

## 2013 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 2013. 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: Off station plots were harvested at Choteau, Devon, and the 'Knees'. The Cut Bank location was lost due to a sprayer boom hanging over the plot. The data are presented in Tables 1 thru 6, with Table 7 being the soil test results.

Grain yields, test weights, and protein at the 'Knees' were slightly below the four year average (Table 5 and 6). Grain yields at Devon were much higher than the four year average due to a greater amount on precipitation than is usually received in that area. Test weights at the Devon location were a pound per bushel higher than the three year average, whereas the protein was one percent lower than the four year average (Tables 3 and 4). The Choteau location was quite dry this past growing season. The data for Choteau are presented in Tables 1 and 2. Due to dry conditions yields were lower than expected and the protein percentages were quite high.

Top yielding varieties at the Choteau location were Jagalene, Overland, and Bearpaw. MTW08168, MT 0978, and Overland were the high yielding varieties at Devon. Top yielders at the 'Knees' include MT 0978, SY Clearstone 2CL, and MT 1078.

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 FY2015 Grant Submission Plans: A similar project will be proposed for FY 2015.

Table 1. Off-station Winter Wheat variety trial (Exp. 3866) located east of Choteau, MT. Teton county. Western Triangle Ag. Research Center, 2013.

Variety Or ID	Stem Solidness Score*		Yield (bu/ac)	Test weight (lb/bu)	Plant height (in)	Protein (%)	Lodging (%)
Jagalene	-		58.2	59.8	29.3	15.5	19
Overland	-		57.6	59.1	32.0	15.2	11
Bearpaw	22.8		55.7	58.5	30.0	15.8	3
MT1078	-	+	52.5	57.1	28.7	16.1	22
MTS1024	18.9	+	51.3	56.8	29.3	16.0	11
Genou	21.5		51.2	59.3	34.4	16.3	8
MT1090	-	+	50.9	57.7	32.3	16.0	8
Yellowstone	-		50.3	57.9	31.0	15.6	8
CDC Falcon	7.1		49.0	56.4	29.0	15.7	8
Norris (CL)	-		48.0	57.7	33.7	15.9	14
Judee	22.3		46.4	58.0	28.7	16.3	0
MTS0832	24.7		45.9	58.6	28.3	16.4	3
MTW08168	-	+	44.2	58.5	29.3	16.9	14
Colter	-		43.2	56.6	30.3	17.4	8
Decade	-		41.6	57.0	28.0	17.3	14
Warhorse	22.6		41.6	56.8	29.0	16.0	0
Jerry	-		41.1	57.2	32.0	16.9	11
SY Clearstone 2CL	-		41.1	57.8	31.3	17.2	11
MT0978	-	+	37.3	56.4	28.0	18.1	8
Ledger	10.0		36.9	57.0	28.0	16.8	3
Rampart	23.5		35.6	58.5	32.3	17.7	3
MTCS1202	-	+	35.5	54.4	27.0	17.1	8
Accipiter	-		33.8	56.6	27.3	17.4	0
WB-Quake	21.1		33.4	56.9	25.7	17.1	0
Mean			45.1	57.5	29.8	16.5	8.2
LSD (0.05)			ns	1.8	2.8		10.0
C.V. (%)			21.9	1.9	5.7		73

Cooperator and Location: Inbody Farms, Teton county.

Planted: September 12, 2012 on chem-fallow Harvested: August 17, 2013

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 6/12/2013 with 70-0-0. Fertilizer rate was determined through soil test data and a yield goal of 70 bu/a.

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 2013.

Conducted by MSU Western Triangle Ag. Research Center.

Table 2. Two-year means, Winter Wheat varieties, Choteau area, Teton County, 2011-2013.

Variety	**	2-Year Mean			
		Yield (bu/a)	Test weight	Height (in)	Protein (%)
Yellowstone	-	48.7	58.2	29.7	15.0
Bearpaw	-	47.6	58.8	28.0	15.0
Genou	**	46.0	59.1	30.4	15.3
CDC Falcon	*	45.8	57.3	27.2	15.1
Jagalene	-	45.6	60.4	26.8	15.0
MTS0832	**	44.8	59.7	28.7	15.0
Judee	**	44.6	59.0	26.9	15.1
Ledger	*	41.4	58.3	25.9	15.4
Decade	-	41.3	58.3	27.4	15.8
Norris CL	-	40.1	59.2	29.9	14.4
Jerry	-	39.6	58.1	30.0	16.0
Accipiter	-	39.2	57.4	26.5	16.0
Rampart	**	36.6	58.7	30.2	16.1
Mean		43.2	58.6	28.2	15.3

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

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

Cooperator and Location: Inbody Farm, Teton County.

