

**TITLE:** 2009 Statewide Barley Performance Trials

**PRINCIPLE INVESTIGATOR:** Tom Blake & Stan Bates. Research Center personnel involved with this project include Gregg Carlson, Peggy Lamb, Ken Kephart, Bob Stougaard, Dave Wichman, Joyce Eckhoff, and John Miller.

**OBJECTIVES:** Evaluate the effects of differing systems on crop and variety performance under diverse environments represented across the Montana Agricultural Experiment Station – Research Center Network.

**RESULTS:** The statewide (intrastate) Barley Variety Nursery was grown at six dryland locations and five irrigated locations in the state. The dryland locations were Bozeman, Conrad, Havre, Huntley, Moccasin, and Sidney. The irrigated locations include Bozeman, Conrad, Huntley, Kalispell, and Sidney. Tables 1 and 9 summarize averages for all traits. Specific performance traits at each location can be found in Tables 2-8 for dryland, and Tables 10-16 for irrigated production. (Note: In the following tables, experimental variety MT960101 is labeled as ‘Geraldine’ but it has not officially been released or named at the time of this report.)

In dryland trials the top yielder was Champion, a two-row variety which averaged nearly 86 bushels/acre. Other two-row varieties that yielded in the same group included Baroneese, Conrad, and Hockett. Goldeneye was the only 6-row variety that did not yield significantly less than Champion. Haxby and Champion had the highest test weight, although nearly all varieties had good test weights in 2009. Of the twelve released varieties, Goldeneye had the earliest heading date, while Conrad was the latest to head. Goldeneye and Conrad were the shortest varieties, while Craft was the tallest. Craft lead the released varieties in percent plump at 95.6% within a range of 78.0 to 96.4 for all varieties in the trial.

In irrigated trials Goldeneye led all released varieties at 141.6 bushels/acre. The top statistical group also included Champion, Baronesse, Haxby, Craft, and Conrad. As in the dryland trials, Goldeneye had the earliest heading date. In evaluation of quality factors, Tradition had the highest percent plump but one of the lowest test weights for the released varieties.

**FUNDING SUMMARY:** Expenditure information will be provided by OSP upon request.

**MWBC FY2011 GRANT SUBMISSION PLANS:** Plans are to submit this project for funding consideration in the next fiscal year.

Table 1. 2009 Montana Dryland Intrastate Barley Statewide\* Average - All Traits

Cultivar	Yield bu/acre	Test		Thin %	Heading	Plant	Protein %
		Weight lbs/acre	Plump %		Date Julian	Height in.	
Baronesse	83.4	52.3	94.7	2.1	182.7	23.6	12.8
Bentley	72.7	51.6	93.8	2.9	179.2	25.8	12.7
Champion	85.9	52.8	94.7	2.1	179.4	25.0	12.2
Conrad	79.7	51.4	94.9	1.9	183.0	23.2	13.3
Craft	72.7	52.6	95.6	1.7	178.9	26.9	12.6
Geraldine	75.1	51.9	89.3	4.4	183.8	22.7	12.9
Goldeneye	78.9	49.3	86.1	5.4	176.9	23.2	12.0
Harrington	72.1	51.6	91.9	3.4	181.7	23.7	12.7
Haxby	70.9	53.1	94.0	2.3	179.3	24.4	12.6
Hockett	75.2	52.2	93.9	2.4	179.9	24.4	12.4
Metcalfe	72.6	52.2	94.8	2.0	180.0	24.9	13.0
Tradition	68.3	50.9	93.9	1.8	178.2	26.6	12.9
MT010158	75.4	51.7	93.4	2.8	180.8	24.5	13.3
MT010160	77.2	52.2	92.9	3.2	181.7	25.9	12.6
MT020155	76.8	50.9	90.2	3.9	177.2	24.2	12.5
MT020162	76.4	52.1	92.0	3.7	182.4	26.0	12.8
MT020167	70.2	52.4	94.4	2.1	180.5	24.9	12.6
MT020204	78.2	52.4	93.7	2.7	179.3	24.8	13.0
MT020205	76.1	51.7	93.6	3.0	179.9	25.1	12.8
MT030042	73.6	52.9	89.6	4.7	179.9	22.7	11.5
MT030063	73.6	52.8	95.3	2.0	181.7	26.3	12.5
MT030079	70.4	52.9	94.2	2.3	180.2	24.9	12.6
MT040073	73.3	52.9	92.3	2.9	180.7	24.3	12.7
MT040209	82.5	52.4	92.9	2.7	182.8	23.9	12.2
MT040226	71.9	53.9	93.1	2.6	180.4	25.2	12.2
MT050030	82.6	51.8	95.3	1.6	181.3	25.0	11.8
MT050048	70.7	53.4	95.5	1.6	180.7	25.8	13.0
MT050049	75.7	53.2	95.5	1.7	179.7	26.2	12.3
MT050062	73.5	52.9	94.1	2.9	181.5	26.6	11.9
MT050201	66.6	52.4	95.1	2.0	179.2	26.2	12.6
MT061011	61.1	47.5	86.3	4.8	176.6	21.3	10.7
MT061025	55.6	47.7	84.6	5.2	177.1	22.2	10.8
MT061026	59.9	47.8	82.9	6.1	178.2	21.3	10.9
MT061032	81.3	51.8	90.6	4.1	182.9	22.9	12.5
MT061035	82.9	51.8	94.0	2.2	182.3	23.6	12.3
MT061036	84.3	51.9	93.9	2.3	182.9	23.5	12.8
MT061045	85.8	52.0	92.5	3.5	182.8	23.9	12.5
MT061047	81.0	51.6	92.0	3.4	182.6	22.8	12.6
MT061048	84.5	51.7	91.5	3.3	182.2	23.2	12.6
MT061104	71.9	51.4	96.4	1.5	180.2	24.4	12.8

*Continued*

Table 1. Continued

Cultivar	Yield bu/acre	Test	Plump %	Thin %	Heading	Plant	Protein %
		Weight lbs/acre			Date Julian	Height in.	
MT061134	71.1	50.6	95.3	1.8	181.3	25.2	13.1
MT061169	78.0	52.2	90.3	4.0	182.7	22.8	13.1
MT061201	71.5	52.1	92.2	4.6	178.3	26.7	12.7
MT061207	72.9	51.9	96.4	1.3	178.8	24.8	12.6
MT061225	78.3	52.1	94.8	1.9	180.3	23.1	12.5
MT061248	75.2	51.9	96.3	2.5	179.1	23.1	12.6
MT070062	73.6	51.5	92.3	2.9	182.3	23.9	13.0
MT070063	74.2	52.6	93.7	2.4	178.6	26.4	12.4
MT070086	81.2	51.5	93.1	2.7	183.5	19.7	12.2
MT070087	71.9	52.5	86.9	6.3	181.9	22.2	12.5
MT070111	80.6	52.4	93.0	2.6	181.0	24.9	12.4
MT070125	79.6	52.5	94.7	2.3	181.8	25.0	12.3
MT070136	73.9	52.1	82.2	2.3	182.3	24.6	13.1
MT070148	75.3	51.5	95.9	1.5	180.7	23.6	12.5
MT070156	78.1	51.1	91.3	3.6	181.2	22.0	12.3
MT070157	81.9	52.0	94.6	2.2	181.3	23.1	12.2
MT070158	74.6	51.6	92.9	2.8	181.9	22.5	12.3
MT070159	79.3	51.2	92.2	3.0	181.3	22.2	12.4
MT070161	78.4	51.9	93.8	2.5	180.6	22.6	12.5
MT070174	69.7	51.8	96.4	1.6	178.8	24.4	11.7
MT070175	79.7	51.6	95.2	1.8	180.2	25.4	11.3
MT070192	66.8	47.5	82.8	8.1	177.3	22.2	10.5
MT070193	69.4	48.1	85.2	6.8	177.4	21.5	10.2
MT070219	69.9	49.7	78.0	9.5	177.4	24.8	10.7
<b>Mean</b>	75.09	51.65	92.26	3.09	180.48	24.10	12.35
<b>C.V.</b>	10.32	1.26	5.80	73.88	0.70	4.86	3.92
<b>L.S.D.</b>	8.81	0.74	6.08	2.60	1.43	1.33	0.55

\* Locations: Havre, Sidney, Moccasin, Huntley, Conrad, Bozeman

Table 2. 2009 Montana Dryland Intrastate Barley - Yield (bu/acre)

