

## 2012 Winter Wheat Variety Evaluations in the Western Triangle Area.

Location: Western Triangle Agricultural Research Center (WTARC), Conrad, MT.

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Four off station locations were grown 2012. Off station trials were grown north of Cut Bank, MT, north of Devon, MT, near the 'Knees' east of Brady, MT, and northeast of Choteau, MT in Teton county.

Results: Winter wheat variety data are shown in Tables 1 thru 6.

Off station plots were harvested at Choteau, Devon, and the 'Knees'. The Cut Bank location was lost due to a hailstorm. The data are presented in Tables 1 thru 5, with Table 6 being the soil test results.

The 2012 growing season at WTARC began with a bit warmer temperatures than normal and a little less rain, followed by a dry and slightly warmer than the long term average summer. Grain yields, test weights, and protein at the 'Knees' were very close to the four year average (Table 4 and 5). Grain yields and test weights at the Devon location were also close to the three year average, whereas the protein was slightly higher than average (Tables 2 and 3).

Top yielding varieties at the Choteau location were Pryor, MTS0819, and Yellowstone. MT0871, MTS0819, and MT08172 were the high yielding varieties at Devon. Top yielders at the 'Knees' include Overland, MTS0826, and MTS0832.

Off station cooperators: Bradley Farms, north of Cut Bank, MT  
Brian Aklestad, north of Devon, MT  
Aaron Killion, east of Brady, MT  
Inbody Farms, northeast of Choteau

Detailed descriptions of most of the varieties tested are included in Extension Bulletin 1098 "Performance Summary of Winter Wheat Varieties in Montana", available at County Agent Offices. Additional observations concerning the varieties are presented in the following pages.

MWBC FY2014 Grant Submission Plans: A similar project will be proposed for FY 2014.

Table 1. Off-station winter wheat variety trial (Exp. 3866) located east of Choteau, MT. Teton county. Western Triangle Ag. Research Center. 2012.

Cultivar	Stem Solidness Score*	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
Pryor	-	48.8	58.9	26.0	14.5
MTS0819	- +	47.9	59.5	23.3	14.3
Yellowstone	-	47.1	58.5	28.3	14.3
Ledger	9.5	45.8	59.6	23.7	14.0
MT0871	-	45.8	58.8	25.7	14.2
MT08172	- +	45.4	58.2	28.7	13.9
Accipiter	-	44.6	58.2	25.7	14.6
MTS0832	-	43.6	60.8	29.0	13.5
MTS0826	- +	43.6	60.7	28.7	14.7
WB-Quake	22.9	43.5	58.3	26.7	14.2
Judee	22.7	42.8	59.9	25.0	13.9
CDC Falcon	7.1	42.6	58.2	25.3	14.4
MTS0808	23.9	42.0	58.8	24.3	14.5
MTCL1077	- +	41.7	58.3	29.0	13.8
Decade	-	40.9	59.6	26.7	14.3
Genou	23.0	40.7	58.9	26.3	14.2
Bearpaw	22.5	39.4	59.0	24.0	14.2
Jerry	-	38.0	59.0	28.0	15.0
MTCL 1067	-	37.6	58.6	27.3	14.1
Rampart	24.5	37.5	58.9	28.0	14.5
Overland	- +	36.8	60.3	25.3	15.0
Jagalene	-	33.0	61.0	24.3	14.5
AP 503 CL2	-	32.6	60.4	24.0	13.9
Norris (CL)	-	32.2	60.6	26.0	12.9
Mean		41.4	59.3	26.2	14.2
LSD (0.05)		5.4	0.8	2.2	
C.V. (%)		7.9	0.9	5.2	
P-value (Varieties)		<0.0001	<0.0001	<0.0001	

Cooperator and Location: Inbody Farms, Teton county.

Planted: October 4, 2011 on chem-fallow Harvested: August 22, 2012

Fertilizer, actual lbs/a: 11-22-0 applied with seed and 30-0-20 urea blended with potash were broadcast at seeding. Spring topdressing took place on 5/15/2012 with 91-0-0.

Herbicide: None

Precipitation: No data.

\* = Solid stem sawfly-resistant (solid stem score of 19 or higher) and were determined at the on station intrastate winter wheat nursery. + = New to off station trial for 2012.

Conducted by MSU Western Triangle Ag. Research Center.

Table 2. Off-station winter wheat variety trial (Exp. 3865) located north of Devon, MT. Toole county. Western Triangle Ag. Research Center. 2012.