Conducted by MSU Western Triangle Ag. Research Center.

Table 3. Off-station Winter Wheat variety trial (Exp. 3865) located north of Devon, MT. Toole county. Western Triangle Ag. Research Center, 2013.

Variety Or ID	Stem Solidness Score*		Yield (bu/a)	Test weight (lb/bu)	Plant height (in)	Protein (%)	Lodging (%)
MTW08168	-	+	88.7	60.7	33.3	11.6	26
MT0978	-	+	88.2	60.3	29.3	11.6	19
Overland	-		86.9	60.8	30.3	11.2	11
Yellowstone	-		86.1	58.9	30.3	12.2	33
Decade	-		85.2	60.1	29.3	11.4	22
Bearpaw	22.8		85.1	60.3	30.0	12.2	8
MT1078	-	+	85.1	57.9	29.3	12.0	8
Jerry	-		82.8	59.4	33.7	11.8	11
MTS1024	18.9	+	82.4	59.0	28.7	12.2	26
Jagalene	-		82.0	61.4	29.3	11.9	37
MTCS1202	-	+	80.2	59.3	27.7	12.5	22
Judee	22.3		79.9	59.6	29.3	13.2	11
CDC Falcon	7.1		79.5	59.1	29.0	12.4	33
Ledger	10.0		79.5	60.3	28.3	12.2	22
SY Clearstone 2CL	-		78.9	58.8	30.3	11.8	48
Colter	-		78.3	59.9	31.7	12.1	26
Accipiter	-		77.8	60.0	31.0	11.8	11
WB-Quake	21.1		77.6	59.8	30.0	11.8	8
MT1090	-	+	76.8	58.5	31.0	12.2	41
Warhorse	22.6		75.7	58.5	29.3	12.9	22
Genou	21.5		74.0	60.0	33.7	12.2	48
Norris (CL)	-		72.0	60.4	32.0	12.1	59
MTS0832	24.7		70.6	59.2	33.0	11.4	14
Rampart	23.5		69.6	60.4	33.0	11.9	14
Mean			80.2	59.7	30.5	12.0	24.2
LSD (0.05)			12	1.3	2.2		ns
C.V. (%)			9.1	1.3	4.5		97

Cooperator and Location: Brian Aklestad Farm, Toole county.

Planted: September 17, 2012 on chem-fallow. Harvested: August 14, 2013

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 6/8/2013 with 13-0-0. Fertilizer rate was determined through soil test data and a yield goal of 50 bu/a.

Herbicide: None Precipitation: 7.5 inches

\* = 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 4. Four-year means, Winter Wheat varieties, Devon area, Eastern Toole County, 2010-2013.

Variety	**	4-Year Mean			
		Yield (bu/a)	Test weight	Height (in)	Protein (%)
Decade	-	48.1	59.0	25.9	12.9
Yellowstone	-	47.8	57.5	25.3	12.8
Accipiter	-	45.6	57.9	24.7	12.9
Jerry	-	45.4	58.0	25.1	12.9
Judee	**	45.4	58.8	24.4	13.6
CDC Falcon	-	45.1	57.9	23.6	13.0
Bearpaw	**	44.8	58.7	23.7	13.3
Jagalene	-	43.0	59.4	25.6	12.9
Genou	**	42.6	58.8	26.8	13.3
MTS0832	**	41.0	58.1	25.8	12.5
Ledger	*	40.2	59.7	25.0	12.5
Norris CL	-	37.3	58.3	26.1	12.9
Rampart	**	35.9	58.2	25.3	13.6
Mean		43.4	58.5	25.3	13.0

\*\* = 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.

Conducted by MSU Western Triangle Ag. Research Center.

Table 5. Off-station winter wheat variety trial (Exp. 3862) located at the Knees, Chouteau county. Western Triangle Ag. Research Center, 2013.

