

**Title:** 2011 Off-Station Winter Wheat evaluations in the Western Triangle Area

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**Objectives:** Evaluate Winter Wheat varieties and promising new lines in the Western Triangle area.

**Results:** Results are tabulated in Table 1 for the Cut Bank location and Table 2 for the location north of Devon. Table 3 and Table 4 are for the Knees and Pendroy locations. Top yielding varieties at Cut Bank were WB Quake, MT0871, and Yellowstone. Judee, Yellowstone, and MT0871 were the high yielding varieties at Devon. Varieties with the highest yields at the Knees were MT0871, Yellowstone, and MTCL1067 and Yellowstone, MT0871, and MTCL1067 were the high yielders at the Pendroy location.

**Summary:** Yields ranged from 42 to 104 bu/acre at the Cut Bank location, with a 12 percent average for protein across all varieties, and 21 to 43 bu/acre north of Devon with an average of 12.7 percent protein. The Knees yields ranged from 44 to 66 bu/a with 13.3% average for protein. The Pendroy site yields ranged from 31 to 51 bu/a with 13 percent average in protein content across all varieties.

Rust was not sprayed at the Cut Bank and Devon location. Rust was sprayed for by the farmers at the Knees and Pendroy locations as the crop surrounding the plots was winter wheat infested with rust. Some varieties at Cut Bank and Devon were highly affected by the rust. Test weights were lower than expected at Cut Bank and Devon. Yellowstone and MT0871 ranked in the top three with respect to yield at all off station locations.

No long term data are reported for either location as this was the second year of reestablishing the off station winter wheat plots in the Western Triangle area.

**Funding Summary:** Office of Special Projects will provide expenditure information. No other grants support this project.

**MWBC FY2013 Grant Submission Plans:** A similar project will be proposed for FY 2013.

Table 1. Off-station winter wheat variety trial (Exp. 3864) located north of Cut Bank, MT. Glacier County. Western Triangle Ag. Research Center. 2011.

Cultivar			Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
WB-Quake	*	+	103.8	61.8	33.7	12.3
MT0871		+	101.5	60.5	33.0	12.1
Yellowstone			97.6	59.2	34.0	11.3
Judee (MTS0713)	**		96.6	62.9	30.0	12.3
MT S0808	**	+	92.7	61.0	31.0	13.7
AP 503 CL2		+	84.7	58.6	29.7	12.2
MTCL1067		+	83.8	58.4	37.0	12.1
MTCL1068		+	83.1	56.6	34.7	11.7
Rampart	**		78.0	59.7	36.0	12.5
Jagalene			75.0	58.1	33.3	11.5
MT S0826	**		71.8	58.1	34.7	11.8
CDC Falcon			67.4	59.0	27.7	11.3
Bearpaw (MTS0721)	**		65.3	55.0	30.3	12.1
Bynum (CL)	*		63.5	61.5	32.7	12.4
Ledger			61.2	56.6	30.0	11.2
Accipiter			58.9	56.2	30.3	11.4
Decade			57.4	53.5	29.3	12.8
Genou	*		57.2	58.0	32.3	11.5
Norris (CL)			56.8	55.9	34.3	12.3
Pryor			55.3	52.7	29.0	12.0
MTCL1003	**	+	49.7	53.4	36.0	12.2
Jerry			46.9	50.8	37.0	11.9
Wahoo			45.6	48.7	31.0	11.6
MT S0832	**		42.1	51.3	33.7	11.9
Average			70.7	57.0	32.5	12.0
LSD (0.05)			10.9	3.1	2.5	
C.V. (%)			9.4	3.4	4.6	
P-value (Varieties)			<0.0001	<0.0001	<0.0001	

Cooperator and Location: Bradley Farms, northern Glacier County.

Planted: October 4, 2010 on chem-fallow Harvested: September 28, 2011

Fertilizer, actual lbs/a: 161-20-20; 11-52-0 applied with seed and urea blended with potash were topdressed on 6/6/2011, plus 46 lbs/a N applied by commercial applicator about the 1<sup>st</sup> of June.

Sprayed with Huskie at 11 oz/a and Axial XL at 16.4 oz/a on 6/13/2011.

Precipitation from 5/11/2011 until harvest was: 6.75 inches.

\*\* = Sawfly tolerant (solid stem score of 19 or higher). \* = Some sawfly tolerance. + = New to off station trial for 2010.