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
Champion	81.8	53.7	54.3	73.1	107.8	144.8	85.9
MT061045	77.2	46.1	54.8	90.3	102.0	144.6	85.8
MT061048	77.9	47.2	52.8	88.2	101.9	139.2	84.5
MT061036	75.7	46.7	54.1	86.9	103.3	138.8	84.3
Baronesse	73.3	49.4	50.4	84.1	103.1	140.2	83.4
MT061035	82.3	45.0	55.4	77.7	98.5	138.7	82.9
MT050030	55.1	53.6	55.9	84.4	95.0	151.7	82.6
MT040209	70.7	47.3	56.8	79.0	96.8	144.6	82.5
MT070157	76.9	47.4	61.1	67.9	92.3	146.1	81.9
MT061032	75.0	45.3	52.3	72.1	103.8	139.2	81.3
MT070086	78.5	54.2	52.9	61.7	106.5	133.2	81.2
MT061047	76.6	44.8	57.6	76.5	91.7	139.0	81.0
MT070111	76.3	42.4	53.6	72.3	97.3	141.8	80.6
MT070175	74.3	43.0	55.7	80.3	89.4	135.5	79.7
Conrad	70.3	45.9	48.2	81.6	100.2	132.1	79.7
MT070125	58.4	49.1	54.5	79.7	99.2	136.8	79.6
MT070159	78.3	49.7	49.8	77.7	85.9	134.4	79.3
Goldeneye	62.7	45.8	53.6	85.8	100.9	124.5	78.9
MT070161	70.3	44.2	54.0	75.2	86.4	140.4	78.4
MT061225	71.7	47.8	50.8	78.2	85.9	135.6	78.3
MT020204	73.9	50.2	55.0	64.3	87.1	138.6	78.2
MT070156	78.0	41.2	50.9	72.4	84.7	141.3	78.1
MT061169	66.3	45.3	56.0	74.5	92.5	133.5	78.0
MT010160	72.1	46.5	57.7	76.0	82.3	128.7	77.2
MT020155	77.1	49.2	54.1	68.4	86.1	126.1	76.8
MT020162	68.9	47.2	54.0	66.8	87.1	134.6	76.4
MT020205	69.9	43.2	56.2	63.9	81.8	141.6	76.1
MT050049	63.0	50.4	55.4	71.8	90.1	123.7	75.7
MT010158	66.5	49.8	51.8	70.8	82.5	131.1	75.4
MT070148	69.1	43.7	57.4	66.3	92.5	122.5	75.3
MT061248	72.4	40.6	52.5	72.1	86.5	127.4	75.2
Hockett	71.3	42.2	55.0	67.6	90.7	124.4	75.2
Geraldine	70.3	40.0	55.7	63.0	92.6	128.8	75.1
MT070158	67.0	46.1	52.3	57.0	90.5	134.5	74.6
MT070063	47.3	43.4	56.3	61.9	96.4	140.1	74.2
MT070136	58.5	43.5	56.6	58.4	97.4	128.7	73.9
MT030063	52.7	44.3	61.9	62.0	85.2	135.8	73.6
MT030042	72.9	51.6	56.2	63.2	88.0	109.4	73.6
MT070062	61.8	38.5	54.0	62.4	93.8	130.7	73.6
MT050062	49.4	51.1	59.4	51.5	94.1	135.6	73.5
MT040073	58.1	50.0	53.6	62.1	86.4	129.8	73.3
MT061207	72.4	53.0	51.7	62.2	77.6	120.5	72.9
Bentley	70.1	44.3	52.3	49.2	95.9	124.2	72.7
Craft	37.3	45.7	49.7	73.0	96.0	134.2	72.7

*Continued*

Table 2. Continued

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
Metcalfe	69.4	46.8	50.4	58.3	90.7	120.2	72.6
Harrington	69.9	40.9	49.6	52.0	92.3	128.2	72.1
MT061104	63.3	36.2	53.9	52.9	89.4	136.1	71.9
MT040226	53.3	41.8	53.4	66.5	85.2	131.3	71.9
MT070087	66.4	42.2	48.5	64.7	81.5	127.9	71.9
MT061201	66.8	40.4	51.5	68.1	81.8	120.6	71.5
MT061134	65.5	32.4	50.7	63.7	85.1	129.2	71.1
Haxby	48.3	46.1	52.5	58.4	92.5	127.9	70.9
MT050048	41.2	48.0	54.5	56.9	85.9	137.8	70.7
MT030079	45.9	46.5	56.1	58.3	83.3	132.4	70.4
MT020167	64.0	50.1	52.6	65.3	81.5	107.7	70.2
MT070219	69.5	35.8	51.0	52.4	90.9	119.6	69.9
MT070174	68.7	46.6	51.9	52.8	74.0	124.4	69.7
MT070193	71.1	41.7	55.6	75.2	75.9	97.1	69.4
Tradition	51.5	41.5	46.8	61.2	85.7	122.9	68.3
MT070192	68.0	44.5	53.2	64.0	77.6	93.6	66.8
MT050201	38.9	40.6	53.7	54.6	81.6	130.0	66.6
MT061011	65.3	36.7	45.3	41.6	83.1	94.6	61.1
MT061026	63.7	35.1	44.6	38.7	76.5	101.0	59.9
MT061025	59.6	30.1	43.0	37.3	67.3	96.6	55.6
<b>Mean</b>	66.25	44.90	53.33	66.82	89.80	129.47	75.10
<b>C.V</b>	9.60	7.50	5.91	14.68	7.60	4.30	8.26
<b>L.S.D</b>	12.63	8.58	7.50	19.38	13.32	8.38	11.63

Table 3. 2009 Montana Dryland Intrastate Barley - Test Weight (lbs/bushel)

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT040226	52.5	53.1	54.6	52.8	54.4	56.1	53.9
MT050048	51.1	52.8	55.1	52.7	53.4	55.1	53.4
MT050049	51.8	53.0	54.4	51.3	53.9	55.1	53.2
Haxby	52.0	52.3	54.1	51.6	54.1	54.2	53.1
MT040073	51.2	53.2	53.9	51.4	53.3	54.5	52.9
MT030042	51.9	52.2	54.4	51.6	53.9	53.4	52.9
MT030079	51.3	52.5	54.5	51.6	53.5	54.1	52.9
MT050062	51.2	52.0	54.3	51.2	53.5	55.0	52.9
MT030063	51.9	52.8	53.6	51.0	53.1	54.6	52.8
Champion	51.7	51.8	54.5	51.1	53.6	53.9	52.8
MT070063	50.6	52.2	53.5	51.7	53.6	54.1	52.6
Craft	51.5	51.5	54.5	50.8	53.2	54.3	52.6
MT070087	52.0	51.6	53.2	51.3	52.5	54.5	52.5
MT070125	51.0	52.0	54.2	50.6	52.7	54.5	52.5
MT050201	50.5	51.4	54.2	51.2	52.8	54.4	52.4
MT040209	50.6	51.5	53.9	51.2	53.1	54.2	52.4
MT020167	51.1	52.7	53.6	51.2	52.8	52.9	52.4
MT070111	51.2	51.9	53.4	50.4	53.1	54.3	52.4
MT020204	50.7	51.9	53.4	51.4	52.8	54.0	52.4
Baronesse	50.1	51.5	54.5	51.0	52.6	54.1	52.3
MT061169	51.2	51.6	53.5	50.4	53.9	52.8	52.2
MT010160	50.9	50.7	53.5	51.1	53.0	54.1	52.2
Hockett	51.2	51.1	53.7	51.1	53.3	52.6	52.2
Metcalfe	50.7	52.2	54.5	49.6	52.8	53.1	52.2
MT020162	50.4	51.3	52.8	50.7	52.9	54.7	52.1
MT070136	51.0	51.7	53.7	50.4	52.4	53.5	52.1
MT061225	50.9	51.5	53.1	50.5	52.7	54.0	52.1
MT061201	50.8	50.8	53.5	51.1	52.5	53.8	52.1
MT061045	50.5	52.1	52.8	50.7	51.7	54.1	52.0
MT070157	50.3	52.0	52.7	51.2	52.3	53.4	52.0
MT061036	50.4	52.1	52.4	50.7	52.2	54.0	51.9
MT070161	50.3	51.6	53.6	50.6	52.1	53.3	51.9
MT061248	50.9	51.0	52.8	50.5	52.3	53.7	51.9
Geraldine	50.4	51.4	52.5	50.2	52.6	54.3	51.9
MT061207	50.0	51.8	53.8	50.8	51.7	53.1	51.9
MT050030	49.6	52.5	52.8	50.1	52.0	54.1	51.8
MT061035	50.0	52.5	52.7	50.2	51.9	53.5	51.8
MT061032	49.4	53.3	52.2	50.6	52.0	53.3	51.8
MT070174	49.8	51.3	53.9	50.1	51.8	53.8	51.8
MT020205	50.2	51.1	53.4	50.3	52.6	52.7	51.7
MT010158	50.6	50.0	52.9	50.5	52.4	53.7	51.7
MT061048	49.8	51.4	51.9	50.8	52.2	53.9	51.7
MT070175	50.0	51.0	53.5	50.1	52.1	53.3	51.6
Bentley	49.9	50.8	54.5	49.1	52.3	53.1	51.6

*Continued*

Table 3. Continued

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT061047	50.0	51.3	52.3	50.5	51.6	53.7	51.6
MT070158	50.0	50.6	51.6	50.5	52.5	54.2	51.6
Harrington	49.8	51.0	54.5	48.9	52.5	52.7	51.6
MT070086	50.4	52.3	52.6	49.2	52.1	52.3	51.5
MT070062	50.3	50.4	53.4	49.6	52.0	53.1	51.5
MT070148	49.8	50.5	51.5	51.0	52.7	53.3	51.5
Conrad	49.4	51.2	52.7	50.5	51.7	53.0	51.4
MT061104	49.8	50.4	51.3	50.8	52.5	53.6	51.4
MT070159	49.9	51.2	51.6	50.7	50.8	53.3	51.2
MT070156	49.4	51.2	51.9	50.0	51.4	52.6	51.1
Tradition	48.6	50.6	51.9	50.2	51.4	53.0	50.9
MT020155	49.4	49.9	52.2	50.0	51.7	52.1	50.9
MT061134	48.9	49.0	51.3	49.9	50.9	53.5	50.6
MT070219	47.5	48.7	52.0	48.7	50.2	51.1	49.7
Goldeneye	46.3	49.5	50.0	49.0	50.7	50.4	49.3
MT070193	45.7	46.7	50.7	49.1	48.8	47.9	48.1
MT061026	45.1	48.1	49.2	48.1	47.2	49.0	47.8
MT061025	46.0	46.4	50.0	47.3	47.0	49.1	47.7
MT070192	45.0	45.8	50.4	48.2	48.5	47.3	47.5
MT061011	45.2	46.5	49.4	47.1	48.1	48.8	47.5
<b>Mean</b>	50.03	51.13	52.95	50.43	52.15	53.24	51.65
<b>C.V</b>	0.85	1.23	*	0.72	0.71	0.74	0.85
<b>L.S.D</b>	0.97	1.48	*	0.86	0.86	0.86	1.01

