



## RESULTS OF AGRONOMIC AND WEED SCIENCE RESEARCH CONDUCTED IN SOUTH CENTRAL MONTANA - 2008

The Annual Report of the Investigations at and Administration of the  
Southern Agricultural Research Center, Huntley, Montana

<http://www.sarc.montana.edu/annualreport/2008/>

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- PROJECT TITLE:** 2008 Off-Station Winter Wheat Variety Performance Trials in South Central Montana. This research is partially supported by Montana Farmers through the Montana Wheat and Barley Committee.
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Ellis Murdock, Farmer Cooperator, Lodge Grass  
Dave Kelsey, Farmer Cooperator, Molt  
Gary Broyles, Farmer Cooperator, Rapelje
- OBJECTIVES:** To provide wheat growers in south central Montana with a reliable, unbiased, up-to-date source of information that will permit valid comparisons among improved winter wheat varieties. This information should help winter wheat producers in south central Montana select varieties best suited to their particular area and growing conditions.
- METHODS:** The 2008 off-station winter wheat trials were established under dryland conditions near Molt under conventional summer fallow conditions; near Forsyth, Hardin, Lodge Grass and Rapelje under no-till, chemical fallow conditions; and under no-till, irrigated conditions at Huntley (Fig. 1). Each dryland trial contained 25 winter wheat cultivars (18 commercial, 7 experimental), and was planted using a partially-balanced lattice design with three replications. The irrigated trial near Huntley contained 29 winter wheat cultivars (20 commercial, 9 experimental) arranged in a randomized complete block design replicated three times. All entries were seeded at approximately 1 million seeds per acre under dryland conditions (~60 lb/a) and 1.5 million seeds per acre under irrigation (~90 lb/a). Actual seeding rates were calculated from the thousand kernel weight determined for the seed lot of each cultivar (Table 1), and varied from 54 to 98 pounds per acre for the dryland sites and from 81 to 148 pounds per acre under irrigation. Seeding rates were not adjusted for germination. Dryland test plots consisted of a 15-foot, 4-row plot with 14-inch row spacing. Irrigated test plots consisted of a 15-foot, 7-row plot with 7-inch row spacing. All rows of each harvested test plot were trimmed 36 inches and harvested using a plot combine. Information pertaining to the traits and characteristics of the 29 winter wheat entries are provided in Table 2.
- Recorded grain yields were adjusted to 13% grain moisture content, and are reported in bushels per acre based on a 60 pound standard bushel weight. Two year (2007-08) and three year (2006-08) yield averages are provided for cultivars tested during previous years. Test weight (pounds per bushel) and grain moisture content (percent) were obtained for each plot using a Dickey-john™

GAC 2100 grain analyzer. Grain protein content (percent) was determined by near-infrared reflectance for each entry, and adjusted to a 12% grain moisture content. Plant height was measured in inches from the soil surface to the top of the head, excluding the awns if present. Lodging of all cultivars was noted at the irrigated Huntley location during 2008, and recorded on a 0 to 9 scale representing no lodging to all stems lying flat on the ground, respectively. Heading also was noted at Huntley when 50% of the heads in a plot had extended above the flag leaf collar. Heading dates were recorded in Julian days (number of days from January 1) for statistical purposes. Corresponding calendar dates also are presented. Information pertaining to the specific cultural management of each study site is listed at the bottom of their respective data table (Tables 3 through 7).

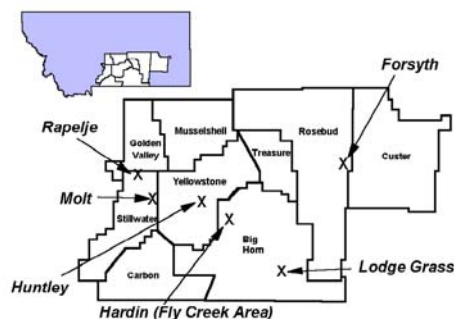


Figure 1. 2008 off-station winter wheat trial locations in south central Montana.

## **RESULTS:**

All six of the winter wheat test locations planted in the fall of 2007 received good fall precipitation to facilitate germination and emergence. The irrigated site near Huntley was pre-irrigated in late August to saturate the soil profile before the trial was planted. Average to above average precipitation occurred throughout the region during October. Short periods of extremely cold temperatures were experienced during November through early March, but temperatures were moderate for most of the winter months. Most of the test sites were dry over-winter, with very little snow accumulating. Spring rains produced below average precipitation levels during most of the early spring growth period. Although conditions were dry in March and April, cooler than normal temperatures delayed crop development helping to avoid drought-related stresses in the crop. Above normal precipitation occurred during a period from the last week of May through early June, resulting in 4 to 6 inches of rainfall at most test sites. Moderate temperatures occurred during mid June and continued through July delaying maturation of the crop. Soil moisture reserves remained adequate throughout July for winter wheat to produce good yields at most sites. The Fly Creek site near Hardin was not harvested in 2008, having experienced glyphosate damage shortly after emerging. Overall, winter wheat yields and test weight values among the harvested trials in 2008 were above average. Grain protein content was much lower than expected at all sites in 2008, but were 1 to 2 percentage points higher than extremely low grain protein levels measured in the trials conducted the previous year.

Average winter wheat yield under irrigated condition in Huntley during 2008 was 132 bu/a (Table 3), nearly 30 more bushels per acre compared to irrigated winter wheat yield for this site the previous year. Lodging was severe in most entries. Only the cultivars 'Garland', 'Moreland' and 'UT9743-42', all developed exclusively for production under irrigation, showed little or no sign of lodging under these conditions. Yields ranged from 117 bu/a for 'Neeley' to 149 bu/a for 'Yellowstone'. 'Genou' hard red winter wheat produced the heaviest test weight under irrigated conditions during 2008, averaging 64.8 lb/bu. All 29 entries producing test weights heavier than 60 lb/bu. Grain protein averaged 11.3

percent and ranged from 10.4 to 12.8 percent. Two-year average yield for winter wheat varieties tested during 2007 and 2008 averaged 118 bu/a. Three-year average yield for winter wheat varieties tested during 2006 to 2008 averaged 115 bu/a with 'Yellowstone' winter wheat producing the highest average grain yield at 131 bu/a. Five commercial entries ('CDC Falcon', 'Hyalite', 'Jagalene', 'Promontory' and 'Pryor') have produced yields statistically equal to the yield of Yellowstone under irrigation at this site for the past three years.