Cultivar	Stem Solidness Score*		Yield bu/ac	Test weight lb/bu	Plant height in	Protein %	Lodging %
MT0871	-		36.0	57.2	24.7	14.2	1.0
MTS0819	-	+	34.5	59.2	23.3	13.8	0.3
MT08172	-	+	33.5	57.1	25.7	14.9	1.7
WB-Quake	22.9		32.9	57.0	24.0	14.2	0.3
Decade	-		32.5	59.0	24.7	14.5	2.0
CDC Falcon	7.1		32.1	56.0	23.7	14.5	0.0
MTCL1077	-	+	31.9	56.9	26.7	14.1	3.7
MT S0826	-	+	31.2	58.9	27.3	14.1	1.7
Genou	23.0		31.0	57.5	27.0	14.9	2.7
MTS0808	23.9		30.8	58.3	24.0	13.9	0.7
Accipiter	-		30.7	55.8	25.0	14.5	2.7
Bearpaw	22.5		30.7	56.2	22.7	15.0	0.7
Pryor	-		30.4	58.9	24.0	13.7	2.7
MTCL1067	-		30.1	56.7	27.0	14.6	2.0
MT S0832	-		29.6	59.8	26.0	14.2	1.3
Rampart	24.5		29.2	58.0	26.3	15.1	0.0
Yellowstone	-		29.1	56.9	26.3	14.4	1.0
Jagalene	-		29.0	59.3	24.7	14.3	7.3
Overland	-	+	28.9	59.5	23.7	13.0	2.3
Ledger	9.5		26.2	58.9	25.3	13.7	0.0
Norris (CL)	-		25.1	56.9	25.0	14.7	1.0
Jerry	-		24.6	57.1	24.7	14.8	7.7
AP 503 CL2	-		24.4	57.1	24.0	15.6	1.3
Judee	22.7		24.1	57.8	23.0	15.3	1.3
Mean			29.9	57.8	24.9	14.4	1.9
LSD (0.05)			ns	1.6	1.8		3.8
C.V. (%)			14	1.6	4.3		123
P-value (Varieties)			0.0602	<0.0001	<0.0001		0.0126

Cooperator and Location: Brian Aklstad Farm, Toole county.

Planted: September 17, 2011 on chem-fallow. Harvested: August 7, 2012

Fertilizer, actual lbs/a: 56-22-20; 11-22-0 applied with seed and urea blended with potash were topdressed on 5/9/2012.

Sprayed with Huskie at 11 oz/a and Axial XL at 16.4 oz/a on 5/16/2012.

Precipitation: 5.5 inches, then gauge disappeared.

\* = Solid stem sawfly-resistant (solid stem score of 19 or higher) and were determined at the on station intrastate winter wheat nursery. + = New to off station trial for 2011.

Conducted by MSU Western Triangle Ag. Research Center.

Table 3. Three-year averages, Winter Wheat varieties, Devon area, Eastern Toole County. 2010-2012.

Variety	Class	3-Year Average			
		Yield bu/a	Test weight	Height in.	Protein %
Accipiter	-	35.1	57.2	24.7	13.2
Bearpaw	22.5	28.4	57.6	23.7	13.6
CDC Falcon	7.1	33.1	57.2	23.6	13.2
Decade	-	37.2	59.3	25.9	13.3
Genou	23.0	32.2	58.0	26.8	13.6
Jagalene	-	30.0	58.7	25.6	13.2
Jerry	-	32.9	57.5	25.1	13.3
Judee	22.7	29.5	58.8	24.4	13.7
Ledger	9.5	27.1	59.5	25.0	12.6
MTS0826	-	37.9	59.3	26.2	13.2
MTS0832	-	31.1	57.7	25.8	12.9
Norris CL	-	25.7	57.6	26.1	13.2
Pryor	-	25.7	57.3	24.7	12.6
Rampart	24.5	24.7	57.3	25.3	14.2
Yellowstone	-	32.7	57.1	25.3	13.0
Mean		30.9	58.0	25.2	13.3

\*\* = Solid stem sawfly-resistant (solid stem score of 19 or higher).

\* = Less preferred by sawfly (behavioral preference) in small plots.

Cooperator and Location: Brian Aklestad, Eastern Toole County.

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Table 4. Off-station winter wheat variety trial (Exp. 3862) located at the Knees. Chouteau county. Western Triangle Ag. Research Center. 2012.