\* Data collected for only 1 replication

Table 4. 2009 Montana Dryland Intrastate Barley - Protein (%)

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT070193	10.4	10.8	11.3	9.6	9.3	10.2	10.2
MT070192	10.5	11.1	11.7	9.8	9.6	10.6	10.5
MT070219	11.3	11.8	11.8	9.0	10.1	10.1	10.7
MT061011	10.8	11.0	11.9	10.0	10.2	10.2	10.7
MT061025	11.2	11.7	12.0	10.0	9.5	10.3	10.8
MT061026	11.1	11.6	12.0	10.1	10.3	10.4	10.9
MT070175	11.9	12.8	12.7	10.3	10.0	10.4	11.3
MT030042	12.7	13.0	12.9	9.8	9.9	10.6	11.5
MT070174	12.2	13.1	12.9	10.8	10.6	10.7	11.7
MT050030	13.0	12.4	13.6	10.0	10.9	10.9	11.8
MT050062	12.9	13.9	13.3	9.3	10.9	11.0	11.9
Goldeneye	12.8	13.2	13.0	10.3	10.6	11.9	12.0
MT040226	13.1	13.6	12.5	10.4	11.8	11.5	12.2
MT070086	12.9	14.7	13.5	10.0	10.5	11.5	12.2
MT070157	13.3	14.1	13.2	10.2	10.7	11.6	12.2
Champion	13.1	12.8	13.3	10.4	12.1	11.5	12.2
MT040209	13.4	13.8	14.0	10.3	10.4	11.6	12.2
MT070158	13.1	13.6	14.0	10.2	11.2	11.4	12.3
MT050049	13.4	13.6	13.5	10.5	11.5	11.3	12.3
MT070125	13.3	13.6	13.7	10.2	11.3	11.8	12.3
MT070156	13.0	14.7	14.1	10.1	10.5	11.4	12.3
MT061035	13.8	14.1	13.3	9.6	11.4	11.7	12.3
MT070111	13.3	14.7	13.8	10.4	10.7	11.4	12.4
MT070159	13.6	13.7	14.2	10.7	10.4	11.8	12.4
MT070063	13.4	14.4	14.0	10.1	11.3	11.4	12.4
Hockett	13.3	13.8	14.1	10.3	11.7	11.4	12.4
MT061225	13.8	13.7	13.3	11.0	11.5	11.3	12.5
MT030063	13.7	14.4	13.5	10.6	11.2	11.5	12.5
MT061045	13.5	15.0	13.4	10.1	11.0	11.8	12.5
MT070161	13.2	13.9	14.3	10.9	10.8	11.8	12.5
MT020155	13.3	13.4	14.1	10.8	11.8	11.5	12.5
MT070148	13.2	13.9	13.8	10.4	11.8	11.8	12.5
MT070087	13.8	14.3	14.3	10.0	10.9	12.0	12.5
MT061032	13.9	14.8	13.2	10.0	11.3	12.0	12.5
MT061048	13.6	14.3	14.4	10.3	11.2	11.6	12.6
MT061207	13.0	13.4	14.4	11.2	11.6	11.7	12.6
MT020167	13.4	13.6	15.0	10.5	10.3	12.6	12.6
MT050201	13.3	14.4	13.9	10.4	11.8	11.6	12.6
MT061248	13.1	14.1	13.5	10.8	12.2	11.7	12.6
Craft	13.3	14.0	13.8	10.7	12.0	11.7	12.6
MT030079	12.7	15.0	14.0	10.3	12.0	11.5	12.6
MT010160	13.6	13.8	13.9	11.4	10.9	12.0	12.6
Haxby	13.3	14.5	14.1	10.7	11.5	11.5	12.6
MT061047	13.9	14.9	14.4	9.7	11.2	11.8	12.6

*Continued*

Table 4. Continued

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
Bentley	13.3	14.1	14.1	11.1	11.7	11.6	12.7
MT061201	13.4	13.4	13.7	11.6	12.2	12.1	12.7
MT040073	13.6	14.4	13.3	11.1	11.9	12.0	12.7
Harrington	13.8	14.5	15.1	10.7	11.0	11.4	12.7
MT061104	13.7	14.5	14.2	10.7	11.8	11.7	12.8
MT061036	14.5	14.5	14.2	10.6	11.1	12.0	12.8
Baronesse	14.2	14.7	14.6	10.1	11.8	11.7	12.8
MT020205	13.9	13.9	14.6	10.8	11.3	12.6	12.8
MT020162	14.3	14.4	14.0	11.0	11.2	12.2	12.8
Geraldine	14.3	15.2	14.7	9.4	11.7	12.0	12.9
Tradition	13.1	14.1	14.7	10.9	12.3	12.3	12.9
Metcalfe	14.1	14.3	14.3	10.9	12.0	12.3	13.0
MT020204	13.6	14.5	14.5	11.4	11.8	11.9	13.0
MT070062	13.8	15.0	15.3	10.7	11.5	11.7	13.0
MT050048	13.9	14.9	14.7	10.8	11.8	12.1	13.0
MT061134	14.0	14.8	15.0	10.4	12.2	12.1	13.1
MT070136	14.2	14.8	14.7	10.6	12.2	12.1	13.1
MT061169	14.1	14.8	14.7	11.2	12.0	12.0	13.1
MT010158	14.1	14.9	15.0	12.0	11.5	12.2	13.3
Conrad	14.2	14.7	15.0	11.2	11.9	12.9	13.3
<b>Mean</b>	13.21	13.86	13.78	10.46	11.21	11.58	12.35
<b>C.V</b>	0.83	1.82	*	1.69	1.72	0.72	1.36
<b>L.S.D</b>	0.51	1.15	*	0.94	1.00	0.42	0.80

\* Data collected for only 1 replication

Table 5. 2009 Montana Dryland Intrastate Barley - Heading Date (Julian)

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT061011	176.0	170.8	180.3	165.4	179.0	188.1	176.6
Goldeneye	175.8	170.0	181.7	163.3	179.0	191.8	176.9
MT061025	175.8	170.9	181.2	165.0	178.0	191.5	177.1
MT020155	175.9	171.0	179.6	164.7	180.0	191.7	177.2
MT070192	176.1	170.4	181.5	164.0	180.0	191.8	177.3
MT070193	176.3	171.9	181.4	163.7	179.0	192.2	177.4
MT070219	175.9	169.9	179.3	163.3	185.0	191.3	177.4
MT061026	176.1	171.1	179.7	165.7	186.0	190.6	178.2
Tradition	176.2	172.2	182.6	167.7	179.0	191.8	178.2
MT061201	177.3	172.1	180.5	166.9	180.0	193.2	178.3
MT070063	177.8	172.5	180.9	167.0	180.0	193.1	178.6
MT070174	177.1	172.2	181.0	170.0	180.0	192.2	178.8
MT061207	177.8	172.0	181.3	166.4	183.0	192.6	178.8
Craft	178.5	172.0	182.2	167.3	181.0	192.4	178.9
MT061248	177.6	172.7	181.9	168.0	181.0	193.5	179.1
Bentley	179.3	172.5	182.3	165.4	182.0	193.5	179.2
MT050201	177.9	173.1	182.0	168.7	180.0	193.6	179.2
MT020204	179.2	172.8	182.4	167.6	180.0	193.9	179.3
Haxby	178.8	172.5	182.2	168.3	182.0	192.2	179.3
Champion	177.6	174.3	183.6	169.0	179.0	192.6	179.4
MT050049	179.3	173.8	182.6	169.3	180.0	193.5	179.7
MT020205	178.0	172.5	183.3	168.0	184.0	193.4	179.9
MT030042	179.8	171.8	183.5	169.0	182.0	193.2	179.9
Hockett	179.7	171.6	182.2	169.7	183.0	193.4	179.9
Metcalfe	180.0	172.4	184.2	167.0	182.0	194.6	180.0
MT030079	179.9	172.9	182.9	169.3	183.0	193.1	180.2
MT061104	178.4	172.2	184.8	168.7	183.0	194.1	180.2
MT070175	180.8	173.0	182.4	169.0	183.0	193.2	180.2
MT061225	179.8	172.2	182.0	168.0	186.0	193.7	180.3
MT040226	179.7	173.4	182.5	168.0	185.0	194.1	180.4
MT020167	182.2	173.7	183.1	169.1	182.0	193.0	180.5
MT070161	179.9	172.6	184.5	169.9	183.0	193.7	180.6
MT040073	181.0	172.5	183.3	169.3	185.0	192.9	180.7
MT070148	178.4	173.5	183.5	169.4	186.0	193.4	180.7
MT050048	181.1	174.1	183.1	169.6	183.0	193.4	180.7
MT010158	180.2	173.0	184.7	171.3	182.0	193.6	180.8
MT070111	180.4	174.6	183.7	169.6	183.0	194.8	181.0
MT070156	180.1	172.7	186.9	170.6	183.0	194.1	181.2
MT070159	179.9	173.1	186.8	170.0	183.0	194.8	181.3
MT061134	180.3	172.4	184.9	171.4	183.0	195.8	181.3
MT070157	179.8	174.8	185.5	170.3	183.0	194.5	181.3
MT050030	180.6	174.8	185.3	171.3	181.0	195.0	181.3
MT050062	180.1	174.4	184.1	171.4	183.0	196.1	181.5
Harrington	181.9	172.9	184.8	172.0	183.0	195.4	181.7