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. 2011.

Cultivar		Yield bu/ac	Test weight lb/bu	Plant height in	Protein %	Lodging %
Judee (MTS0713)	**	42.9	58.1	26.0	12.7	1.7
Yellowstone		39.9	56.3	25.7	12.5	10.0
MT0871	+	38.4	56.6	24.3	12.0	10.0
WB-Quake	* +	38.2	58.3	26.0	13.8	0.7
MTCL1067	+	38.1	56.4	27.7	12.7	16.7
Bearpaw (MTS0721)	**	37.4	59.1	23.7	12.6	0.0
MT S0826	**	36.4	58.0	26.3	13.2	0.0
CDC Falcon		34.6	58.0	22.7	12.5	5.7
Accipiter		34.3	56.8	24.0	12.7	6.0
Jerry		32.8	57.5	27.3	12.4	10.0
Decade		32.7	57.4	24.3	12.8	6.7
MTS0808	** +	32.3	57.7	23.3	13.1	0.0
Jagalene		32.2	58.9	26.3	12.4	23.3
MTCL1068	+	32.0	53.5	27.3	12.6	20.0
Genou		29.2	59.0	27.0	12.5	0.7
Wahoo		28.9	54.4	25.0	12.7	12.3
MT S0832	**	28.2	55.2	28.3	11.8	0.0
MTCL1003	** +	26.8	55.7	27.0	12.8	0.0
Bynum (CL)	*	26.6	59.0	27.7	13.3	0.7
AP 503 CL2	+	26.5	58.2	25.3	13.7	18.3
Rampart	**	24.8	57.8	26.3	13.2	0.0
Ledger		24.0	59.5	24.0	12.1	0.0
Pryor		21.5	57.1	24.7	12.2	4.0
Norris (CL)		21.4	56.5	25.0	12.1	13.3
Average		31.7	57.3	25.6	12.7	6.7
LSD (0.05)		10.3	2.3	2.6		6.4
C.V. (%)		19.9	2.5	6.1		58.4
P-value (Varieties)		0.0022	0.0002	0.0008		<.0001

Cooperator and Location: Aklstad Farms, Toole County.

Planted: October 5, 2010 on chem-fallow. Harvested: August 16, 2011

Fertilizer, actual lbs/a: 161-22-20; 11-52-0 applied with seed and urea blended with potash were topdressed on 5/20/2011.

Sprayed with Huskie at 11 oz/a and Axial XL at 16.4 oz/a on 6/13/2011.

Precipitation from 4/27/2011 until harvest was: 10.15 inches.

\*\* = Sawfly tolerant (solid stem score of 19 or higher). \* = Some sawfly tolerance. + = New to off station trial for 2010.

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Table 3. Off-station winter wheat variety trial (Exp. 3862) located at the Knees. Chouteau County. Western Triangle Ag. Research Center. 2011.

Cultivar		Yield bu/ac	Test weight lb/bu	Plant height in	Protein %	Lodging %
MT0871	+	65.6	58.2	31.0	12.9	2.7
Yellowstone		62.6	58.4	36.0	13.4	6.0
MTCL1067	+	62.5	58.3	36.7	13.0	5.0
MT S0808	** +	60.7	59.3	32.3	12.9	1.7
CDC Falcon		54.9	58.8	31.0	13.4	5.0
MTCL1068	+	54.8	55.7	36.0	13.4	8.3
WB-Quake	* +	54.7	58.5	34.0	13.3	6.0
Judee (MTS0713)	**	52.5	59.7	28.3	14.0	8.3
Bearpaw (MTS0721)	**	52.3	58.8	33.3	13.2	10.0
MT S0826	**	51.2	59.5	34.7	13.9	4.3
Ledger		51.1	59.5	31.3	12.6	25.0
Jagalene		51.0	60.4	33.7	12.3	9.3
Rampart	**	51.0	59.6	35.0	14.1	5.7
Accipiter		50.8	58.7	34.0	13.7	2.7
AP 503 CL2	+	50.2	59.1	30.7	14.4	14.0
Decade		49.2	58.2	33.3	13.2	2.3
Norris (CL)		49.0	59.5	36.7	12.7	7.7
Bynum (CL)	*	48.8	61.1	37.0	13.2	31.0
Pryor		47.9	58.0	31.0	13.9	1.3
Genou	*	46.3	58.8	37.0	13.9	10.7
MTCL1003	** +	45.5	57.9	35.0	13.1	3.7
MT S0832	**	45.0	57.0	35.7	12.8	1.7
Jerry		44.3	58.1	33.7	13.0	4.7
Wahoo		43.6	56.7	33.7	12.6	3.3
Average		51.9	58.7	33.8	13.3	7.5
LSD (0.05)		4.5	1.2	3.3		12.9
C.V. (%)		5.3	1.2	6.0		104
P-value (Varieties)		<.0001	<.0001	<.0001		0.0044

Cooperator and Location: Aaron Killion, eastern Chouteau County.