Average yield under dryland conditions at Rapelje in 2008 was 72 bu/a (Table 4), about two bushels per acre less than winter wheat yields observed at this site in 2007. Yields ranged from 51 bu/a for 'Rampart' to 85 bu/a for the experimental line 'MT0552'. The highest yielding commercial entry was 'Norris' at 83 bu/a. Only four other entries including, Neeley, 'Wahoo', Yellowstone and the sawfly resistant line 'MTS0531', produced yields statistically equal with that of MT0552. Average test weight was 62.5 lb/bu, with all entries producing test weights heavier than 60 lb/bu. Grain protein content was low in 2008, averaging 11.0 percent, but nearly 2 percentage points higher than protein levels observed in 2007. Grain protein ranged from 9.8 percent for 'Rocky' and Yellowstone to 13.0 percent for 'Bynum' and 'Rampart'. Two-year average yield for winter wheat varieties tested at Rapelje during 2007 and 2008 also averaged 72 bu/a. Three-year average yield from 2006, 2007 and 2008 averaged 73 bu/a. Yellowstone averaged nearly 84 bu/a as the top yielding two-year and three-year entry. Hyalite, Jagalene, Neeley, Norris, Promontory, Pryor and Wahoo produced yields ranging from 74 to 81 bu/a, equal to the yield produced by Yellowstone winter wheat the past three years at this location.

Average yield of the 25 winter wheat cultivars tested at Forsyth in 2008 was 47 bu/a (Table 5). Yields ranged from 37 bu/a for Hyalite to 56 bu/a for the hard white wheat entry 'NuSky'. Wahoo was the highest yielding commercial hard red winter wheat in the trial, averaging 55 bu/a. Norris, 'Overland', 'Tiber', and the experimental lines MTS0531 and 'UT9325-55' produced yields from 48 to 54 bu/a, which is statistically equal to the yield of NuSky in 2008. Average test weight was 60.2 lb/bu, but 40 percent of the entries tested at Forsyth in 2008 possessed test weights lighter than 60 lb/bu. Grain protein content remains low at this site, averaging only 9.6 percent and ranged from 8.7 to 11.3 percent. Two-year average yield for winter wheat varieties tested at Forsyth during 2007 and 2008 also averaged 44 bu/a, with Wahoo averaging the highest two-year yield at 54 bu/a. NuSky, Pryor and Yellowstone produced yields ranging from 47 to 49 bu/a, equal to the yield produced by Wahoo winter wheat the past two years at this location. This site was hailed out and not harvested in 2006.

Agronomic performance of the winter wheat cultivars tested under dryland conditions near Lodge Grass during 2008 is presented in Table 6. Winter wheat grown in this region of south central Montana frequently suffers from the occurrence of dwarf bunt (*aka*, dwarf smut, TCK smut, *Tilletia controversa* Kuhn), but this disease was not evident during the 2008 season. The Lodge Grass location resulted in an average winter wheat yield of 66 bu/a, 20 bu/a higher than average yields observed at this location in 2007. Among the 25 cultivars, yields ranged from 48 bu/a for Bynum to 77 bu/a for Pryor. 'Ledger', Neeley, Wahoo, Yellowstone, and the experimental lines MT0495, MTS0531 and UT9325-55 produced yields from 71 to 75 bu/a, which is statistically equal to the yield of Pryor. Average test weight was 63.1 lb/bu, with all winter wheat entries possessing better than 60 lb/bu test weight. Grain protein averaged 8.6 percent and ranged from 7.4 percent for Pryor to 10.5 percent for Bynum. No difference in yield was detected for winter wheat cultivars tested the past two or three years at the Lodge Grass site.

Average yield under dryland conditions at Molt in 2008 was 54 bu/a (Table 7), or more than twice the winter wheat yield observed at Molt in 2007. The Molt location was planted early (September 13, 2007) and did not suffer from the infestation of cheatgrass (*aka*, downy brome, *Bromus tectorum*) which had

plagued winter wheat stands at this site during previous years of testing. Yields at Molt also benefited from better moisture conditions and cooler temperatures during the grain fill period of the trial. Yields ranged from 42 bu/a for Rampart to 65 bu/a for Norris. Neeley, Pryor, Wahoo, Yellowstone and MT0552 produced yields from 60 to 61 bu/a, statistically equal to the yields of Norris. Average test weight was 61.8 lb/bu. Grain protein averaged 8.9 percent. Three-year average yield for winter wheat varieties tested at Molt from 2006 to 2008 averaged 45 bu/a, with Wahoo averaging 52 bu/a as the top yielding three-year entry. CDC Falcon, Genou, Ledger, Neeley, Norris, NuSky, Pryor, Rocky, Tiber and Yellowstone produced yields from 44 to 52 bu/a, equal to the yield produced by Wahoo winter wheat the past three years at this location.

#### **SUMMARY:**

Significant differences in yield among cultivars tested in 2008 were obtained under both dryland and irrigated conditions (Tables 8, 9 and 10). Yellowstone produced the highest yield of 81 bu/a, averaged across all five of the test locations harvested in 2008. Wahoo produced the highest yield (68 bu/a) among entries tested at the four harvested dryland test locations. Yellowstone was the highest yielding entry tested under irrigation near Huntley in 2008 (Tables 3 and 8), averaging 149 bu/a.

Since 2006, experiments representing 16 location-years of testing have uniformly tested 16 cultivars at several dryland and irrigated sites in south central Montana (Table 9). Averaged across three years under both dryland and irrigated conditions, Yellowstone hard red winter wheat has been the highest yielding cultivar averaging 75 bu/a. Wahoo has been the highest yielding cultivar tested over three years, averaging 63 bu/a, when comparing only dryland environments tested in south central Montana since 2006 (Table 10). Only Neeley and Pryor have produced three year average yields, 60 and 64 bu/a, respectively, under dryland conditions equal to that of Wahoo.

#### **FUTURE PLANS:**

All six off-station winter wheat variety evaluations have been planted during the fall of 2008 for continuation of the program through 2009. The authors of this article wish to thank the farmer-cooperators involved who provided land and other resources for these trials, and the Montana Wheat and Barley Committee for continued financial support of this research project.

Table 1. Adjusted seeding rates used to establish 29 commercial and experimental winter wheat cultivars tested at six off-station sites in south central Montana during 2008.