*Continued*

Table 5. Continued

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT010160	179.7	174.1	184.2	170.7	185.0	196.3	181.7
MT030063	181.1	173.1	184.7	170.7	184.0	196.6	181.7
MT070125	180.2	175.5	185.8	171.3	183.0	194.7	181.8
MT070087	177.8	174.8	187.7	171.0	183.0	196.8	181.9
MT070158	181.1	172.5	185.6	172.0	186.0	194.0	181.9
MT061048	180.7	174.5	186.3	171.4	186.0	194.5	182.2
MT061035	180.5	174.7	186.8	171.4	184.0	196.5	182.3
MT070136	182.0	176.0	186.4	170.3	181.0	198.2	182.3
MT070062	182.3	173.8	185.2	169.7	184.0	199.0	182.3
MT020162	181.1	175.5	186.3	171.3	183.0	197.2	182.4
MT061047	181.1	174.5	185.8	173.7	183.0	197.6	182.6
MT061169	181.3	175.5	186.6	171.0	185.0	196.8	182.7
Baronesse	181.0	174.3	187.0	172.3	186.0	195.7	182.7
MT040209	181.9	173.1	186.4	172.3	186.0	197.1	182.8
MT061045	181.7	174.9	186.5	172.7	185.0	196.2	182.8
MT061036	182.2	175.4	186.8	171.7	184.0	197.3	182.9
MT061032	181.8	174.6	187.7	172.6	183.0	197.8	182.9
Conrad	182.4	174.1	186.7	171.3	186.0	197.6	183.0
MT070086	181.8	173.1	187.0	174.3	186.0	198.7	183.5
Geraldine	184.1	175.8	189.2	173.4	183.0	197.5	183.8
<b>Mean</b>	179.53	173.16	183.92	169.28	182.70	194.32	180.48
<b>C.V.</b>	0.84	0.61	0.82	0.61	*	0.91	0.76
<b>L.S.D</b>	1.89	1.37	1.81	1.27	*	2.16	1.70

\* Data collected for only 1 replication

Table 6. 2009 Montana Dryland Intrastate Barley - Height (in.)

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT070086	20.3	14.3	17.7	26.0	18.0	21.8	19.7
MT061026	22.2	14.5	16.5	29.8	20.5	24.2	21.3
MT061011	21.2	14.5	16.5	29.3	22.5	23.8	21.3
MT070193	22.4	14.6	17.1	30.5	22.0	22.3	21.5
MT070156	23.0	13.3	17.5	29.9	21.0	27.0	22.0
MT070192	23.8	15.6	18.6	29.4	21.0	24.7	22.2
MT070087	21.8	15.4	17.9	30.9	22.0	25.3	22.2
MT070159	22.6	14.4	18.3	30.0	22.0	26.0	22.2
MT061025	23.4	16.1	19.1	28.4	21.0	25.2	22.2
MT070158	23.2	15.5	18.0	28.1	23.5	26.6	22.5
MT070161	22.9	14.9	17.8	29.9	23.0	26.9	22.6
Geraldine	22.6	15.3	20.2	29.3	22.0	26.8	22.7
MT030042	23.6	15.3	20.2	28.3	23.0	25.9	22.7
MT061047	22.0	16.4	18.8	28.8	22.5	28.3	22.8
MT061169	24.3	15.1	19.8	29.3	23.0	25.6	22.8
MT061032	24.3	16.0	19.4	28.5	20.5	28.7	22.9
MT061248	23.0	15.9	20.3	31.4	22.0	25.8	23.1
MT070157	23.5	16.1	20.8	29.3	22.0	26.7	23.1
MT061225	23.5	15.7	19.5	31.4	22.0	26.8	23.1
Goldeneye	23.5	15.5	19.9	30.2	24.0	25.8	23.2
Conrad	22.8	16.4	19.3	29.8	24.0	26.9	23.2
MT061048	22.9	15.3	20.1	30.2	21.5	29.2	23.2
MT061036	22.3	17.0	19.3	30.7	23.0	28.6	23.5
MT070148	24.9	15.1	20.5	30.6	23.5	27.2	23.6
Baronesse	22.7	16.7	19.1	29.8	26.0	27.5	23.6
MT061035	24.6	16.3	18.0	29.7	24.5	28.8	23.6
Harrington	24.3	15.1	21.2	31.4	23.0	27.0	23.7
MT040209	24.5	15.7	21.2	29.7	25.5	26.7	23.9
MT061045	23.5	17.1	20.8	30.5	22.5	29.1	23.9
MT070062	24.7	18.3	19.9	29.3	25.0	26.5	23.9
MT020155	25.1	17.6	19.7	33.7	22.0	27.2	24.2
MT040073	25.9	18.0	20.4	31.0	23.0	27.3	24.3
MT061104	23.2	16.1	19.4	31.4	28.0	28.1	24.4
Hockett	23.6	16.9	19.7	32.8	25.5	27.8	24.4
MT070174	25.8	18.9	21.2	30.0	24.5	25.9	24.4
Haxby	23.6	18.1	21.0	32.5	25.0	26.5	24.4
MT010158	24.6	17.1	21.1	31.8	24.0	28.4	24.5
MT070136	25.9	16.0	23.2	30.7	24.0	27.8	24.6
MT020204	25.9	16.2	21.4	31.8	25.0	28.5	24.8
MT061207	25.5	19.7	21.2	31.9	23.0	27.6	24.8
MT070219	25.6	16.1	20.9	32.0	25.5	28.8	24.8
MT020167	26.5	18.5	22.7	31.2	23.5	26.8	24.9
Metcalfe	24.9	17.3	20.8	30.1	25.0	31.1	24.9
MT070111	25.3	16.2	20.5	31.4	27.0	29.0	24.9

*Continued*

Table 6. Continued

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT030079	25.3	20.0	21.4	29.8	25.5	27.5	24.9
Champion	24.4	18.7	20.7	31.5	26.0	28.6	25.0
MT050030	26.4	18.6	20.9	31.0	25.0	28.3	25.0
MT070125	24.8	16.4	21.2	33.7	26.0	28.0	25.0
MT020205	25.5	15.9	21.8	33.9	24.0	29.5	25.1
MT061134	26.9	16.1	20.3	32.0	27.0	28.9	25.2
MT040226	28.1	16.9	20.2	33.1	24.0	29.1	25.2
MT070175	25.9	17.8	20.6	32.7	28.0	27.1	25.4
MT050048	26.1	19.6	22.3	31.9	26.0	28.6	25.8
Bentley	28.1	16.1	21.2	32.8	27.0	29.8	25.8
MT010160	25.7	16.8	22.9	34.2	26.0	29.9	25.9
MT020162	25.8	20.0	22.5	32.2	26.0	29.4	26.0
MT050201	24.6	18.7	20.5	32.6	29.0	31.7	26.2
MT050049	26.3	20.2	21.5	33.5	27.0	29.0	26.2
MT030063	25.2	18.2	22.6	34.3	26.0	31.3	26.3
MT070063	25.5	18.1	22.4	33.5	29.0	29.7	26.4
MT050062	26.1	18.9	24.2	31.1	27.5	31.5	26.6
Tradition	26.4	18.2	22.0	35.0	28.0	29.9	26.6
MT061201	26.5	18.6	21.8	35.5	28.0	29.8	26.7
Craft	27.3	19.5	22.8	34.8	27.0	30.3	26.9
<b>Mean</b>	24.48	16.78	20.32	31.12	24.27	27.67	24.10
<b>C.V.</b>	3.16	3.16	*	2.94	*	2.38	2.91
<b>L.S.D</b>	2.53	2.09	*	2.65	*	2.11	2.35

\* Data collected for only 1 replication

Table 7. 2009 Montana Dryland Intrastate Barley - Thins (%)

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT061207	0.4	3.0	0.9	1.0	0.6	1.6	1.3
MT061104	0.8	4.0	0.9	1.1	0.3	1.9	1.5
MT070148	0.9	3.0	1.2	1.0	0.6	2.5	1.5
MT070174	0.6	5.0	0.7	1.2	0.8	1.1	1.6
MT050030	0.9	3.0	0.9	1.8	0.8	2.2	1.6
MT050048	0.9	5.0	0.4	0.9	1.1	1.7	1.6
Craft	0.9	3.0	0.9	1.5	0.7	3.1	1.7
MT050049	0.6	4.0	0.9	1.9	1.0	2.1	1.7
MT061134	0.7	5.0	1.2	1.1	0.8	1.8	1.8
MT070175	0.7	3.0	1.2	1.9	0.8	3.0	1.8
Tradition	1.5	5.0	0.9	1.0	0.8	1.7	1.8
MT061225	0.4	4.0	1.2	2.3	0.8	2.5	1.9
Conrad	1.1	4.0	1.7	1.5	0.6	2.4	1.9
Metcalfe	0.8	3.0	0.8	3.3	0.7	3.2	2.0
MT030063	0.6	5.0	1.2	1.7	1.5	2.0	2.0
MT050201	0.9	6.0	0.6	1.8	0.9	1.8	2.0
Baronesse	0.8	5.0	1.7	1.5	0.5	2.8	2.1
MT020167	0.4	3.0	1.9	2.0	1.1	4.2	2.1
Champion	0.8	6.0	1.6	1.3	0.9	2.1	2.1
MT061035	1.1	4.0	1.9	1.9	0.6	3.8	2.2
MT070157	0.8	6.0	1.2	1.8	1.2	2.5	2.2
MT070136	0.9	5.0	2.2	1.4	0.7	3.5	2.3
MT030079	0.8	5.0	0.7	2.5	0.9	3.9	2.3
Haxby	0.8	4.0	1.4	2.2	1.1	4.2	2.3
MT061036	1.0	5.0	1.7	2.4	0.8	3.1	2.3
MT070125	1.0	6.0	1.0	1.4	1.1	3.6	2.3
Hockett	1.3	5.0	1.4	1.3	0.7	4.8	2.4
MT070063	1.2	6.0	2.1	1.0	0.9	3.3	2.4
MT070161	1.1	6.0	2.4	2.5	0.9	1.8	2.5
MT061248	0.4	11.0	0.6	1.0	0.4	1.5	2.5
MT040226	0.9	7.0	0.8	2.4	1.3	3.0	2.6
MT070111	1.0	4.0	2.2	4.3	1.1	3.2	2.6
MT040209	1.1	7.0	1.3	1.9	0.6	4.1	2.7
MT020204	1.1	7.0	1.9	2.1	1.1	2.8	2.7
MT070086	1.4	4.0	2.4	3.8	1.1	3.7	2.7
MT070158	1.2	7.0	3.1	2.2	0.8	2.4	2.8
MT010158	1.3	9.0	1.6	1.8	0.9	2.5	2.8
MT070062	0.9	7.0	1.6	2.1	0.7	4.9	2.9
Bentley	0.8	9.0	2.6	2.4	0.5	2.0	2.9
MT050062	1.0	10.0	1.3	1.5	0.8	2.8	2.9
MT040073	1.2	6.0	1.0	4.6	1.1	3.7	2.9
MT020205	1.0	9.0	1.3	2.0	1.0	3.4	3.0
MT070159	1.3	7.0	3.8	1.6	1.6	2.6	3.0
MT010160	1.1	11.0	1.7	2.0	0.9	2.7	3.2