Planted: October 1, 2010 on chem-fallow Harvested August 17, 2011

Fertilizer, actual lbs/a: 41-22-20; 11-52-0 applied with seed and urea blended with potash were topdressed on 6/6/2011.

Sprayed with Huskie at 11 oz/a and Axial XL at 16.4 oz/a on 6/13/2011. Tebustar was flown on at a rate of 4 oz/a on July 4, 2011 to control rust.

Precipitation, rain gauge cracked.

\*\* = Sawfly tolerant (solid stem score of 19 or higher). \* = Some sawfly tolerance. + = New to off station trial for 2010.

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Table 4. Off-station winter wheat variety trial (Exp. 3863) located North East of Pendroy, MT. Teton County. Western Triangle Ag. Research Center. 2011.

Cultivar	Yield bu/ac	Test weight lb/bu	Plant height in	Protein %
Yellowstone	50.9	60.9	30.3	12.3
MT0871	48.7	60.0	29.0	13.0
MTCL1068	48.7	60.2	30.3	12.3
Wahoo	48.3	60.4	30.7	12.1
Genou	42.4	61.6	33.3	13.1
MTCL1067	42.1	61.2	29.7	12.0
Decade	42.0	62.1	27.3	13.2
Pryor	42.0	63.1	25.7	12.8
Jagalene	41.6	64.1	29.7	13.4
MT S0826	41.3	62.1	29.3	13.0
Norris (CL)	40.4	62.3	30.3	12.1
WB-Quake	39.2	61.8	26.3	13.3
Rampart	38.4	61.0	31.7	13.0
MTCL1003	38.2	59.7	29.0	13.3
MT S0832	38.0	61.1	28.3	13.0
Ledger	37.8	63.0	26.3	12.2
Accipiter	37.7	61.1	26.3	12.9
Jerry	34.6	60.9	28.7	13.0
MT S0808	34.3	61.4	27.0	13.3
CDC Falcon	34.1	61.0	25.3	13.6
Bynum (CL)	33.5	62.0	31.3	13.6
Bearpaw (MTS0721)	33.3	61.8	26.7	13.1
AP 503 CL2	32.7	62.7	26.7	13.3
Judee (MTS0713)	31.2	61.0	26.3	14.2
Average	39.6	61.5	28.6	13.0
LSD (0.05)	Ns	1.2	2.5	
C.V. (%)	18.2	1.1	5.4	
P-value (Varieties)	0.0563	<.0001	<.0001	

Cooperator and Location: Lindsey Martin, North East Teton County.

Planted: September 30, 2010 on chem-fallow Harvested: August 18, 2011

Fertilizer, actual lbs/a: 150-22-20; 11-52-0 applied with seed and urea blended with potash were topdressed on 6/6/2011.

Sprayed with Huskie at 11 oz/a and Axial XL at 16.4 oz/a on 6/13/2011. The plot was sprayed with Monsoon at 4 oz/a on 6/25/2011 for rust control.

Precipitation: N/A.

\*\* = Sawfly tolerant (solid stem score of 19 or higher). \* = Some sawfly tolerance. + = New to off station trial for 2010.

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Table 6. Soil test values for off station plots, 2011.

Location	N (lbs/a) <sup>1</sup>	Olsen-P (ppm)	K (ppm)	pH	OM (%)	EC (mmhos/cm)
Cut Bank	60.5	18	523	7.0	3.2	0.38
Devon	25.5	22	322	7.4	0.8	0.19
Knees	139.8	38	800	7.5	3.6	1.01
Pendroy	28.5	21	287	8.0	3.4	0.47

<sup>1</sup>Nitrogen soil tests were sampled to a depth of four feet in one foot increments with the exception of the Pendroy site where the samples were to a depth of two feet. All other soil tests were for zero to six inches in depth.