Variety Or ID	Stem Solidness Score*		Yield (bu/a)	Test weight (lb/bu)	Plant height (in)	Protein (%)	Lodging (%)
MT0978	-	+	78.3	62.8	27.7	13.6	9
SY Clearstone 2CL	-		68.1	62.0	31.3	13.5	28
MT1078	-	+	62.4	61.8	25.7	13.0	17
Yellowstone	-		61.8	62.0	28.0	13.5	15
Colter	-		59.5	62.5	26.7	13.3	12
MTW08168	-	+	59.5	62.2	29.7	13.6	15
Judee	22.3		59.0	63.7	24.3	14.0	16
MTS1024	18.9	+	56.7	62.5	24.3	13.3	15
Decade	-		56.2	62.9	25.3	14.3	4
MTCS1202	-	+	55.6	61.8	24.0	14.1	3
Jerry	-		55.1	62.1	28.7	13.6	18
Accipiter	-		55.0	63.8	23.7	13.6	3
Warhorse	22.6		54.0	62.8	25.0	13.5	5
Ledger	10.0		53.8	63.1	24.0	12.6	15
MT1090	-	+	53.7	62.1	27.7	13.4	17
MTS0832	24.7		53.0	62.6	27.7	13.2	6
CDC Falcon	7.1		52.0	62.5	23.7	13.7	6
Norris (CL)	-		49.3	63.3	28.0	13.7	8
WB-Quake	21.1		47.1	62.9	23.3	13.7	8
Jagalene	-		47.0	64.3	25.7	14.2	16
Overland	-		47.0	62.0	24.3	13.7	16
Genou	21.5		43.5	63.6	24.7	14.2	37
Rampart	23.5		41.6	62.6	26.3	14.4	22
Bearpaw	22.8		38.9	62.4	22.7	13.9	12
Mean			54.5	62.7	25.9	13.7	13.4
LSD (0.05)			13	0.6	2.4		15.2
C.V. (%)			14.5	0.6	5.7		69

Cooperator and Location: Aaron Killion, eastern Chouteau county.

Planted: September 13, 2012 on chem-fallow Harvested: August 15, 2013.

Fertilizer, actual lbs/a: 96-22.5-20; 11-52-0 applied with seed and urea blended with potash (30-0-20) were broadcast while seeding. The balance of the N was applied topdress on 4/6/2013. The plot was fertilized to a yield goal of 60 bu/a.

Sprayed with Olympus at 0.6 oz/a and Roundup WeatherMax at 6 oz/a on 9/13/2012.

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 2013.

Table 6. Four-year means, Winter Wheat varieties, Knees area, western Chouteau County, 2010-2013.

Variety Or ID	**	4-Year Mean			
		Yield (bu/a)	Test weight (lbs/bu)	Height (in)	Protein (%)
Yellowstone	-	63.8	59.2	32.2	13.3
MTS0832	**	60.1	59.9	33.1	12.8
Decade	-	58.9	60.4	30.5	13.4
Judee	**	58.3	61.0	28.7	13.6
CDC Falcon	-	58.1	60.1	27.9	13.5
Ledger	-	57.2	60.6	28.3	12.5
Accipiter	-	57.1	60.2	29.9	13.3
Jagalene	-	55.7	61.8	30.2	13.0
Norris CL	-	53.6	60.6	33.5	13.1
Bearpaw	**	52.5	59.6	29.4	13.4
Jerry	-	52.0	59.3	32.4	13.3
Genou	**	51.2	60.3	32.9	13.5
Rampart	**	49.9	60.4	31.9	13.7
Mean		56.0	60.3	30.8	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: Aaron Killion, western Chouteau County.

Conducted by MSU Western Triangle Ag. Research Center.

Table 7. Soil test values for off station plots for crop year 2013.

Location	N (lbs/a) <sup>1</sup>	Olsen-P (ppm)	K (ppm)	pH	OM (%)	EC (mmhos/cm)
Cut Bank	44.7	14	495	7.4	2.8	0.41
Devon	33	7	170	8.9	0.9	0.86
Knees	59.5	25	414	7.3	2.6	0.57
Choteau	71.5	13	580	8.0	3.0	0.51

<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.