*Continued*

Table 7. Continued

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT061048	1.4	8.0	3.6	1.4	0.8	4.5	3.3
Harrington	1.8	7.0	2.8	3.6	0.8	4.1	3.4
MT061047	1.8	10.0	2.5	1.9	0.8	3.6	3.4
MT061045	1.4	13.0	1.6	1.6	0.8	2.9	3.5
MT070156	1.6	11.0	2.9	1.9	1.0	2.9	3.6
MT020162	2.5	11.0	3.1	2.3	1.2	2.2	3.7
MT020155	1.5	10.0	1.1	1.8	1.5	7.1	3.9
MT061169	1.8	6.0	4.3	4.8	0.9	6.5	4.0
MT061032	1.6	15.0	2.6	1.6	0.6	3.3	4.1
Geraldine	1.5	8.0	4.8	3.6	1.8	7.0	4.4
MT061201	0.7	21.0	0.7	1.1	1.2	3.0	4.6
MT030042	1.7	7.0	2.3	4.8	1.4	11.1	4.7
MT061011	3.2	9.0	7.5	1.8	1.8	5.2	4.8
MT061025	5.3	11.0	5.7	2.3	2.2	4.8	5.2
Goldeneye	6.2	11.0	4.3	2.1	1.3	7.5	5.4
MT061026	5.9	12.0	7.2	2.0	1.7	7.7	6.1
MT070087	1.6	22.0	3.8	3.7	1.2	5.4	6.3
MT070193	4.8	16.0	1.9	2.0	1.6	14.2	6.8
MT070192	3.9	19.0	3.0	2.7	2.6	17.2	8.1
MT070219	8.2	33.0	4.2	1.9	1.8	7.6	9.5
<b>Mean</b>	1.54	7.91	2.09	2.08	1.02	3.93	3.10
<b>C.V</b>	*	*	*	6.17	3.43	5.48	5.02
<b>L.S.D</b>	*	*	*	1.44	0.57	1.76	1.26

\* Data collected for only 1 replication

Table 8. 2009 Montana Dryland Intrastate Barley - Plump (%)

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT061207	98.4	97.0	95.3	97.4	98.2	92.1	96.4
MT070174	98.2	94.0	97.7	95.8	97.6	95.1	96.4
MT061104	97.1	96.0	96.0	96.3	99.1	93.7	96.4
MT061248	98.8	88.0	98.1	97.9	98.9	95.9	96.3
MT070148	96.8	96.0	94.4	96.8	98.7	93.0	95.9
Craft	97.0	97.0	96.3	95.6	97.9	90.0	95.6
MT050048	95.7	94.0	97.1	97.1	97.5	91.9	95.5
MT050049	97.6	95.0	95.9	94.6	97.4	92.3	95.5
MT061134	97.0	94.0	93.2	97.1	97.7	93.1	95.3
MT050030	96.8	96.0	94.4	94.4	97.9	92.5	95.3
MT030063	97.8	94.0	95.3	95.8	96.5	92.7	95.3
MT070175	97.0	97.0	94.5	95.5	97.7	89.5	95.2
MT050201	95.9	94.0	97.2	94.8	97.2	91.6	95.1
Conrad	95.4	96.0	93.3	96.0	97.9	91.0	94.9
Metcalfe	97.2	97.0	94.4	92.1	97.9	90.0	94.8
MT061225	98.1	95.0	92.7	94.0	97.4	91.3	94.8
MT070125	96.5	94.0	95.9	95.3	96.8	89.7	94.7
Baronesse	96.3	95.0	91.8	96.0	98.4	90.6	94.7
Champion	97.5	93.0	93.3	95.9	97.7	90.7	94.7
MT070157	97.1	94.0	93.8	95.5	96.0	91.4	94.6
MT020167	98.2	97.0	92.4	95.2	96.8	86.7	94.4
MT030079	96.1	95.0	95.4	93.2	97.7	87.8	94.2
MT050062	96.5	89.0	95.1	96.1	97.8	90.2	94.1
Haxby	96.6	96.0	94.5	93.2	96.9	86.9	94.0
MT061035	96.0	95.0	92.2	95.1	98.0	87.7	94.0
Hockett	96.1	95.0	93.0	96.6	97.7	85.1	93.9
Tradition	90.7	95.0	92.1	96.5	97.5	91.4	93.9
MT061036	96.2	94.0	90.9	94.7	97.2	90.1	93.9
Bentley	97.4	90.0	88.6	94.9	98.2	93.6	93.8
MT070161	96.6	93.0	89.4	94.2	97.0	92.3	93.8
MT020204	96.5	92.0	91.2	94.9	96.7	90.8	93.7
MT070063	95.2	94.0	90.9	96.3	97.4	88.2	93.7
MT020205	96.6	90.0	93.4	95.3	97.3	88.7	93.6
MT010158	94.8	91.0	92.3	95.1	97.1	90.0	93.4
MT040226	95.4	92.0	93.4	93.1	96.2	88.8	93.1
MT070086	95.5	96.0	89.6	92.0	96.6	88.9	93.1
MT070111	96.5	96.0	87.8	90.2	96.7	90.5	93.0
MT040209	95.2	93.0	92.0	94.8	97.7	85.0	92.9
MT070158	95.6	92.0	87.1	94.3	97.6	90.7	92.9
MT010160	95.3	88.0	92.2	94.9	97.3	89.6	92.9
MT061045	94.9	85.0	92.9	95.5	97.6	89.1	92.5
MT040073	95.0	93.0	92.7	89.4	96.6	87.2	92.3
MT070062	95.9	92.0	90.4	93.6	97.6	84.2	92.3
MT061201	96.8	76.0	96.2	97.3	96.6	90.5	92.2

*Continued*

Table 8. Continued

Cultivar	Havre	Sidney	Moccasin	Huntley	Conrad	Bozeman	Mean
MT070159	94.9	91.0	86.1	95.5	95.2	90.4	92.2
MT020162	91.8	89.0	88.7	94.1	96.7	91.6	92.0
MT061047	93.4	89.0	89.5	94.7	97.2	88.0	92.0
Harrington	93.5	92.0	90.4	91.1	97.0	87.4	91.9
MT061048	94.9	91.0	82.3	96.2	97.3	87.4	91.5
MT070156	94.0	88.0	85.4	94.2	97.0	89.2	91.3
MT061032	93.8	83.0	83.3	95.2	98.4	90.1	90.6
MT061169	94.0	93.0	84.9	90.9	97.0	82.0	90.3
MT020155	94.2	89.0	91.6	94.4	95.6	76.6	90.2
MT030042	94.6	93.0	89.6	89.6	95.5	75.1	89.6
Geraldine	94.8	91.0	85.7	89.9	94.1	80.4	89.3
MT070087	91.9	76.0	81.5	91.6	95.8	84.6	86.9
MT061011	84.2	91.0	73.7	93.7	94.2	80.7	86.3
Goldeneye	79.8	89.0	79.8	94.0	95.9	78.3	86.1
MT070193	83.4	84.0	88.5	93.9	94.8	66.3	85.2
MT061025	79.7	88.0	70.2	92.1	93.7	83.9	84.6
MT061026	76.2	87.0	67.8	93.9	95.5	76.7	82.9
MT070192	84.1	79.0	87.8	91.3	93.2	61.3	82.8
MT070136	97.0	95.0	17.8	96.3	98.1	88.7	82.2
MT070219	66.7	66.0	75.8	93.3	94.7	71.2	78.0
<b>Mean</b>	89.17	91.39	90.28	94.47	96.95	87.53	91.63
<b>C.V</b>	*	*	*	2.02	0.86	2.32	1.73
<b>L.S.D</b>	*	*	*	3.18	1.44	3.51	2.71

\* Data collected for only 1 replication

Table 9. 2009 Montana Irrigated Intrastate Barley Statewide\* Average - All Traits