1/ Cultivar	Thousand Kernel Weight grams	Seeds per Pound #	2/ Dryland Seeding Rate		3/ Irrigated Seeding Rate	
			per plot grams	per acre pounds	per plot grams	per acre pounds
<u>Commercial</u>						
Bynum	36.9	12,312	59.3	85	88.9	127
Carter	28.8	15,763	46.3	66	69.4	100
CDC Falcon	24.8	18,314	39.8	57	59.8	86
Garland	34.0	13,339	54.7	78	82.0	118
Genou	24.6	18,441	39.6	57	59.3	85
Hyalite	26.9	16,907	43.2	62	64.7	93
Jagalene	34.5	13,166	55.4	79	83.1	119
Ledger	39.3	11,541	63.2	91	94.8	136
Moreland	33.6	13,502	54.0	77	81.1	116
Neeley	40.0	11,359	64.2	92	96.3	138
Norris	38.6	11,768	62.0	89	93.0	133
NuSky	23.5	19,286	37.8	54	56.7	81
Overland	32.3	14,047	51.9	74	77.9	112
Promontory	33.7	13,475	54.1	78	81.2	116
Pryor	29.2	15,527	47.0	67	70.5	101
Rampart	30.4	14,955	48.8	70	73.2	105
Rocky	29.1	15,609	46.7	67	70.1	101
Tiber	31.0	14,655	49.8	71	74.7	107
Wahoo	36.4	12,458	58.6	84	87.8	126
Yellowstone	26.6	17,098	42.7	61	64.0	92
<u>Experimental</u>						
IDO621	33.9	13,402	54.4	78	81.7	117
MT0495	30.0	15,127	48.2	69	72.3	104
MT0552	32.9	13,783	52.9	76	79.4	114
MTS04114	31.1	14,582	50.0	72	75.0	108
MTS04120	28.5	15,944	45.8	66	68.6	98
MTS0531	36.7	12,367	59.0	85	88.5	127
MTS0532	35.4	12,821	56.9	82	85.4	122
UT9325-55	27.7	16,417	44.4	64	66.7	96
UT9743-42	42.7	10,633	68.6	98	102.9	148

1/ All seed lots treated with 1.0 fl oz of Dividend XL/cwt, and 1.5 fl oz of Gaucho 600/cwt.

2/ Equivalent to 1 million seeds per acre on a mass basis.

3/ Equivalent to 1.5 million seeds per acre on a mass basis.

Table 2. Selected characteristics and traits of 29 commercial and experimental winter wheat cultivars performance tested at six off-station sites in south central Montana during 2008.

Cultivar	1/ Origin	Year of Release	2/ Market Class	3/ PVP Yes/No	4/ Maturity	5/ Coleoptile Length	Chaff Color	6/ Winter Survival	7/ Straw Strength	Solid Stem Yes/No	8/ Disease Resistance				9/ Quality		10/ Clearfield Type Yes/No	
											Leaf Rust	Stem Rust	Stripe Rust	Dwarf Bunt	Milling 1-5	Baking 1-5		
<u>Commercial</u>																		
Bynum <sup>§</sup>	MSU	2006	HRW	Y	E	L	Brown	2	S	Y	MS	M	R	S	4	4	Y	
Carter	WestBred	2006	HRW	Y	M	S	White	3	S	Y	MR	MS	MR	S	4	4	N	
CDC Falcon <sup>§</sup>	CDC	1999	HRW	Y	M-L	M	White	4	MS	N	R	R	MS	S	3	3	N	
Garland	USU	1993	HRW	Y	M-L	S	White	-	S	N	MS	-	S	MR	3	3	N	
Genou	MSU	2004	HRW	Y	M	L	White	2	MS	Y	MR	S	MS	S	4	4	N	
Hyalite <sup>§</sup>	MSU	2006	HW	Y	E	S	White	3	S	N	S	R	S	S	3	3	Y	
Jagalene	AgriPro	2002	HRW	Y	E	M	White	2	S	N	MS	MR	R	S	3	3	N	
Ledger	WestBred	2005	HRW	Y	E	M	White	2	W	Y	S	S	MR	S	4	3	N	
Moreland	UI	2002	HRW	Y	E	M	Brown	3	S	N	R	-	S	S	3	4	N	
Neeley	UI	1980	HRW	N	M	M	White	3	MS	N	MR	S	S	S	3	3	N	
Norris <sup>§</sup>	MSU	2005	HRW	Y	E	M	Brown	3	S	N	MS	S	MS	S	3	3	Y	
NuSky	MSU	2001	HW	N	M	S	White	4	M	N	S	R	VS	S	5	4	N	
Overland <sup>†</sup>	UNL	2007	HRW	Y	M-L	S	White	4	M	N	MR	MS	MR	S	3	2	N	
Promontory	USU	1990	HRW	N	E	M	Brown	2	MS	N	S	S	MR	R	5	4	N	
Pryor	WestBred	2002	HRW	Y	M-L	M	White	3	S	N	S	S	S	S	3	3	N	
Rampart	MSU	1996	HRW	N	M	L	Brown	2	M	Y	S	MR	R	S	4	4	N	
Rocky	AgriPro	1978	HRW	N	E	M	White	2	MW	N	MR	R	MS	S	3	3	N	
Tiber	MSU	1988	HRW	N	M	M	Brown	3	S	N	MS	S	VS	S	3	3	N	
Wahoo	UNL	2000	HRW	Y	E	M	White	3	S	N	MR	R	MS	S	3	2	N	
Yellowstone	MSU	2005	HRW	Y	M	S	White	4	MS	N	MS	MS	R	S	3	4	N	
<u>Experimental</u>																		
ID0621	UI	-	HRW	-	M	-	White	-	-	N	MS	-	R	S	-	-	N	
MT0495	MSU	-	HRW	-	M	S	White	4	S	N	S	S	R	S	3	3	N	
MT0552	MSU	-	HRW	-	M	M	White	4	S	N	MS	R	R	S	3	4	N	
MTS04114	MSU	-	HW	-	M	M	White	3	S	Y	MR	MS	R	S	3	4	N	
MTS04120	MSU	-	HRW	-	M	L	White	2	S	Y	MS	S	R	S	3	4	N	
MTS0531	MSU	-	HW	-	M	S	White	2	M	Y	MS	MR	R	S	3	3	N	
MTS0532	MSU	-	HW	-	M	S	White	2	S	Y	MS	MR	R	S	3	3	N	
UT9325-55	USU	-	HRW	-	E-M	-	-	-	S	N	S	-	R	R	-	-	N	
UT9743-42	USU	-	HRW	-	-	-	-	-	S	N	S	-	MR	R	4	4	N	

1/ AgriPro=AgriPro Seeds Inc. Berthoud, Colorado; CDC=Crop Development Centre, University of Saskatchewan; MSU=Montana State University; NDSU=North Dakota State University; UI=University of Idaho; UNL=University of Nebraska-Lincoln; USU=Utah State University; WestBred=WestBred LLC, Bozeman, Montana.