Cultivar	Stem Solidness Score*		Yield bu/ac	Test weight lb/bu	Plant height in	Protein %	Lodging %
Overland	-	+	72.0	62.5	33.3	11.8	6.7
MTS0826	-	+	68.9	60.6	34.3	12.8	5.7
MT S0832	-		68.2	60.4	33.7	13.0	7.0
Decade	-		67.8	60.6	31.0	12.8	9.0
MT S0808	23.9		66.8	60.0	30.3	12.2	0.7
CDC Falcon	7.1		66.6	60.6	29.3	12.6	3.3
MTCL1067	-		66.5	59.3	35.7	12.6	35.0
MTCL1077	-	+	65.2	57.6	33.0	13.0	28.3
MTS0819	-	+	64.8	58.9	29.7	12.6	2.7
MT08172	-	+	63.1	58.9	31.7	12.4	30.0
WB-Quake	22.9		63.0	59.9	31.0	12.4	6.0
MT0871	-		61.5	57.4	32.3	13.6	18.3
Ledger	9.5		60.3	60.5	28.7	12.0	10.0
Yellowstone	-		60.1	57.7	33.0	13.3	23.3
Pryor	-		59.8	59.1	30.7	11.7	10.0
Accipiter	-		59.4	59.4	31.0	12.8	3.3
Jagalene	-		58.3	62.4	30.3	12.2	15.0
Judee	22.7		57.0	60.0	30.0	13.5	3.5
AP 503 CL2	-		54.9	60.1	28.7	13.8	13.3
Norris (CL)	-		54.9	59.9	33.3	13.1	18.3
Bearpaw	22.5		54.0	58.1	31.3	13.3	6.7
Jerry	-		53.2	58.0	34.7	13.5	28.3
Rampart	24.5		50.5	59.7	33.7	13.1	6.7
Genou	23.0		50.2	59.1	35.0	13.2	21.0
Mean			61.1	59.6	31.9	12.8	13.0
LSD (0.05)			10.5	1.3	1.8		13.2
C.V. (%)			10.5	1.4	3.4		62
P-value (Varieties)			0.0018	<0.0001	<0.0001		<0.0001

Cooperator and Location: Aaron Killion, eastern Chouteau county.

Planted: September 19, 2011 on chem-fallow Harvested August 1, 2012.

Fertilizer, actual lbs/a: 125-22-20; 11-52-0 applied with seed and urea (40 lbs N/a) blended with potash were broadcast while seeding. The balance of the N was applied topdress on 5/15/2012.

Sprayed with Powerflex at 3.5 ox/a on 4/24/2012. Precipitation, rain gauge cracked.

\* = Solid stem sawfly-resistant (solid stem score of 19 or higher) and were determined at the on station intrastate winter wheat nursery. + = New to off station trial for 2011.

Conducted by MSU Western Triangle Ag. Research Center.

Table 5. Four-year averages, Winter Wheat varieties, Knees area, western Chouteau County. 2009-2012.

Variety	Class	4-Year Average			
		Yield bu/a	Test weight	Height in.	Protein %
Yellowstone	-	65.4	58.3	33.6	13.2
MTS0826	-	63.6	60.2	34.4	13.3
MTS0832	-	62.5	58.9	34.9	12.6
CDC Falcon	7.1	60.1	59.3	29.3	13.4
Decade	-	59.8	59.6	32.2	13.1
Jagalene	-	58.6	61.0	31.7	12.6
Ledger	9.5	58.3	59.8	29.7	12.4
Pryor	-	58.1	58.5	30.5	12.8
Judee	22.7	58.1	60.1	30.2	13.5
Accipiter	-	57.7	59.0	31.9	13.2
Bearpaw	22.5	57.0	58.7	31.6	13.3
Norris CL	-	55.0	59.7	35.5	12.9
Genou	23.0	53.7	59.2	40.7	13.2
Rampart	24.5	52.6	59.7	33.8	13.5
Jerry	-	51.0	58.3	33.6	13.2
Mean		58.1	59.3	32.9	13.1

\*\* = Solid stem sawfly-resistant (solid stem score of 19 or higher).

\* = Less preferred by sawfly (behavioral preference) in small plots.

Cooperator and Location: Aaron Killion, western Chouteau County.

Conducted by MSU Western Triangle Ag. Research Center.

Table 6. Soil test values for off station plots, 2012.

Location	N (lbs/a) <sup>1</sup>	Olsen-P (ppm)	K (ppm)	pH	OM (%)	EC (mmhos/cm)
Cut Bank	68.5	18	428	7.3	3.0	0.4
Devon	44	17	343	7.1	1.1	0.16
Knees	43.5	18	475	7.9	3.1	0.56
Choteau	134	12	515	8.2	2.9	0.59

<sup>1</sup>Nitrogen soil samples were to a depth of four feet in one foot increments. All other soil tests were for zero to six inches in depth.