Cultivar	Yield bu/acre	Test		Thin %	Heading	Plant	Protein %
		Weight lbs/acre	Plump %		Date Julian	Height in.	
Baronesse	136.9	52.1	91.4	4.7	183.5	28.0	12.0
Bentley	124.3	51.3	95.6	2.5	182.3	32.7	11.7
Champion	141.6	52.7	94.5	3.2	181.5	30.2	11.5
Conrad	128.0	51.8	94.5	2.9	183.1	28.7	12.3
Craft	130.1	53.1	94.1	3.6	180.6	31.8	11.4
Geraldine	132.1	52.0	89.4	5.7	184.6	29.0	11.5
Goldeneye	141.6	49.9	90.3	5.8	178.6	28.9	11.3
Harrington	124.1	51.3	94.0	3.2	182.7	30.1	11.3
Haxby	130.9	52.6	93.7	3.2	180.6	28.8	11.8
Hockett	119.0	52.0	92.7	4.3	181.0	29.1	12.0
Metcalfe	119.1	51.4	92.2	4.4	182.1	31.2	11.8
Tradition	117.3	50.4	96.3	1.7	178.9	32.3	11.9
MT010158	120.3	51.9	94.7	2.5	182.0	29.7	11.8
MT010160	122.7	52.5	94.1	3.2	182.7	30.0	11.9
MT020155	127.7	50.9	90.3	5.4	178.3	29.4	11.5
MT020162	130.8	52.1	93.7	3.1	183.2	31.0	12.1
MT020167	121.6	52.5	93.3	3.7	182.2	28.5	12.0
MT020204	127.4	51.9	91.2	4.7	179.9	30.7	12.1
MT020205	127.4	51.7	92.8	4.1	180.3	30.5	12.3
MT030042	131.9	52.2	90.0	5.3	181.0	28.2	10.9
MT030063	132.8	52.7	93.9	3.5	183.0	31.6	11.3
MT030079	139.5	53.2	93.4	3.8	181.2	28.9	11.3
MT040073	130.9	53.2	92.9	4.1	181.4	29.0	12.0
MT040209	134.7	51.9	89.8	5.8	183.5	28.7	11.5
MT040226	129.9	53.8	93.4	3.5	181.7	31.1	11.6
MT050030	144.6	51.9	93.3	4.0	183.0	29.6	11.2
MT050048	130.5	53.8	95.0	2.8	182.0	31.3	12.2
MT050049	130.1	53.3	94.5	3.4	180.5	30.1	11.6
MT050062	140.3	52.4	92.4	4.0	182.5	33.1	10.8
MT050201	136.1	52.5	94.2	3.4	181.6	32.2	11.9
MT061011	113.7	47.1	89.6	5.4	177.7	26.9	10.3
MT061025	111.3	47.6	90.3	5.1	177.5	27.0	10.4
MT061026	111.4	47.1	87.9	6.4	177.2	27.4	10.6
MT061032	142.4	52.1	91.4	4.3	183.3	29.2	11.5
MT061035	143.6	51.5	91.9	4.4	183.3	29.8	11.6
MT061036	132.6	52.0	93.1	3.7	183.7	29.6	11.3
MT061045	139.5	52.3	93.2	3.3	183.4	30.3	11.4
MT061047	139.1	52.0	92.7	3.8	183.0	30.0	11.7
MT061048	138.0	52.0	92.8	3.7	183.3	29.4	11.1
MT061104	127.2	52.2	94.0	3.3	181.2	30.9	11.9

*Continued*

Table 9. continued

Cultivar	Yield bu/acre	Test	Plump %	Thin %	Heading	Plant	Protein %
		Weight lbs/acre			Date Julian	Height in.	
MT061134	120.4	51.3	94.8	2.9	181.8	31.2	12.4
MT061169	132.3	52.2	92.1	4.6	183.1	28.4	12.2
MT061201	115.2	52.3	94.6	3.0	180.2	31.1	12.5
MT061207	120.3	51.7	95.9	2.3	180.3	28.3	12.1
MT061225	126.5	52.4	92.8	4.0	180.3	28.9	11.4
MT061248	125.2	52.5	96.2	2.2	180.8	29.6	12.1
MT070062	126.6	52.0	93.0	3.6	182.7	28.8	12.4
MT070063	133.9	52.2	92.7	3.2	180.6	31.8	11.8
MT070086	134.8	51.6	93.5	3.6	184.0	22.0	10.6
MT070087	131.3	52.7	92.0	3.9	183.1	27.8	11.5
MT070111	132.0	52.3	93.8	3.3	182.9	29.9	11.4
MT070125	132.0	52.2	94.6	3.3	183.0	30.2	11.5
MT070136	121.4	52.0	95.4	2.5	183.8	29.6	11.9
MT070148	130.7	52.4	95.0	2.9	180.9	28.7	12.0
MT070156	136.9	51.1	93.0	3.9	181.8	26.9	11.4
MT070157	138.2	51.9	93.8	3.5	181.3	27.3	11.2
MT070158	137.3	52.1	94.0	3.1	181.6	27.6	11.6
MT070159	135.3	51.3	92.7	4.2	180.9	27.8	11.4
MT070161	135.8	51.6	94.2	3.2	180.7	27.5	11.5
MT070174	123.9	52.2	95.1	2.4	179.5	28.9	11.0
MT070175	138.4	51.7	93.4	3.8	181.5	31.0	10.5
MT070192	118.2	47.1	86.3	7.8	177.7	27.9	10.1
MT070193	127.5	47.3	87.2	6.7	178.7	25.3	9.9
MT070219	118.6	48.6	87.4	6.5	177.1	29.6	10.0
<b>Mean</b>	129.62	51.65	92.84	3.89	181.43	29.39	11.51
<b>C.V.</b>	6.71	1.38	2.97	42.75	0.54	4.22	4.02
<b>L.S.D.</b>	10.84	0.89	3.44	2.07	1.22	1.54	0.57

\* Locations: Bozeman, Sidney, Kalispell, Huntley, Conrad

Table 10. 2009 Montana Irrigated Intrastate Barley - Yield (bu/acre)

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
MT050030	164.4	154.2	166.7	84.3	153.4	144.6
MT061035	160.6	148.2	170.0	103.6	135.4	143.6
MT061032	165.3	144.2	160.2	103.1	139.5	142.4
Goldeneye	130.7	162.0	195.3	86.5	133.7	141.6
Champion	161.3	161.0	153.9	92.0	140.0	141.6
MT050062	159.2	149.5	163.9	90.0	139.0	140.3
MT030079	156.1	156.2	168.4	87.9	128.9	139.5
MT061045	153.7	147.6	151.3	102.7	142.0	139.5
MT061047	154.4	147.1	148.4	101.2	144.2	139.1
MT070175	156.8	145.7	160.0	92.5	137.1	138.4
MT070157	162.8	143.0	149.6	98.4	137.4	138.2
MT061048	149.7	149.6	158.2	98.9	133.5	138.0
MT070158	143.5	153.3	157.6	94.4	137.7	137.3
Baronesse	150.7	142.3	143.8	105.4	142.5	136.9
MT070156	151.9	149.6	165.7	92.2	124.8	136.9
MT050201	149.3	150.0	165.5	81.2	134.7	136.1
MT070161	147.6	148.3	143.7	102.9	136.6	135.8
MT070159	143.6	150.3	154.7	98.9	129.1	135.3
MT070086	140.6	152.1	154.6	101.0	125.5	134.8
MT040209	149.9	142.8	152.1	94.3	134.5	134.7
MT070063	153.4	142.9	157.6	91.4	124.2	133.9
MT030063	156.7	142.3	156.9	82.9	125.0	132.8
MT061036	127.8	144.3	149.1	99.5	142.1	132.6
MT061169	144.0	150.6	155.3	91.1	120.7	132.3
Geraldine	149.2	145.5	148.9	87.1	129.8	132.1
MT070111	150.7	147.8	144.3	85.8	131.6	132.0
MT070125	150.2	137.5	164.8	83.4	124.2	132.0
MT030042	131.9	145.1	152.2	96.9	133.5	131.9
MT070087	147.4	141.8	156.7	83.6	126.9	131.3
MT040073	143.9	147.9	153.2	90.3	119.2	130.9
Haxby	151.6	146.8	147.7	72.1	136.2	130.9
MT020162	150.6	132.4	153.7	86.8	130.4	130.8
MT070148	139.9	143.2	161.4	91.2	118.0	130.7
MT050048	155.6	137.0	148.4	83.7	127.9	130.5
Craft	141.4	139.6	169.4	79.0	121.3	130.1
MT050049	130.5	142.7	157.7	92.7	127.0	130.1
MT040226	143.1	142.9	152.9	89.9	120.6	129.9
Conrad	144.6	130.3	148.8	85.7	130.6	128.0
MT020155	148.2	147.8	129.0	86.1	127.4	127.7
MT070193	118.4	144.0	186.7	83.3	105.0	127.5
MT020205	146.2	139.4	148.6	84.8	118.0	127.4
MT020204	143.4	143.4	137.4	88.9	123.7	127.4
MT061104	149.5	134.7	148.7	76.1	127.2	127.2
MT070062	141.9	130.7	152.3	86.7	121.3	126.6

*Continued*

Table 10. Continued

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
MT061225	129.6	143.5	144.4	88.3	126.4	126.5
MT061248	135.1	144.0	145.5	88.2	113.3	125.2
Bentley	134.3	139.1	147.6	80.1	120.4	124.3
Harrington	144.0	141.7	146.2	74.5	114.3	124.1
MT070174	145.5	129.9	157.1	71.8	115.4	123.9
MT010160	128.7	131.4	146.8	79.3	127.3	122.7
MT020167	129.4	136.7	139.1	79.7	123.3	121.6
MT070136	124.1	147.2	141.1	74.2	120.5	121.4
MT061134	123.6	135.0	140.9	84.7	117.8	120.4
MT061207	139.8	133.3	147.9	78.0	102.5	120.3
MT010158	126.6	122.1	151.0	83.6	118.0	120.3
Metcalfe	127.9	132.5	145.1	79.9	110.3	119.1
Hockett	114.2	145.9	145.9	73.0	116.0	119.0
MT070219	112.6	142.3	151.4	75.3	111.3	118.6
MT070192	119.7	140.3	162.0	71.5	97.4	118.2
Tradition	127.7	144.5	146.9	63.5	103.8	117.3
MT061201	123.3	142.1	132.6	70.9	107.1	115.2
MT061011	126.4	131.5	149.2	61.7	99.5	113.7
MT061026	103.9	132.4	150.8	66.9	102.8	111.4
MT061025	117.6	121.9	150.3	60.7	106.1	111.3
<b>Mean</b>	141.35	142.73	153.24	85.90	124.92	129.63
<b>C.V.</b>	12.01	6.04	9.59	8.73	7.81	8.84
<b>L.S.D.</b>	23.06	12.40	20.19	13.69	15.19	16.91

