

Title: 2012 Off-Station Spring Barley evaluations in the Western Triangle Area

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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: Results are tabulated in Table 1 for the irrigated barley nursery and Table 2 is six year averages for selected varieties in the irrigated barley nursery. Table 3 is for the Choteau location. Tables 4 and 5 are for the Devon location, with Table 6 and 7 representing the 'Knees' location. Table 8 is of the soil test values for the off station plots. The Cut Bank location was lost due to a hailstorm.

Grain yields averaged 78.3 bu/a the irrigated barley, 37.9 bu/a at the Choteau location, and 46.1 bu/a at Devon, while the barley averaged 54.0 bu/a at the 'Knees'. Kernel plumpness averaged 75.4% at Choteau, 77.8% at Devon, and 81.1% at the 'Knees'. Top yielding varieties at Choteau were MT070158, Eslick, and MT070159. Top yielding barleys north of Devon were Champion, MT070158, and MT070159. While top yielding barleys at the Knees location were Champion, MT080279, and Harrington.

Summary: Yields ranged from 30.5 to 44.3 bu/acre at Coteau, 35.9 to 53.5 bu/a at Devon, and 46.5 to 62.0 bu/a at the Knees. Yields in the irrigated trail ranged from 65.0 to 89.5 bu/a.

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

Table 1. Irrigated Barley variety trial, Conrad 2012.

Variety	Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	Head date	Height in.
Champion	89.5	53.9	96.4	1.1	9.4	178.3	32.7
Eslick	89.1	52.9	94.2	2.2	8.8	184.3	32.7
MT070158	85.5	52.6	97.2	1.0	9.3	180.0	30.0
MT080279	81.5	52.3	95.5	1.7	8.9	179.0	27.7
MT070159	80.6	52.6	96.7	1.1	9.6	179.7	30.0
Geraldine	80.1	53.1	94.0	2.1	8.5	184.3	32.3
MT010160	80.0	53.7	96.0	1.3	9.8	180.3	30.7
Haxby	79.6	55.2	96.6	1.4	9.7	179.0	32.7
Gallatin	79.4	53.8	95.1	1.8	9.9	178.0	29.7
Conrad	78.1	52.6	97.6	1.0	9.2	181.3	26.7
Tradition	77.1	50.4	96.2	0.6	9.7	177.7	35.0
Metcalfe	75.8	52.2	95.9	1.5	9.5	180.3	30.7
Harrington	71.1	51.8	95.3	1.6	9.3	180.0	32.0
CDC Cowboy	70.5	53.6	98.4	0.7	10.3	181.7	39.0
Hockett	69.1	52.3	96.0	1.6	9.5	179.3	31.0
Amsterdam	65.0	53.3	98.0	0.7	11.1	179.0	32.0
Mean	78.3	52.9	96.2	1.3	9.5	180.1	31.5
LSD (.05)	11.2	0.6	1.2	0.5		1.6	5.5
C.V. (%)	8.6	0.68	0.74	22.0		0.52	10.5
P-value (0.05)	0.0043	<0.0001	<0.0001	<0.0001		<0.0001	0.0318

Planted April 17, 2012 on no-till. Harvested August 20, 2012.

Fertilizer, actual: 41-22-20, 11-52-0 placed with seed, Urea and potash topdressed while seeding.

Sprayed with Bronate @ 1.5 pt/a and Axial @ 16.4 oz/a on 6/2/2012.

Irrigated with 7.55 inches of water. Precipitation from planting to harvest: 7.10 inches.

Location: MSU Western Triangle Ag Research Center, Conrad, MT.

Table 2. 6-year averages, irrigated (Expt. 3719) Barley varieties, Conrad, MT, 2005 - 2009
2011 - 2012.

Variety	6-Year Average						
	Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	Head date	Height in.
Geraldine	104.0	53.0	90.2	3.3	11.1	186	30
Haxby	100.1	54.4	93.0	2.6	11.2	182	32
Conrad	99.0	52.0	92.2	3.3	11.3	184	30
Hockett	92.4	52.6	91.6	4.0	11.3	181	31
Harrington	90.5	49.7	83.7	6.3	11.3	184.	32
Metcalf	90.4	51.7	90.3	3.9	11.5	184	33
Mean	96.7	52.1	90.5	3.5	11.6	183.3	31.6

Location: MSU Western Triangle Ag. Research Center, Conrad, MT.