2/ HRW=hard red winter wheat market class; HW=hard white wheat market class.

3/ Indicates a cultivar is protected under the Federal Plant Variety Protection Act of 1970 and amended in 1995.

4/ E=early maturity, M=medium maturity, L=late maturity.

5/ L=long coleoptile length, M=medium coleoptile length, S=short coleoptile length.

6/ Winter survival rated from 1 to 5 where 1=poor and 5=best winter survival, respectively, based on years of observations at Sidney, Moccasin and Williston, North Dakota.

7/ S=strong straw strength, MS=moderately strong straw strength, M=medium straw strength, MW=moderately weak straw strength, W=weak straw strength.

8/ R=resistant, MR=moderately resistant, MS=moderately susceptible, S=susceptible, VS=very susceptible.

9/ Milling and baking quality rated from 1 to 5 where 1=poor and 5=superior quality, respectively.

10/ Signifies a cultivar possessing the Clearfield trait imparting tolerance to Beyond<sup>®</sup> (imazamox) herbicide.

§ 'Bynum', 'CDC Falcon', 'Hyalite', and 'Norris' licensed for sale on an exclusive basis by WestBred LLC, Bozeman, Montana.

† Branded for marketing as 'Husker Genetics Brand Overland'.

Table 3. Performance of 29 commercial and experimental winter wheat cultivars tested under no-till, irrigated conditions near Huntley, Montana during 2008. Cultivars listed alphabetically. (Exp. 083880).

Cultivar	1/ Grain Yield			Test Weight	Grain Moisture	2/ Grain Protein	Plant Height	3/ Lodging	Heading Date	
	2008	2007-08	2006-08			%		0-9	Julian	Calendar
	----- bushels per acre -----			lb/bu	%	%	inches			
<u>Commercial</u>										
Bynum	122.1	106.2	108.9	64.5	9.4	12.5	43.7	6.7	165.7	Jun 13
Carter	134.9			63.6	9.3	10.9	37.2	8.7	166.7	Jun 14
CDC Falcon	141.2	<b>131.1*</b>	<b>127.8*</b>	64.1	9.4	10.9	40.4	6.3	167.7	Jun 15
Garland	128.5	114.8		60.9	11.6	12.4	30.3	1.0	168.3	Jun 16
Genou	136.0	<b>121.5*</b>	116.5	64.8	9.9	10.6	43.4	7.0	166.3	Jun 14
Hyalite	134.9	<b>122.9*</b>	<b>121.0*</b>	64.0	10.0	11.3	42.7	6.0	164.0	Jun 12
Jagalene	138.9	<b>126.6*</b>	<b>124.6*</b>	63.8	9.1	10.9	39.3	8.0	164.7	Jun 12
Ledger	134.7	113.9	115.3	63.5	10.0	11.4	38.7	8.0	166.7	Jun 14
Moreland	138.5	<b>130.0*</b>		62.1	9.5	11.1	36.4	2.3	166.7	Jun 14
Neeley	117.1	107.4	105.8	62.8	10.2	11.8	42.7	8.0	169.0	Jun 17
Norris	132.0	121.0	114.7	64.6	9.5	11.2	44.2	7.3	162.3	Jun 10
NuSky	123.2	108.6	107.6	61.4	10.4	11.4	42.6	8.0	168.0	Jun 16
Overland	138.4			63.4	10.0	10.4	41.3	6.0	162.7	Jun 10
Promontory	136.8	<b>133.4**</b>	<b>128.9*</b>	63.1	10.2	10.4	40.9	7.3	166.3	Jun 14
Pryor	134.8	<b>123.2*</b>	<b>125.9*</b>	61.4	10.2	10.8	40.5	6.7	168.3	Jun 16
Rampart	127.7	111.2	105.4	63.9	9.5	12.8	42.1	9.0	167.7	Jun 15
Rocky	119.8	101.5	96.6	63.9	9.6	11.6	43.8	8.3	167.0	Jun 15
Tiber	119.7	107.6	103.7	63.8	10.7	11.1	49.1	7.7	168.0	Jun 16
Wahoo	128.3	115.3	118.3	62.0	9.4	10.6	40.9	6.7	163.0	Jun 11
Yellowstone	149.0	<b>130.0*</b>	<b>131.6**</b>	63.3	10.4	10.8	43.6	6.3	167.7	Jun 15
<u>Experimental</u>										
IDO621	134.7			63.2	11.5	10.8	39.8	7.3	166.7	Jun 14
MT0495	136.4	<b>123.5*</b>		62.0	9.5	11.2	41.4	7.0	166.7	Jun 14
MT0552	136.0			62.8	9.5	10.6	40.9	7.0	165.0	Jun 13
MTS04114	135.5	119.8		63.0	9.7	11.3	37.7	8.0	165.3	Jun 13
MTS04120	129.3	<b>123.8*</b>		64.8	9.9	11.2	43.5	6.3	167.0	Jun 15
MTS0531	132.8			62.6	9.5	11.9	39.4	8.0	165.3	Jun 13
MTS0532	135.8			63.0	9.5	11.5	41.3	7.7	166.3	Jun 14
UT9325-55	135.5			62.0	10.0	12.2	43.3	8.0	166.7	Jun 14
UT9743-42	135.5	119.3		62.1	9.7	11.2	31.6	0.0	168.0	Jun 16
Average	132.7	118.7	115.8	63.1	9.9	11.3	40.8	6.7	166.3	Jun 14
PLSD (p=0.05)	ns	12.3	11.7	1.2	0.7	1.0	3.1	1.8	1.4	
CV%	7.3	8.6	10.5	1.1	4.5	5.2	4.7	16.6	0.5	

1/ Yields are based on a 60 pound standard bushel weight and adjusted to 13 percent moisture content.

2/ Grain protein values adjusted to 12 percent grain moisture content.

3/ Lodging severity scores of 0 to 9 represent no lodging to all stems flat on the ground, respectively.

ns Indicates no significant difference between cultivars within a column based on Fisher's protected LSD (p=0.05).

\*\* Indicates highest yielding cultivar within a column. \* Indicates cultivars yielding equal to highest yielding cultivar within a column based on Fisher's protected LSD (p=0.05).

Table 3 continued.

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Huntley Irrigated Winter Wheat (Exp. 083880)

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Planted:	September 26, 2007	Harvested:	August 7, 2008
Fertility:	11-52-00, 100 lb/a at planting. 46-0-0, 220 lb/a, April 2, 2008.		
Herbicide:	Maverick, 0.67 oz/a +Roundup RT3, 12.8 oz/a, September 27, 2007; Bronate Advanced, 14 oz/a + Harmony Extra, 0.33 oz/a + R-11, 4 oz/a, POST, May 7, 2008.		
Previous crop:	spring barley		
Irrigation:	profile flooded, August 28, 2007 (preplant); May 2, 2008; June 18, 2008		
Precipitation:	10.8 inches.		