Table 11. 2009 Montana Irrigated Intrastate Barley - Test Weight (lbs/bushel)

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
MT050048	55.0	52.8	54.9	52.8	53.6	53.8
MT040226	53.8	52.7	54.7	53.1	54.8	53.8
MT050049	53.8	53.2	54.2	51.9	53.2	53.3
MT040073	54.1	53.2	53.7	52.0	53.1	53.2
MT030079	53.6	51.7	54.6	52.0	53.9	53.2
Craft	54.1	52.1	54.5	51.4	53.3	53.1
MT030063	53.8	51.9	54.3	50.6	53.0	52.7
Champion	53.0	51.7	54.6	52.2	52.0	52.7
MT070087	52.2	52.8	54.2	51.8	52.3	52.7
Haxby	53.5	52.3	52.8	51.5	53.1	52.6
MT050201	52.5	52.0	54.1	51.2	52.9	52.5
MT061248	51.9	52.3	54.4	51.4	52.6	52.5
MT020167	52.4	52.7	53.8	50.9	52.7	52.5
MT010160	53.9	51.2	53.5	51.6	52.1	52.5
MT061225	52.5	52.0	54.5	50.8	52.3	52.4
MT050062	53.9	50.8	54.4	50.4	52.3	52.4
MT070148	52.7	51.8	53.4	52.2	51.7	52.4
MT061201	53.5	51.5	54.3	50.8	51.6	52.3
MT070111	51.5	52.0	53.9	51.5	52.6	52.3
MT061045	54.0	51.3	53.6	50.1	52.4	52.3
MT061169	52.5	50.8	54.4	51.3	52.2	52.2
MT070125	52.9	52.7	52.2	51.2	52.2	52.2
MT030042	52.1	51.7	53.0	51.8	52.5	52.2
MT070063	52.7	51.2	54.2	50.7	52.3	52.2
MT070174	53.7	51.7	53.3	51.0	51.2	52.2
MT061104	53.5	50.9	53.1	50.8	52.6	52.2
Baronesse	52.9	51.2	54.4	49.8	52.4	52.1
MT070158	53.6	50.8	54.3	50.9	51.0	52.1
MT061032	53.5	50.8	54.1	49.9	52.1	52.1
MT020162	53.6	51.0	53.7	49.8	52.3	52.1
Geraldine	53.0	52.0	53.2	49.8	52.2	52.0
MT061047	52.1	51.7	54.0	50.2	52.2	52.0
MT070062	52.4	51.2	54.3	50.5	51.8	52.0
MT061036	53.5	51.5	52.8	50.6	51.7	52.0
MT061048	52.7	51.0	53.4	50.6	52.3	52.0
MT070136	52.6	51.8	52.3	51.4	51.9	52.0
Hockett	52.4	51.1	52.6	51.9	51.9	52.0
MT050030	53.3	50.2	53.0	51.1	52.2	51.9
MT040209	52.3	51.3	53.3	50.4	52.1	51.9
MT070157	51.6	51.2	54.0	50.9	51.8	51.9
MT020204	52.9	50.7	53.2	50.9	51.8	51.9
MT010158	52.2	50.9	52.5	51.3	52.6	51.9
Conrad	51.1	50.8	53.5	51.3	52.0	51.8
MT020205	52.6	51.5	52.2	51.1	51.3	51.7

*Continued*

Table 11. Continued

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
MT061207	52.3	50.9	53.4	50.8	51.4	51.7
MT070175	52.4	51.3	53.5	49.7	51.7	51.7
MT070086	51.2	51.8	53.9	50.1	51.1	51.6
MT070161	52.2	50.6	52.4	50.8	52.0	51.6
MT061035	52.8	50.2	53.3	49.3	52.1	51.5
Metcalfe	51.2	51.5	52.9	50.1	51.5	51.4
Bentley	52.3	51.2	53.0	49.1	51.2	51.3
Harrington	51.0	51.0	52.8	51.0	50.8	51.3
MT070159	52.3	50.5	52.7	49.9	51.0	51.3
MT061134	52.3	49.8	52.2	50.8	51.3	51.3
MT070156	51.1	50.7	52.9	50.5	50.3	51.1
MT020155	51.0	49.3	51.9	51.2	50.8	50.9
Tradition	51.0	50.7	51.2	49.7	49.6	50.4
Goldeneye	48.7	49.7	51.2	49.8	50.0	49.9
MT070219	47.6	48.3	51.3	47.8	47.8	48.6
MT061025	48.0	46.7	49.9	47.5	46.2	47.6
MT070193	45.6	47.3	49.1	47.4	47.2	47.3
MT070192	46.2	46.3	47.8	47.4	47.8	47.1
MT061026	47.5	47.2	49.2	47.0	44.5	47.1
MT061011	48.3	46.7	48.5	46.6	45.2	47.1
<b>Mean</b>	52.13	50.99	53.07	50.60	51.52	51.66
<b>C.V.</b>	1.37	0.93	*	1.07	0.91	1.07
<b>L.S.D.</b>	1.60	1.08	*	1.23	1.12	1.26

\* Data collected for only 1 replication

Table 12. 2009 Montana Irrigated Intrastate Barley - Protein (%)

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
MT070193	9.5	10.9	10.4	9.5	9.3	9.9
MT070219	9.6	11.0	9.9	9.4	10.1	10.0
MT070192	10.0	11.2	10.3	9.6	9.5	10.1
MT061011	9.9	11.2	10.3	10.1	10.1	10.3
MT061025	10.0	11.5	10.3	10.0	10.3	10.4
MT070175	9.7	12.2	11.0	9.5	10.2	10.5
MT061026	10.0	11.4	10.7	10.3	10.5	10.6
MT070086	10.9	12.3	11.2	9.1	9.6	10.6
MT050062	9.9	12.6	11.5	9.9	10.3	10.8
MT030042	9.6	12.4	12.2	9.6	10.7	10.9
MT070174	10.0	11.9	11.5	10.5	10.9	11.0
MT061048	10.7	13.0	12.9	9.4	9.5	11.1
MT050030	10.2	12.6	12.5	9.4	11.2	11.2
MT070157	10.7	12.8	11.9	10.0	10.6	11.2
MT030079	10.7	13.2	12.0	9.9	10.5	11.3
Harrington	10.4	12.9	12.8	9.9	10.4	11.3
MT061036	10.9	12.7	13.3	9.6	9.9	11.3
MT030063	10.6	12.9	11.8	10.2	11.1	11.3
Goldeneye	10.8	13.3	12.0	10.3	10.3	11.3
MT070111	10.8	13.3	13.0	9.4	10.4	11.4
MT070156	10.7	12.7	12.6	10.0	10.9	11.4
MT061225	10.4	12.8	12.6	10.2	10.9	11.4
Craft	10.4	13.0	11.7	10.3	11.5	11.4
MT070159	10.7	12.9	12.6	10.4	10.5	11.4
MT061045	10.3	13.0	13.3	10.0	10.4	11.4
MT061032	10.7	13.5	12.9	10.1	10.1	11.5
MT040209	10.4	13.4	12.0	10.5	11.0	11.5
MT070087	10.7	13.1	12.9	10.0	10.7	11.5
Geraldine	10.5	13.0	13.1	10.0	10.9	11.5
MT070161	10.7	13.4	12.4	9.8	11.2	11.5
Champion	10.8	12.9	12.4	10.3	11.2	11.5
MT020155	10.4	13.0	13.2	10.1	11.1	11.5
MT070125	10.7	13.6	12.2	10.0	11.3	11.5
MT040226	10.7	12.7	12.8	10.4	11.3	11.6
MT061035	10.9	13.3	13.2	10.4	10.2	11.6
MT050049	10.6	13.3	13.2	10.2	10.8	11.6
MT070158	10.8	13.4	12.5	10.2	11.3	11.6
MT061047	10.8	13.5	13.3	10.0	10.7	11.7
Bentley	10.9	12.7	13.1	10.4	11.3	11.7
MT070063	10.3	13.3	12.5	10.9	11.7	11.8
Metcalfe	11.2	13.2	12.9	10.7	10.9	11.8
MT010158	11.4	12.9	12.6	11.1	11.0	11.8
Haxby	10.5	13.7	12.4	10.0	12.6	11.8
MT050201	10.8	13.8	12.8	10.0	11.9	11.9

*Continued*

Table 12. Continued

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
MT010160	10.8	13.4	13.3	10.6	11.3	11.9
Tradition	11.5	13.2	12.6	11.0	11.1	11.9
MT070136	11.5	13.0	13.1	10.2	11.8	11.9
MT061104	10.7	13.3	12.6	10.9	12.2	11.9
Hockett	10.7	13.0	13.8	10.7	11.8	12.0
MT020167	11.1	13.7	13.2	10.6	11.4	12.0
Baronesse	11.0	13.7	13.2	10.8	11.4	12.0
MT070148	11.0	13.4	12.9	10.7	12.0	12.0
MT040073	11.0	13.6	13.3	10.8	11.6	12.0
MT020162	11.1	12.9	13.2	11.6	11.5	12.1
MT061207	10.9	13.6	13.3	11.4	11.3	12.1
MT020204	11.0	13.6	13.3	10.9	11.6	12.1
MT061248	10.8	13.6	12.8	10.7	12.6	12.1
MT061169	11.4	14.0	13.6	10.3	11.6	12.2
MT050048	10.9	14.2	13.5	10.8	11.7	12.2
MT020205	10.8	13.8	13.8	11.5	11.4	12.3
Conrad	11.4	14.3	13.2	10.8	11.8	12.3
MT061134	11.7	13.6	13.8	11.4	11.3	12.4
MT070062	10.8	13.9	13.6	11.4	12.3	12.4
MT061201	11.6	13.9	13.0	11.8	12.2	12.5
<b>Mean</b>	10.67	13.01	12.53	10.30	11.02	11.51
<b>C.V.</b>	0.92	1.04	*	1.68	1.86	1.37
<b>L.S.D.</b>	0.54	0.66	*	0.88	1.08	0.79

