

Title: Off-station **Barley** variety evaluations in the Western Triangle Area.

Year: 2008

Location: Western Triangle Research Center, Conrad, MT.

Personnel: Gregory D. Kushnak, Ag Research Center, Conrad; and
Tom Blake & Stan Bates, MSU Plant Science Dept.

Dryland off-station barley variety trials were grown in Teton County near Choteau, and Glacier County near Cut Bank. These locations have different environments with Teton having a warmer, longer growing season than Cut Bank. The trials were no-till planted on chem-fallow.

Results: Data for the Choteau and Cut Bank locations are presented in Tables 1 - 4, and include 2008 and multi-year averages. Table 5 is a summary of tests at three Western Triangle variety-test locations over the past five years, and is equivalent to 15 tests.

The growing season was unusually cool in 2008, resulting in barley heading dates seven days later than average. The cooler temperatures allowed for increased water-use efficiency, resulting in high percent plump, test weight and yield. Protein and plant height were 1.4% and 4 inches less than average, respectively.

Nearly all malt varieties in these dryland trials met or exceeded market requirements for test weight and plump in 2008. Averaged over the past five years, the 2-row malt varieties Craft and Hockett had above-average yield, test weight and percent plump, and were substantially higher than Harrington and Metcalfe for those traits, as well as being 2 to 4 days earlier to head (Table 5). Malt status of Hockett appears promising, and Craft has been AMBA approved for organic malt production. Both varieties are intended for use in dryland malt barley production.

The feed varieties Haxby and Boulder had the highest five-year averages for yield and test weight on dryland (Table 5).

Future Plans: Off-station variety testing in the Western Triangle area for 2009 is uncertain, pending staff and project replacements.

Table 1. Off-station **Barley** variety trial near Choteau, 2008.

Variety	Spike	Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	Height in.
Baronesse	2	94.7	50.7	90	4.4	15.3	28
Drummond	6	92.3	51.9	91	1.4	14.8	33
MT020204	2	90.6	51.6	92	3.7	15.3	29
Champion	2	89.6	53.1	97	1.5	13.8	30
Tradition	6	89.3	52.1	94	0.8	14.7	34
Legacy	6	88.8	49.9	93	1.6	14.5	33
Boulder	2	88.3	53.4	95	1.8	15.8	28
MT020155	2	87.4	52.6	90	2.6	14.5	30
Stellar	6	85.2	50.7	96	0.9	14.1	31
Craft	2	84.6	52.6	94	1.6	14.2	31
Haxby	2	83.9	55.4	93	2.0	14.4	28
Geraldine	2	82.8	50.4	79	8.6	15.5	27
Harrington	2	81.1	49.9	92	3.2	14.7	29
Eslick	2	80.7	50.0	78	10.3	14.8	27
Metcalfe	2	80.5	50.7	94	2.2	14.8	28
Xena	2	78.6	50.4	89	4.7	13.8	29
Hockett	2	78.5	52.3	94	2.2	14.3	29
Merit	2	75.9	46.3	81	8.2	14.9	25
Conrad	2	75.4	49.6	92	2.7	15.8	28
MT010158	2	74.6	52.3	94	1.9	15.1	30
Average		84.1	51.3	90.9	3.3	14.8	29.4
LSD (.05) =		6.9					
C.V. =		5.10					

Cooperator & Location: Scott & Roy Inbody, east of Choteau, MT.

Planted April 29, 2008. Harvested Aug 13, 2008.

Fertilizer, actual: 11-52-0

Conducted by MSU Western Triangle Ag Research Center.

Table 2. Five-year averages, **Barley** varieties, Choteau area, 2004 - 08.

Variety	Rows/ spike	5-Year Average					Height in.
		Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	
Haxby MSU	2	84.2	52.9	65	11	15.5	34
Boulder WestBred	2	82.1	50.5	64	16	16.9	32
Craft MSU	2	80.7	50.2	74	8	15.8	36
Tradition Busch Ag	6	79.6	46.2	48	22	16.4	36
Drummond N. Dak.	6	79.4	45.7	48	25	16.0	38
Hockett MSU	2	79.4	49.9	72	10	15.4	34
Xena WestBred	2	78.5	47.8	56	16	15.6	33
Eslick MSU	2	78.1	48.4	51	20	16.0	33
Stellar N. Dak.	6	74.2	45.9	61	17	15.3	36
Conrad Busch Ag	2	73.6	47.1	60	17	16.9	32
Metcalfe	2	72.4	47.2	60	16	16.9	34
Harrington	2	71.1	46.4	53	19	16.5	33
Legacy Busch Ag	6	71.0	45.2	45	26	16.1	37
Geraldine MSU	2	70.9	47.6	42	28	16.9	32
Merit Busch Ag	2	68.3	44.4	50	23	16.8	32
average		76.4	47.8	56.8	18.1	16.2	34.0

Cooperator & Location: Scott & Roy Inbody, east of Choteau, MT.
 Conducted by MSU Western Triangle Agr Research Center.

Table 3. Off-station **Barley** variety trial near Cut Bank, 2008.