Table 3. Off-station spring barley variety trial located in the Choteau area.
Western Triangle Ag. Research Center. 2012.

Variety	Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	Plant Ht (in)
MT070158	44.3	46.8	84.2	6.3	14.1	25.0
Eslick	42.7	48.2	58.3	17.5	15.8	19.3
MT070159	42.1	46.0	79.3	9.5	15.5	21.7
Champion	41.3	50.2	76.3	7.5	12.4	25.3
Geraldine	40.2	49.6	71.6	14.0	14.4	20.0
Conrad	40.1	47.8	74.4	12.8	15.7	20.7
MT010160	38.4	47.9	75.9	10.0	14.5	23.7
Haxby	38.2	50.4	63.8	14.5	13.3	21.3
MT080279	38.0	46.8	80.7	8.3	15.0	23.3
Harrington	37.6	46.8	77.6	9.4	14.1	22.3
Amsterdam	37.1	47.1	76.5	10.8	14.6	23.7
Hockett	35.9	47.8	74.6	10.8	14.1	21.3
Metcalf	35.4	47.7	82.8	6.3	13.9	23.7
Tradition	32.2	45.2	69.4	12.6	14.8	27.7
Gallatin	31.9	49.0	73.3	12.7	13.8	24.0
CDC Cowboy	30.5	49.3	88.1	4.8	13.5	30.3
Average	37.9	47.9	75.4	10.5	14.3	23.3
LSD (.05)	7.1	1.4	8.0	4.9		3.5
C.V.	11.3	1.8	6.4	27.9		9.0
P-Value (0.05)	0.0119	<0.0000	<0.0000	0.0005		<0.0000

Cooperator and Location: Inbody Farms , Teton county.

Planted April 21, 2012 on chem-fallow. Harvested August 17, 2012.

Fertilizer, actual lbs/a: 22-22-20. 11-52-0 Placed with seed while planting. Topdressed with 10-0-20 while planting.

Herbicide: None

Precipitation: N/A, rain gauge cracked

Table 4. Off-station spring barley variety trial located in the Devon area.
Toole County, Western Triangle Ag. Research Center. 2012.

Variety	Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein	Plant Ht (in)
Champion	53.5	50.6	73.2	5.9	10.2	25.7
MT070158	49.9	48.0	77.3	3.0	10.2	25.0
MT070159	49.0	47.6	84.2	3.8	10.3	23.7
Conrad	48.9	48.5	87.3	4.1	10.4	25.3
Eslick	48.8	49.6	74.8	7.6	9.5	22.0
Tradition	48.3	47.0	78.3	5.0	10.7	29.0
Geraldine	47.4	47.7	54.1	16.9	10.4	23.0
MT010160	47.3	47.7	76.1	6.9	10.2	25.3
MT080279	46.7	47.1	78.3	6.4	9.8	24.7
Haxby	45.7	48.9	74.7	6.9	9.7	24.0
Hockett	45.6	48.0	79.0	6.1	9.7	25.0
Harrington	45.1	46.2	78.8	7.5	10.8	25.0
Metcalf	43.3	46.7	81.3	5.4	10.9	26.3
Gallatin	43.0	47.6	67.5	10.9	10.8	26.3
CDC Cowboy	40.0	48.9	88.9	3.5	11.5	33.3
Amsterdam	35.9	46.4	90.4	3.0	12.1	25.3
Average	46.1	47.9	77.8	6.4	10.5	25.6
LSD (.05) =	6.8	2.7	13.4	5.7		2.6
C.V. =	8.8	3.3	12.6	52.7		6.2
P-Value (0.05)	0.0033	0.1297	0.0219	0.0036		<0.0000

Cooperator and Location: Brian Aklestad, eastern Toole county.