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Table 4. Performance of 25 commercial and experimental winter wheat cultivars tested under no-till, dryland conditions near Rapelje, Montana during 2008. Cultivars listed alphabetically. (Exp. 083881).

Cultivar	1/ Grain Yield			Test Weight	Grain Moisture	2/ Grain Protein	Plant Height
	2008	2007-08	2006-08			%	
	----- bushels/acre-----			lb/bu	%	%	inches
<u>Commercial</u>							
Bynum	58.5	52.7	57.5	62.4	10.4	13.0	35.7
Carter	59.6			62.0	10.7	11.6	29.3
CDC Falcon	73.8	72.6	72.1	60.8	10.5	11.4	32.4
Genou	62.0	58.5	65.2	62.3	10.4	11.3	36.6
Hyalite	73.1	<b>73.5*</b>	<b>75.9*</b>	63.2	10.4	10.3	35.0
Jagalene	71.4	72.3	<b>74.6*</b>	64.4	10.4	11.1	32.5
Ledger	74.6	71.2	73.3	63.3	10.7	10.6	33.2
Neeley	<b>77.8*</b>	<b>73.6*</b>	<b>74.7*</b>	62.4	10.3	10.1	36.5
Norris	<b>83.1*</b>	<b>79.7*</b>	<b>80.6*</b>	63.9	10.1	10.5	37.7
NuSky	69.0	<b>76.1*</b>	74.2	61.6	10.1	10.8	37.5
Overland	75.3			62.7	10.9	11.4	34.7
Promontory	74.4	<b>77.9*</b>	<b>78.7*</b>	63.9	10.4	10.6	33.6
Pryor	73.4	<b>74.8*</b>	<b>78.4*</b>	61.9	10.3	10.3	31.8
Rampart	51.1	58.1	60.7	61.3	10.1	13.0	35.2
Rocky	72.5	69.3	70.5	63.7	11.0	9.8	38.4
Tiber	68.7	<b>73.7*</b>	72.1	61.9	10.2	11.5	40.1
Wahoo	<b>81.8*</b>	<b>82.7*</b>	<b>81.3*</b>	61.2	10.1	11.0	32.9
Yellowstone	<b>82.3*</b>	<b>83.5**</b>	<b>83.7**</b>	62.8	10.3	9.8	35.5
<u>Experimental</u>							
MT0495	76.8	<b>74.3*</b>		61.0	9.9	11.3	34.0
MT0552	<b>85.7**</b>			63.5	10.8	10.6	32.4
MTS04114	73.4	<b>78.0*</b>		62.8	10.4	10.7	32.3
MTS04120	72.8	<b>73.4*</b>		63.2	10.7	10.7	38.7
MTS0531	<b>77.0*</b>			63.4	10.5	10.5	31.0
MTS0532	65.2			61.7	10.0	11.3	31.8
UT9325-55	66.7			61.2	10.2	11.2	35.9
Average	72.0	72.4	73.3	62.5	10.4	11.0	34.6
PLSD (p=0.05)	8.8	10.4	9.2	1.0	0.3	0.9	1.9
CV%	6.9	11.9	13.1	0.9	2.0	5.2	3.3

1/ Yields are based on a 60 pound standard bushel weight and adjusted to 13 percent moisture content.

2 Grain protein values adjusted to 12 percent grain moisture content.

\*\* Indicates highest yielding cultivar within a column.

\* Indicates cultivars yielding equal to highest yielding cultivar within a column based on Fisher's protected LSD (p=0.05).

Rapelje Dryland Winter Wheat (Exp. 08881)

Planted:	September 20, 2007
Harvested:	August 11, 2008
Fertility:	27-0-0-1, 37 lb/a, preplant; 11-52-00, 50 lb/a in-furrow at planting; 46-0-0, 65 lb/a, April 2, 2008
Herbicide:	Glean, 0.10 oz/a, pre-plant
Previous crop:	chemical fallow

Table 5. Performance of 25 commercial and experimental winter wheat cultivars tested under no-till, dryland conditions near Forsyth, Montana during 2008. Cultivars listed alphabetically. (Exp. 083882).

Cultivar	1/ Grain Yield		Test Weight	Grain Moisture	2/ Grain Protein		Plant Height
	2008	2007-08			%	%	
	----- bu/acre -----		lb/bu	%	%		inches
<u>Commercial</u>							
Bynum	42.1	37.2	60.0	10.4	11.3		36.5
Carter	47.8		60.1	10.9	9.9		29.2
CDC Falcon	46.2	43.6	59.8	10.7	9.2		30.2
Genou	43.9	42.2	59.0	10.2	9.9		35.8
Hyalite	37.3	35.0	61.2	10.4	10.0		35.1
Jagalene	44.1	41.2	62.4	10.8	8.9		33.1
Ledger	43.3	44.9	59.5	10.5	10.1		32.3
Neeley	45.9	44.5	59.6	10.2	9.7		35.9
Norris	<b>54.1*</b>	45.9	60.6	10.0	9.3		35.7
NuSky	<b>56.0**</b>	<b>48.1*</b>	60.4	10.4	9.2		33.9
Overland	<b>49.0*</b>		59.7	10.9	9.1		34.5
Promontory	47.4	42.7	61.0	10.4	9.7		33.3
Pryor	46.5	<b>49.2*</b>	59.3	10.2	8.7		30.9
Rampart	46.6	39.5	59.9	10.6	10.3		34.3
Rocky	47.1	42.8	60.5	10.7	9.9		37.7
Tiber	<b>52.1*</b>	46.2	60.8	10.5	9.3		37.4
Wahoo	<b>55.6*</b>	<b>54.0**</b>	59.1	10.4	8.7		34.3
Yellowstone	48.4	<b>47.1*</b>	60.2	10.3	9.6		33.7
<u>Experimental</u>							
MT0495	47.9	44.3	58.9	9.9	9.4		32.4
MT0552	48.1		60.3	10.6	9.9		32.8
MTS04114	48.4	46.5	61.1	10.4	9.5		32.6
MTS04120	46.9	45.1	60.4	10.5	9.8		37.9
MTS0531	<b>48.5*</b>		60.6	10.5	9.4		31.7
MTS0532	48.1		61.2	10.5	9.0		32.4
UT9325-55	<b>48.9*</b>		59.2	10.3	9.7		35.9
Average	47.6	44.2	60.2	10.4	9.6		34.0
PLSD (p=0.05)	7.5	7.4	1.4	0.4	1.1		1.8
CV%	8.8	13.8	1.4	2.1	6.8		3.3

1/ Yields are based on a 60 pound standard bushel weight and adjusted to 13 percent moisture content.