Variety	Spike	Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	Height in.
Champion WestBred	2	54.6	52.1	95	1.7	10.1	28
Haxby MSU	2	53.6	53.8	95	1.5	11.1	27
Boulder WestBred	2	53.0	53.1	98	0.8	10.5	28
Craft MSU	2	52.6	51.5	96	0.9	11.0	27
Hockett MSU	2	47.8	51.5	96	1.1	10.8	26
MT020155	2	47.8	50.7	95	1.7	11.2	28
Eslick MSU	2	47.2	49.9	92	2.2	9.1	22
Harrington	2	46.7	50.4	97	0.9	10.3	28
MT020204	2	46.5	52.1	97	0.9	10.7	26
Xena WestBred	2	46.1	50.7	96	0.9	9.6	28
Stellar N. Dak	6	42.6	49.9	95	1.6	10.8	29
Baronesse	2	42.2	50.4	98	0.8	8.9	22
Geraldine MSU	2	42.0	50.5	95	1.8	10.0	25
Drummond N. Dak	6	40.3	49.2	96	1.3	11.7	28
Conrad Busch AG	2	40.1	48.9	98	0.8	10.2	27
Legacy Busch Ag	6	39.6	49.0	94	1.4	10.1	29
Metcalfe	2	39.5	50.0	96	1.6	10.9	28
Tradition Busch Ag	6	39.2	50.4	98	0.5	11.6	26
Merit Busch Ag	2	38.7	47.4	94	1.6	8.9	22
MT010158	2	34.7	51.6	97	1.2	10.7	26
Average		44.7	50.7	95.9	1.3	10.4	26.5
LSD (.05) =		6.1					
C.V. =		8.71					

Cooperator & Location: Kevin Bradley, north of Cut Bank, MT.
 Planted April 28, 2008. Harvested Aug 24, 2008.
 Fertilizer, actual: 11-52-0
 Conducted by MSU Western Triangle Ag Research Center.

Table 4. Five-year averages, **Barley** varieties, Cut Bank area, 2004 - 08.

Variety	Rows/ spike	5-Year Average					Height in.
		Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	
Eslick MSU	2	66.6	49.8	77	13	10.6	28
Haxby MSU	2	65.9	52.3	76	14	11.4	29
Boulder WestBred	2	65.3	51.9	81	10	13.4	29
Xena WestBred	2	65.3	50.0	76	12	10.8	29
Craft MSU	2	65.1	51.0	83	7	11.7	31
Legacy Busch Ag	6	65.0	46.7	75	16	13.4	32
Harrington	2	64.0	48.9	79	11	11.0	29
Stellar N. Dak.	6	63.0	47.1	80	11	12.8	32
Tradition Busch Ag	6	62.9	48.3	80	10	11.4	32
Hockett MSU	2	62.8	50.6	81	10	11.4	28
Geraldine MSU	2	62.3	50.0	75	16	11.2	28
Metcalfe	2	62.0	49.6	80	11	11.6	30
Drummond N. Dak	6	61.5	47.5	77	15	13.8	32
Conrad Busch Ag	2	61.2	49.0	82	9	13.9	29
Merit Busch Ag	2	57.7	46.8	77	13	13.4	28
average		63.5	49.4	78.7	11.9	13.3	29.7

Cooperator & Location: Kevin Bradley, north of Cut Bank, MT.
 Conducted by MSU Western Triangle Agr Research Center.

Table 5. Multi-Year x Location Averages - **Barley** varieties, Western Triangle Area.

Variety	Rows/ spike	15-Year x Location Dryland Average*						
		Yield bu/a	Test Wt lb/bu	Plump %	Thin %	Protein %	Height in.	Head date**
Haxby	2	78.6	53.3	74.8	9.5	12.8	30.9	180
Boulder	2	78.2	52.2	78.1	9.3	14.2	30.5	181
Eslick	2	76.2	50.0	67.3	14.1	12.6	29.9	183
Hockett	2	76.1	51.1	81.7	7.5	12.8	30.7	179
Craft	2	75.9	51.4	82.5	5.9	13.1	33.2	181
Tradition	6	74.0	48.2	66.7	12.8	13.3	33.7	180
Conrad	2	73.5	48.9	75.3	10.4	14.3	29.7	182
Drummond	6	73.1	47.6	67.0	15.7	13.9	34.3	179
Stellar	6	73.0	47.5	70.6	11.2	13.2	33.2	180
Legacy	6	72.3	47.0	64.0	16.6	13.8	34.1	180
Metcalfe	2	72.1	49.2	73.9	10.5	13.6	31.7	182
Harrington	2	72.1	48.5	72.6	11.5	13.2	30.9	183
Geraldine	2	72.1	49.7	59.7	18.3	13.2	29.3	183
Merit	2	67.1	46.7	67.8	14.3	14.1	29.2	184
average		73.9	49.4	71.6	12.0	13.4	31.5	181

** Head date, Conrad only.

* Conrad dryland 5-yr + Choteau 5-yr + Cut Bank 5-yr.

Years included 2004 thru 2008. Comparable average calculations.

Cooperators: Kevin Bradley, Cut Bank; Roy and Scott Inbody, Choteau.
 Conducted by MSU Western Triangle Agr Research Center.