Planted April 19, 2012 on chem-fallow. Harvested August 7, 2012.

Fertilizer, actual lbs/a: 22-22-20. 11-52-0 placed with seed while planting. Topdressed with 10-0-20 while planting.

Herbicide: None

Precipitation from April 19, 2012 until rain gauge was stolen was: 5.5 inches.

Table 5. 3-year averages, dryland Barley varieties, Devon . 2010- 2012.

Variety	3-Year Average					
	Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	Height in.
Haxby	54.9	51.1	80.5	6.3	9.4	24.9
Harrington	54.5	47.9	85.9	5.1	9.7	24.2
Geraldine	55.0	48.9	69.0	13.3	9.7	23.5
Metcalfe	52.3	48.4	85.8	4.7	9.8	26.2
Hockett	49.7	48.7	81.4	7.1	9.6	25.7
Conrad	57.2	48.7	88.2	3.9	10.0	24.7
Gallatin	54.0	48.8	78.5	7.9	9.8	26.7
Tradition	55.0	48.1	83.5	5.3	10.1	28.4
Mean	54.1	48.9	81.5	6.7	9.7	25.5

Table 6. Off-station spring barley variety trial located in the Knees area.
Chouteau County, Western Triangle Ag. Research Center, 2012.

Variety	Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	Plant Ht (in)
Champion	62.0	51.6	76.4	4.9	9.9	31.0
MT080279	60.3	49.3	81.7	4.8	10.2	26.0
Harrington	56.7	49.4	88.7	3.3	10.6	30.0
Geraldine	56.2	50.1	66.2	13.2	10.3	26.3
MT070158	55.5	48.6	86.4	4.1	11.6	26.7
Eslick	55.4	50.2	65.6	11.2	9.9	25.3
MT070159	55.3	49.3	84.3	3.8	10.3	27.0
Haxby	55.1	52.4	72.5	7.5	10.4	28.7
Metcalf	54.2	49.5	87.9	3.6	10.6	31.3
MT010160	52.9	50.5	84.3	4.3	10.3	30.3
Hockett	52.7	49.7	81.1	6.5	10.6	29.3
Conrad	52.7	48.7	77.8	7.5	11.4	27.3
Gallatin	52.0	51.5	87.1	3.7	10.2	31.0
CDC Cowboy	48.9	50.0	91.8	2.8	12.3	38.3
Tradition	47.9	48.1	79.1	3.6	10.6	33.3
Amsterdam	46.5	49.8	86.1	3.1	13.0	26.7
Mean	54.0	49.9	81.1	5.5	10.8	49.9
LSD (.05)	4.4	1.1	12.2	4.8		1.1
C.V.	4.9	1.4	9.0	52.4		1.4
P-Value (0.05)	<0.0001	<0.0001	0.0022	0.0029		<0.0001

Cooperator and Location: Aaron Killion, western Chouteau county.

Planted April 22, 2012 on chem-fallow. Harvested August 1, 2012.

Fertilizer, actual lbs/a: 22-22-20. 11-52-0 placed with seed while planting. Topdressed with 10-0-20 while planting.

Herbicide: Preplant sprayed with 20 oz/a with Roundup WeatherMax® on April 22, 2012

Precipitation: N/A cracked rain guage

Table 7. 4-year averages, dryland Barley varieties, Knees, MT, 2009 - 2012.

Variety	4-Year Average					
	Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	Height in.
Conrad	69.7	50.1	83.6	5.9	13.2	26.7
Haxby	69.4	52.7	81.8	5.4	12.4	27.4
Harrington	68.8	50.1	87.9	4.5	12.5	28.0
Geraldine	68.3	50.2	68.7	14.1	12.7	25.2
Gallatin	64.3	51.3	85.2	5.5	12.3	28.5
Metcalfe	64.0	50.2	86.8	4.6	12.7	29.2
Hockett	63.7	50.3	85.8	5.8	12.3	27.7
Mean	66.9	50.7	82.8	6.5	12.6	27.8

Table 8. Soil test values for off station plots, 2012.

Location	N (lbs/a) ¹	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

¹Nitrogen 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.