2/ Grain protein values determined from samples bulked across replications and adjusted to 12 percent grain moisture content.

\*\* Indicates highest yielding cultivar within a column.

\* Indicates cultivars yielding equal to highest yielding cultivar within a column based on Fisher's protected LSD (p=0.05).

Forsyth Dryland Winter Wheat (Exp. 083882)

Planted:	September 12, 2007
Harvested:	August 12, 2008
Fertility:	11-52-00, 100 lb/a in-furrow at planting; 46-0-0, 65 lb/a, March 25, 2008
Herbicide:	n/a
Previous crop:	chemical fallow

Table 6. Performance of 25 commercial and experimental winter wheat cultivars tested under no-till, dryland conditions near Lodge Grass, Montana during 2008. Cultivars listed alphabetically. (Exp. 083883).

Cultivar	1/ Grain Yield			Test Weight	Grain Moisture	2/ Grain Protein		Plant Height
	2008	2007-08	2006-08			%	%	
	----- bushels/acre-----			lb/bu	%	%	inches	
<u>Commercial</u>								
Bynum	48.1	43.6	41.7	61.7	8.1	10.5	39.8	
Carter	61.8			63.1	8.5	8.5	35.1	
CDC Falcon	65.6	57.5	51.2	63.7	8.6	8.5	34.0	
Genou	60.6	54.1	49.0	63.8	8.6	9.2	40.1	
Hyalite	58.9	53.3	46.9	63.2	8.5	9.9	38.3	
Jagalene	63.9	53.6	48.5	64.6	8.7	8.7	36.8	
Ledger	<b>71.4*</b>	55.1	52.0	63.4	8.6	8.0	35.7	
Neeley	<b>72.5*</b>	66.3	57.3	63.7	8.5	8.6	42.2	
Norris	67.5	52.4	47.4	63.3	8.4	8.2	40.7	
NuSky	60.5	53.0	46.5	62.3	8.4	9.4	39.6	
Overland	63.9			62.9	8.5	8.8	35.0	
Promontory	69.5	55.8	48.9	64.1	8.5	8.7	37.7	
Pryor	<b>77.4**</b>	71.9	59.6	62.8	8.6	7.4	34.2	
Rampart	59.6	59.4	53.2	63.0	8.7	9.0	41.1	
Rocky	60.0	55.4	50.1	63.5	8.8	8.4	44.1	
Tiber	65.4	57.3	52.9	63.8	8.8	8.7	41.7	
Wahoo	<b>72.1*</b>	64.7	57.6	61.5	8.6	7.9	38.1	
Yellowstone	<b>71.8*</b>	45.6	43.3	62.6	8.4	9.1	38.8	
<u>Experimental</u>								
MT0495	<b>75.3*</b>	59.4		62.5	8.4	7.8	38.2	
MT0552	61.3			63.0	8.4	8.4	36.3	
MTS04114	69.7	56.4		63.4	8.8	8.5	35.1	
MTS04120	60.6	54.1		63.0	8.7	9.6	38.0	
MTS0531	69.4			62.8	8.4	8.0	34.1	
MTS0532	<b>71.8*</b>			63.0	8.6	7.5	35.4	
UT9325-55	<b>75.4*</b>			63.4	8.4	8.0	39.0	
Average	66.2	56.3	50.4	63.1	8.5	8.6	38.0	
PLSD (p=0.05)	7.4	ns	ns	0.7	0.2	0.9	4.8	
CV%	6.1	20.5	22.6	0.6	1.3	6.7	7.7	

1/ Yields are based on a 60 pound standard bushel weight and adjusted to 13 percent moisture content.

2 Grain protein values adjusted to 12 percent grain moisture content.

ns Indicates no significant difference between cultivars within a column based on Fisher's protected LSD (p=0.05).

\*\* Indicates highest yielding cultivar within a column.

\* Indicates cultivars yielding equal to highest yielding cultivar within a column based on Fisher's protected LSD (p=0.05).

Lodge Grass Dryland Winter Wheat (Exp. 083883)

Planted:	September 19, 2007
Harvested:	August 8, 2008
Fertility:	58-40-10-15, 100 lb/a, preplant; 46-0-0, 65 lb/a, March 26, 2008
Herbicide:	n/a
Previous crop:	chemical fallow

Table 7. Performance of 25 commercial and experimental winter wheat cultivars tested under conventional, dryland conditions near Molt, Montana during 2008. Cultivars listed alphabetically. (Exp. 083885).

Cultivar	1/ Grain Yield			Test Weight	Grain Moisture	2/ Grain Protein	Plant Height
	2008	2007-08	2006-08			%	
	----- bushels/acre-----			lb/bu	%	%	inches
<u>Commercial</u>							
Bynum	42.8	28.7	36.7	61.0	11.2	9.9	31.3
Carter	50.4			61.7	11.9	9.4	27.9
CDC Falcon	57.6	35.8	<b>44.4*</b>	61.4	11.7	8.2	28.5
Genou	52.8	36.6	<b>49.1*</b>	62.0	11.3	8.6	33.0
Hyalite	47.2	35.3	41.5	62.2	11.1	9.9	28.9
Jagalene	46.5	33.3	40.4	63.4	11.2	9.0	28.4
Ledger	57.0	40.9	<b>46.6*</b>	60.7	11.2	8.4	30.9
Neeley	<b>61.2*</b>	44.0	<b>52.2*</b>	61.7	11.1	8.7	30.6
Norris	<b>65.2**</b>	38.8	<b>44.7*</b>	62.5	10.5	8.6	32.6
NuSky	52.0	37.7	<b>44.3*</b>	61.6	11.2	8.6	31.2
Overland	54.2			61.6	12.0	8.2	30.7
Promontory	55.5	36.4	42.5	62.4	10.9	9.1	31.5
Pryor	<b>60.4*</b>	44.5	<b>49.4*</b>	61.6	11.2	8.1	28.4
Rampart	42.5	31.4	40.8	61.3	11.1	9.9	32.0
Rocky	52.9	39.1	<b>47.0*</b>	62.5	12.0	8.9	33.9
Tiber	54.2	41.1	<b>47.8*</b>	61.6	11.0	8.8	35.1
Wahoo	<b>61.3*</b>	43.5	<b>52.4**</b>	60.3	11.2	7.8	31.5
Yellowstone	<b>60.6*</b>	42.9	<b>49.5*</b>	61.3	11.0	8.7	31.1
<u>Experimental</u>							
MT0495	56.1	39.5		61.1	10.8	9.4	30.1
MT0552	<b>61.7*</b>			62.5	11.6	9.6	29.4
MTS04114	50.5	34.1		62.1	11.1	8.4	29.4
MTS04120	54.8	43.0		62.3	11.5	8.7	32.4
MTS0531	56.2			62.3	11.3	9.0	28.6
MTS0532	47.2			62.3	11.2	8.2	29.4
UT9325-55	51.4			61.0	11.1	10.4	29.8
Average	54.1	38.2	45.6	61.8	11.3	8.9	30.7
PLSD (p=0.05)	6.1	ns	8.4	0.9	0.3	ns	2.1
CV%	6.9	23.7	19.1	0.9	1.7	10.9	4.1

