	176.7	21.5
CALORWA	52.5	57.8	10.9	10.9	176.0	18.8
CATALDO	47.7	59.8	11.3	15.1	174.3	20.3
MIN	47.7	57.8	10.9	10.9	174.3	18.8
MAX	70.0	62.2	11.9	15.1	182.0	25.1
MEANS	61.8	60.3	11.4	12.1	177.7	21.8
Pr>F (trt)	0.0003	0.0001	0.0001	NA	0.0001	0.0001
C.V. (%)	8.2	0.7	1.1	NA	0.3	4.3
LSD (0.05)	8.4	0.7	0.2	NA	0.8	1.5