

Project Title: Agronomic Evaluation of Private Spring Wheat Varieties – Site 1.

Objectives: To evaluate private spring wheat varieties

Materials and Methods:

Treatments were seeded 1.5 inches deep on April 17, 2010. Individual plots consisted of seven, 6-in wide rows, 15 feet in length with each variety replicated 3 times in a randomized complete block design. A preplant application of 27-30-120-24 was applied on April 2, 2010. Wolverine was applied at 1.7 pt/A on May 25 for weed control. Heading was recorded when 50 percent of the plants in a plot had half the head exposed. Height measurements were recorded near maturity. The study was harvested August 26. Grain yield, test weight, moisture, and protein content were then determined.

Results:

Heading occurred over a period of 6 days with the average heading date of 177 (June 26). Kelby had the earliest (174) and Faller had the latest (180) heading dates (Table1). Plant heights averaged 34.31 inches. Hollis was the tallest variety (43.18 inches) and Solano was the shortest (27.95 inches). Lodging was not detected. Yields were high, averaging 101 Bu/A, and ranged from a high of 109 Bu/A for Knudson to a low of 89 Bu/A for Kelby. Test weights averaged 62.26 lb/Bu, and range from 60.60 lb/Bu for Traverse to 63.77 lb/Bu for Bullseye. Protein content averaged 13.1 percent. RB07 had the highest protein (14.37) and Jerome had the lowest protein (11.53). Similar to the previous year, Kelby had the lowest yield (89.05) and had higher protein content (14.27).

Table 1. CHS-1. Agronomic performance of spring wheat varieties.
Kalispell, MT 2010

Variety	Yield bu/A	Protein %	TWT lb/bu	Heading Julian	Height inches
Knudson	109.26	12.23	62.60	177	35.30
Bullseye	106.78	12.13	63.77	178	31.89
McNeal	106.71	13.03	62.37	179	36.48
Reeder	105.85	13.60	63.13	178	38.85
Choteau	105.64	13.60	62.00	177	32.94
Vida	104.77	13.23	61.53	179	38.06
Jerome	104.19	11.53	61.77	175	32.81
Kuntz	101.87	12.53	63.30	178	32.81
Traverse	101.46	12.67	60.60	176	40.29
Cabernet	101.08	12.77	61.10	176	28.61
RB07	100.02	14.37	62.30	175	33.60
Hollis	98.69	13.50	61.60	177	43.18
Espresso	98.01	13.93	62.33	178	29.27
Solano	97.18	13.47	62.37	177	27.95
Faller	94.04	12.07	61.80	180	36.09
Kelby	89.05	14.27	63.53	174	30.84
MIN	89.05	11.53	60.60	174	27.95
MAX	109.26	14.37	63.77	180	43.18
MEAN	101.54	13.06	62.26	177	34.31
LSD (P=.05)	8.88	0.54	0.95	0.83	1.90
CV	5.25	2.50	0.91	0.28	3.33
Trt (Pr>F)	0.0054	0.0001	0.0001	0.0001	0.0001

Planted April 17, harvested August 26, 2010.

Project Title: Agronomic Evaluation of Private Spring Wheat Varieties – Site 2.

Objectives: To evaluate private spring wheat varieties

Materials and Methods:

Treatments were seeded 1.5 inches deep on May 6, 2010. Individual plots consisted of seven, 6-in wide rows, 15 feet in length with each variety replicated 3 times in a randomized complete block design. Wolverine was applied at 1.7 pt/A on May 25, 2010 for weed control. Heading was recorded when 50 percent of the plants in a plot had half the head exposed. Height measurements were recorded near maturity. The study was harvested September 13. Grain yield, test weight, moisture, and protein content were then determined.

Results:

Heading occurred over a period of 6 days with the average heading date of 186 (July 5). Jerome had the earliest (183), while Cabernet, Solano, and Espresso had the latest (189) heading dates (Table 1). Plant heights averaged 37.43 inches. Hollis was the tallest variety (46.85 inches) and Cabernet was the shortest (31.89 inches). Lodging was greatest in Faller (48.3%) and Knudson (33.3%). Stripe rust was detected in the nursery, with Faller (21.7%) and McNeal (18.3%) being the most susceptible. Septoria was also detected, with Jerome (43.3%) being the most susceptible. Yields averaged 81 Bu/A, with Travers, RB07 and Reeder producing 95 bu/A or greater. In contrast, Cabernet, Solano and Espresso were the three lowest yielding entries. The low yields were primarily due to orange wheat blossom midge (OWBM) damage as Cabernet, Solano and Espresso had the highest midge densities. As yields declined, protein increased. Protein content averaged 14.18 percent. Solano had the highest protein (16%) and Traverse had the lowest protein (12.63%). Test weights averaged 57.88 lb/Bu, and range from a low of 55.53 lb/Bu for Solano to a high of 59.93 lb/Bu for Reeder.

Table. Agronomic performance of spring wheat varieties grown in a silt loam soil. Kalispell, 2010.

Variety	Heading	Height	Stripe rust	Septoria	GLA	Lodging	Yield	TWT	Protein	OWBM
	Julian	inches	%	%	%	%	bu/A	lb/bu	%	no/spike
Traverse	183	42.91	1.70	28.30	43.30	0.00	98.80	56.47	12.63	1.22
RB07	183	34.65	3.30	26.70	53.30	0.00	96.60	58.43	13.80	1.44
Reeder	185	39.10	10.00	15.00	81.70	0.00	95.70	59.93	14.13	3.22
Choteau	184	38.84	0.00	23.30	41.70	0.00	88.50	58.20	14.40	13.44
Knudson	188	37.01	13.30	21.70	58.30	33.30	86.40	58.07	13.27	3.89
Kelby	184	34.52	3.30	25.00	63.30	0.00	85.70	59.00	14.43	2.22
Jerome	183	34.64	10.00	43.30	40.00	0.00	83.80	57.97	13.17	17.33
Faller	188	38.85	21.70	25.00	53.30	48.30	83.70	56.80	13.17	4.44
Bullseye	186	34.65	1.70	23.30	71.70	0.00	83.60	58.50	13.60	12.11
Hollis	187	46.85	1.70	25.00	63.30	13.30	82.50	58.73	14.83	31.44
McNeal	187	39.89	18.30	16.70	73.30	3.30	79.00	58.43	14.93	22.11
Kuntz	188	37.40	11.70	16.70	70.00	0.00	78.30	59.23	13.80	21.55
Vida	185	39.50	10.00	25.00	68.30	0.00	74.80	57.97	14.47	9.45
Cabernet	189	31.89	3.30	18.30	76.70	1.70	71.70	56.60	14.63	35.44
Solano	189	33.99	1.70	8.30	88.30	0.00	62.60	55.53	16.00	58.55
Espresso	189	34.25	0.00	6.70	78.30	0.00	60.20	56.23	15.67	40.67
MIN	183	31.89	0.00	6.70	40.00	0.00	60.20	55.53	12.63	1.22
MAX	189	46.85	21.70	43.30	88.30	48.30	98.80	59.93	16.00	58.55
MEAN	186	37.43	6.98	21.77	64.05	6.24	81.99	57.88	14.18	17.41
LSD (P=.05)	1.62	2.8913	7.93	14.95	28.35	21.35	10.95	1.486	1.085	24.56
CV	0.52	4.63	68.17	41.2	26.54	204.85	8.01	1.54	4.59	84.63
TRT Prob>F	0.0001	0.0001	0.0001	0.0094	0.0295	0.0012	0.0001	0.0001	0.0001	0.0008