1/ Yields are based on a 60 pound standard bushel weight and adjusted to 13 percent moisture content.

2 Grain protein values adjusted to 12 percent grain moisture content.

ns Indicates no significant difference between cultivars within a column based on Fisher's protected LSD (p=0.05).

\*\* Indicates highest yielding cultivar within a column.

\* Indicates cultivars yielding equal to highest yielding cultivar within a column based on Fisher's protected LSD (p=0.05).

Molt Dryland Winter Wheat (Exp. 083885)

Planted:	September 13, 2007
Harvested:	August 11, 2008
Fertility:	11-52-00, 100 lb/a at planting; 46-0-0, 65 lb/a, April 2, 2008.
Herbicide:	LV6 + Affinity
Previous crop:	chemical fallow

Table 8 Grain yield<sup>1/</sup> of 29 commercial and experimental winter wheat cultivars tested at five locations in south central Montana during 2008. Varieties listed by declining average yield across all locations.

Cultivar	Rapelje	Forsyth	Lodge	2/ Hardin	Molt	Dryland	Huntley	All
	No-Till Dryland	No-Till Dryland	Grass No-Till Dryland	No-Till Dryland	Conv. Dryland	Locations Average	No-Till Irrigated	Locations Average
	----- bushels per acre -----							
Yellowstone	<b>82.3*</b>	48.4	<b>71.8*</b>	--	<b>60.6*</b>	<b>64.5*</b>	149.0	<b>81.4**</b>
Wahoo	<b>81.8*</b>	<b>55.6*</b>	<b>72.1*</b>	--	<b>61.3*</b>	<b>68.9**</b>	128.3	<b>80.8*</b>
MT0552	<b>85.7**</b>	48.1	61.3	--	<b>61.7*</b>	<b>65.9*</b>	136.0	<b>79.9*</b>
Norris	<b>83.1*</b>	<b>54.1*</b>	67.5	--	<b>65.2**</b>	<b>65.7*</b>	132.0	<b>79.0*</b>
Pryor	73.4	46.5	<b>77.4**</b>	--	<b>60.4*</b>	<b>64.9*</b>	134.8	<b>78.9*</b>
CDC Falcon	73.8	46.2	65.6	--	57.6	61.5	141.2	<b>77.5*</b>
MT0495	76.8	47.9	<b>75.3*</b>	--	56.1	<b>62.4*</b>	136.4	<b>77.2*</b>
Overland	75.3	<b>49.0*</b>	63.9	--	54.2	61.2	138.4	<b>76.7*</b>
Neeley	<b>77.8*</b>	45.9	<b>72.5*</b>	--	<b>61.2*</b>	<b>65.8*</b>	117.1	<b>76.1*</b>
MTS0531	<b>77.0*</b>	<b>48.5*</b>	69.4	--	56.2	<b>62.0*</b>	132.8	<b>76.1*</b>
Promontory	74.4	47.4	69.5	--	55.5	60.9	136.8	<b>76.0*</b>
MTS04114	73.4	48.4	69.7	--	50.5	60.8	135.5	<b>75.8*</b>
Ledger	74.6	43.3	<b>71.4*</b>	--	57.0	60.7	134.7	<b>75.5*</b>
UT9325-55	66.7	<b>48.9*</b>	<b>75.4*</b>	--	51.4	59.9	135.5	<b>75.0*</b>
MTS0532	65.2	48.1	<b>71.8*</b>	--	47.2	58.6	135.8	74.0
MTS04120	72.8	46.9	60.6	--	54.8	59.6	129.3	73.5
Carter	59.6	47.8	61.8	--	50.4	56.6	134.9	72.2
Jagalene	71.4	44.1	63.9	--	46.5	55.5	138.9	72.2
NuSky	69.0	<b>56.0**</b>	60.5	--	52.0	59.3	123.2	72.1
Tiber	68.7	<b>52.1*</b>	65.4	--	54.2	59.8	119.7	71.8
Rocky	72.5	47.1	60.0	--	52.9	58.6	119.8	70.8
Genou	62.0	43.9	60.6	--	52.8	54.4	136.0	70.7
Hyalite	73.1	37.3	58.9	--	47.2	53.5	134.9	69.8
Rampart	51.1	46.6	59.6	--	42.5	51.3	127.7	66.6
Bynum	58.5	42.1	48.1	--	42.8	46.8	122.1	61.9
Moreland <sup>§</sup>	--	--	--	--	--	--	138.5	--
UT9743-42 <sup>§</sup>	--	--	--	--	--	--	135.5	--
IDO621 <sup>§</sup>	--	--	--	--	--	--	134.7	--
Garland <sup>§</sup>	--	--	--	--	--	--	128.5	--
Average	72.0	47.6	66.2	--	54.1	60.0	132.7	74.5
PLSD (p=0.05)	8.8	7.5	7.4	--	6.1	6.9	ns	7.1
CV%	6.9	8.8	6.1	--	6.9	14.1	7.3	13.1

1/ Yields are based on a 60 pound standard bushel weight and adjusted to 13.0 percent moisture content.

2/ Location not harvested in 2008.

§ Tested under irrigated conditions at Huntley only in 2008.

ns Indicates no significant difference between cultivars within a column based on Fisher's protected LSD (p=0.05).

\*\* Indicates highest yielding cultivar within a column.

\* Indicates cultivars yielding equal to highest yielding cultivar within a column based on Fisher's protected LSD (p=0.05).

Table 9. Performance of 25 commercial and experimental winter wheat cultivars tested under dryland and irrigated conditions at 5 locations in south central Montana during 2008. Cultivars listed alphabetically.

Cultivar	1/ Grain Yield			Test Weight	Grain Moisture	2/ Grain Protein	Plant Height
	2008	2007-08	2006-08			%	
	-----bushels per acre -----			lb/bu	%	%	inches
<u>Commercial</u>							
Bynum	61.9	54.8	65.1	61.9	9.9	11.4	37.4
Carter	72.2			62.2	10.3	10.0	31.7
CDC Falcon	<b>77.5*</b>	<b>69.7*</b>	68.6	62.0	10.2	9.6	33.1
Genou	70.7	63.3	69.0	62.3	10.1	9.9	37.8
Hyalite	69.8	64.3	68.5	62.7	10.1	10.3	36.0
Jagalene	72.2	65.2	69.8	63.6	10.0	9.7	34.0
Ledger	<b>75.5*</b>	65.9	70.9	62.1	10.2	9.7	34.2
Neeley	<b>76.1*</b>	<b>68.4*</b>	69.7	62.1	10.1	9.8	37.6
Norris	<b>79.0*</b>	<b>68.6*</b>	67.6	62.9	9.7	9.5	38.2
NuSky	72.1	65.2	64.1	61.5	10.1	9.9	36.9
Overland	<b>76.7*</b>			62.1	10.4	9.6	35.3
Promontory	<b>76.0*</b>	<b>69.9*</b>	68.3	62.9	10.1	9.7	35.4
Pryor	<b>78.9*</b>	<b>73.8**</b>	73.3	61.4	10.1	9.1	33.2
Rampart	66.6	60.2	62.0	61.9	10.0	11.0	36.9
Rocky	70.8	63.0	63.7	62.8	10.4	9.7	39.6
Tiber	71.8	65.5	65.0	62.4	10.2	9.9	40.7
Wahoo	<b>80.8*</b>	<b>73.3*</b>	75.2	60.8	9.9	9.2	35.5
Yellowstone	<b>81.4**</b>	<b>70.6*</b>	75.6	62.0	10.1	9.6	36.6
<u>Experimental</u>							
MT0495	<b>77.2*</b>	<b>68.4*</b>		61.1	9.7	9.8	35.2
MT0552	<b>79.9*</b>			62.5	10.2	9.8	34.4
MTS04114	<b>75.8*</b>	67.0		62.5	10.1	9.7	33.4
MTS04120	73.5	<b>68.4*</b>		62.7	10.3	10.0	38.1
MTS0531	<b>76.1*</b>			62.3	10.0	9.8	33.0
MTS0532	74.0			62.3	10.0	9.5	34.1
UT9325-55	<b>75.0*</b>			61.4	10.0	10.3	36.8
Average	74.5	66.6	68.5	62.2	10.1	9.9	35.8
PLSD (p=0.05)	7.1	5.6	ns	0.8	0.3	0.7	1.4
CV%	13.1	17.3	18.4	1.8	4.7	9.2	5.4
Location-Years	5	11	16	5	5	5	5

1/ Yields are based on a 60 pound standard bushel weight and adjusted to 13.0 percent moisture content.

2/ Grain protein values adjusted to 12 percent grain moisture content.

ns Indicates no significant difference between cultivars within a column based on Fisher's protected LSD (p=0.05).

\*\* Indicates highest yielding cultivar within a column.

\* Indicates cultivars yielding equal to highest yielding cultivar within a column based on Fisher's protected LSD (p=0.05).

Table 10. Performance of 25 commercial and experimental winter wheat cultivars tested under dryland conditions only at 4 locations in south central Montana during 2008. Cultivars listed alphabetically.

Cultivar	1/ Grain Yield			Test Weight	Grain Moisture	2/ Grain Protein	Plant Height
	2008	2007-08	2006-08			%	
	----- bushels/acre-----			lb/bu	%	%	inches
<u>Commercial</u>							
Bynum	46.8	43.3	46.2	61.3	10.0	11.2	35.9
Carter	56.6			61.9	10.5	9.8	30.4
CDC Falcon	61.5	56.1	55.9	61.4	10.4	9.3	31.3
Genou	54.4	50.4	53.2	61.7	10.1	9.7	36.3
Hyalite	53.5	51.2	52.8	62.4	10.1	10.0	34.3
Jagalene	55.5	51.6	53.3	63.6	10.3	9.4	32.7
Ledger	60.7	55.3	56.4	61.7	10.3	9.3	33.0
Neeley	<b>65.8*</b>	<b>59.7*</b>	<b>60.2*</b>	61.9	10.0	9.3	36.3
Norris	<b>65.7*</b>	56.9	57.5	62.5	9.8	9.1	36.7
NuSky	59.3	55.6	55.0	61.5	10.0	9.5	35.5
Overland	61.2			61.8	10.6	9.4	33.7
Promontory	60.9	55.8	55.6	62.8	10.0	9.5	34.0
Pryor	<b>64.9*</b>	<b>62.9*</b>	<b>61.6*</b>	61.4	10.1	8.7	31.3
Rampart	51.3	48.9	50.4	61.4	10.1	10.6	35.6
Rocky	58.6	54.4	55.5	62.6	10.6	9.3	38.5
Tiber	59.8	56.2	56.5	62.0	10.1	9.6	38.6
Wahoo	<b>68.9**</b>	<b>63.9**</b>	<b>63.6**</b>	60.5	10.1	8.9	34.2
Yellowstone	<b>64.5*</b>	57.3	58.4	61.7	10.0	9.3	34.8
<u>Experimental</u>							
MT0495	<b>62.4*</b>	56.2		60.9	9.7	9.5	33.7
MT0552	<b>65.9*</b>			62.4	10.3	9.6	32.7
MTS04114	60.8	55.3		62.3	10.2	9.3	32.3
MTS04120	59.6	56.1		62.2	10.3	9.7	36.8
MTS0531	<b>62.0*</b>			62.3	10.2	9.2	31.4
MTS0532	58.6			62.1	10.1	9.0	32.3
UT9325-55	59.9			61.2	10.0	9.8	35.1
Average	60.0	55.1	55.8	61.9	10.2	9.5	34.3
PLSD (p=0.05)	6.9	5.2	4.4	0.8	0.3	0.8	1.5
CV%	14.1	17.7	17.6	1.6	3.2	9.8	5.5
Location Years	4	9	13	4	4	4	4

1/ Yields are based on a 60 pound standard bushel weight and adjusted to 13.0 percent moisture content.

2/ Grain protein values adjusted to 12 percent grain moisture content.

\*\* Indicates highest yielding cultivar within a column.

\* Indicates cultivars yielding equal to highest yielding cultivar within a column based on Fisher's protected LSD (p=0.05).