\* Data collected for only 1 replication

Table 13. 2009 Montana Irrigated Intrastate Barley - Heading Date (Julian)

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
MT070219	187.0	173.6	181.1	164.7	179.0	177.1
MT061026	187.9	172.9	180.7	165.6	179.0	177.2
MT061025	187.5	173.1	182.3	165.7	179.0	177.5
MT070192	187.7	174.8	182.9	164.0	179.0	177.7
MT061011	189.1	172.8	182.0	165.7	179.0	177.7
MT020155	190.9	172.6	183.4	163.4	181.0	178.3
Goldeneye	191.0	174.3	182.9	164.7	180.0	178.6
MT070193	188.2	174.8	183.7	166.0	181.0	178.7
Tradition	189.7	175.4	182.5	167.0	180.0	178.9
MT070174	191.4	175.3	183.6	168.0	179.0	179.5
MT020204	191.4	174.4	185.3	167.3	181.0	179.9
MT061201	191.0	175.1	184.4	169.7	181.0	180.2
MT061207	191.3	175.2	185.4	168.4	181.0	180.3
MT020205	190.8	174.8	185.4	168.4	182.0	180.3
MT061225	192.1	174.7	184.5	168.3	182.0	180.3
MT050049	191.8	175.6	185.0	169.3	181.0	180.5
Haxby	192.0	176.1	183.9	170.0	181.0	180.6
Craft	191.9	177.4	184.2	168.7	181.0	180.6
MT070063	191.8	175.3	184.6	168.6	183.0	180.6
MT070161	192.2	174.9	186.8	168.6	181.0	180.7
MT061248	191.9	174.8	185.3	170.0	182.0	180.8
MT070148	191.7	176.1	184.9	169.7	182.0	180.9
MT070159	192.1	174.7	186.6	169.0	182.0	180.9
MT030042	192.3	174.8	187.2	168.7	182.0	181.0
Hockett	192.1	174.0	185.2	169.0	185.0	181.0
MT061104	192.2	175.8	187.7	168.3	182.0	181.2
MT030079	191.1	176.1	185.1	171.0	183.0	181.2
MT070157	191.9	175.9	187.2	169.3	182.0	181.3
MT040073	191.9	177.0	184.5	170.6	183.0	181.4
Champion	191.6	177.5	185.2	171.3	182.0	181.5
MT070175	192.4	177.3	186.6	170.3	181.0	181.5
MT050201	192.7	177.2	185.4	169.7	183.0	181.6
MT070158	192.5	175.1	186.0	169.3	185.0	181.6
MT040226	192.5	176.7	186.3	170.0	183.0	181.7
MT070156	192.8	175.0	186.0	170.0	185.0	181.8
MT061134	192.6	176.2	185.8	170.3	184.0	181.8
MT010158	192.4	175.5	186.3	169.7	186.0	182.0
MT050048	192.5	177.4	186.1	171.0	183.0	182.0
Metcalfe	192.5	176.5	187.1	170.6	184.0	182.1
MT020167	192.3	176.6	187.7	171.3	183.0	182.2
Bentley	192.3	177.3	186.7	170.4	185.0	182.3
MT050062	192.8	178.3	185.7	172.7	183.0	182.5
MT070062	194.8	178.6	186.0	170.9	183.0	182.7
MT010160	192.9	177.4	186.9	171.0	185.0	182.7

*Continued*

Table 13. Continued

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
Harrington	193.4	177.2	187.7	171.4	184.0	182.7
MT070111	192.9	177.4	187.3	171.7	185.0	182.9
MT050030	193.8	177.5	188.8	171.7	183.0	183.0
MT061047	192.7	178.0	187.6	171.7	185.0	183.0
MT030063	193.3	178.1	188.0	171.7	184.0	183.0
MT070125	193.1	177.3	188.6	171.3	185.0	183.0
MT070087	193.2	177.2	186.6	172.3	186.0	183.1
MT061169	193.5	178.0	187.6	171.3	185.0	183.1
Conrad	194.6	177.3	187.3	171.4	185.0	183.1
MT020162	193.2	178.0	187.1	171.7	186.0	183.2
MT061048	193.3	177.5	188.3	171.3	186.0	183.3
MT061032	192.7	177.8	188.7	172.3	185.0	183.3
MT061035	192.9	177.7	188.1	172.0	186.0	183.3
MT061045	193.2	177.6	189.4	172.0	185.0	183.4
Baronesse	193.3	177.9	189.2	172.0	185.0	183.5
MT040209	193.3	178.5	188.4	172.3	185.0	183.5
MT061036	192.5	177.8	190.0	172.0	186.0	183.7
MT070136	193.9	179.3	188.9	171.7	185.0	183.8
MT070086	194.0	176.5	188.8	174.6	186.0	184.0
Geraldine	193.9	178.8	191.8	173.3	185.0	184.6
<b>Mean</b>	192.03	176.26	186.10	169.80	182.97	181.43
<b>C.V.</b>	0.57	*	0.74	0.49	*	0.60
<b>L.S.D.</b>	1.36	*	1.72	1.02	*	1.37

\* Data collected for only 1 replication

Table 14. 2009 Montana Irrigated Intrastate Barley - Height (in.)

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
MT070086	20.4	20.0	22.5	26.9	20.4	22.0
MT070193	20.1	22.4	26.5	37.4	20.1	25.3
MT070156	24.6	24.4	26.8	34.0	24.6	26.9
MT061011	23.1	24.8	25.8	37.8	23.1	26.9
MT061025	23.4	22.6	26.5	39.1	23.4	27.0
MT070157	24.1	25.0	25.6	37.4	24.1	27.3
MT061026	24.2	25.1	25.2	38.3	24.2	27.4
MT070161	25.6	24.2	25.8	36.5	25.6	27.5
MT070158	25.2	23.6	26.5	37.8	25.2	27.6
MT070159	26.0	24.6	26.1	36.1	26.0	27.8
MT070087	26.8	24.2	27.1	34.0	26.8	27.8
MT070192	23.9	22.7	28.0	41.1	23.9	27.9
Baronesse	24.9	25.1	27.5	37.4	24.9	28.0
MT030042	25.4	25.2	26.9	38.1	25.4	28.2
MT061207	24.6	24.0	29.2	39.2	24.6	28.3
MT061169	25.7	24.4	28.6	37.3	25.7	28.4
MT020167	24.7	25.8	28.5	39.0	24.7	28.5
Conrad	26.0	24.1	28.9	38.5	26.0	28.7
MT070148	26.8	22.8	28.7	38.3	26.8	28.7
MT040209	26.4	25.7	29.4	35.7	26.4	28.7
Haxby	24.7	26.6	28.5	39.5	24.7	28.8
MT070062	26.0	24.3	29.0	39.0	26.0	28.8
Goldeneye	26.1	24.4	28.5	39.5	26.1	28.9
MT030079	24.9	27.3	28.7	38.6	24.9	28.9
MT061225	26.1	25.7	29.0	37.6	26.1	28.9
MT070174	26.4	26.2	28.5	37.2	26.4	28.9
Geraldine	25.6	26.5	29.5	37.6	25.6	29.0
MT040073	26.1	25.9	28.3	38.8	26.1	29.0
Hockett	26.1	26.2	28.7	38.3	26.1	29.1
MT061032	27.3	26.2	28.5	36.6	27.3	29.2
MT061048	27.3	27.0	29.2	36.2	27.3	29.4
MT020155	26.7	25.8	28.1	40.1	26.7	29.4
MT070136	27.2	28.2	29.4	35.9	27.2	29.6
MT050030	27.4	26.7	30.0	36.5	27.4	29.6
MT061248	26.8	25.3	28.1	40.9	26.8	29.6
MT061036	28.1	26.3	28.5	37.2	28.1	29.6
MT070219	24.4	26.7	30.4	42.2	24.4	29.6
MT010158	27.0	24.6	30.3	39.5	27.0	29.7
MT061035	29.4	24.5	27.7	38.0	29.4	29.8
MT070111	28.1	27.1	28.8	37.6	28.1	29.9
MT061047	28.5	26.4	28.8	37.6	28.5	30.0
MT010160	27.9	25.4	30.7	38.1	27.9	30.0
MT050049	27.4	27.2	29.5	39.1	27.4	30.1
Harrington	27.0	27.3	31.3	38.0	27.0	30.1

*Continued*

Table 14. Continued

ID	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
Champion	28.1	27.5	29.8	37.4	28.1	30.2
MT070125	27.4	26.2	29.1	40.9	27.4	30.2
MT061045	28.9	27.2	29.4	37.2	28.9	30.3
MT020205	28.0	25.9	29.5	41.3	28.0	30.5
MT020204	28.6	25.1	30.7	40.7	28.6	30.7
MT061104	28.4	25.3	30.3	41.9	28.4	30.9
MT070175	28.3	26.8	30.4	40.9	28.3	31.0
MT020162	28.2	26.0	31.6	40.8	28.2	31.0
MT040226	28.0	26.8	32.2	40.4	28.0	31.1
MT061201	27.5	27.1	30.0	43.3	27.5	31.1
MT061134	29.5	25.8	30.3	40.7	29.5	31.2
Metcalfe	29.2	27.2	31.0	39.6	29.2	31.2
MT050048	29.1	28.2	29.5	40.5	29.1	31.3
MT030063	28.2	27.8	32.2	41.4	28.2	31.6
MT070063	29.4	28.0	30.6	41.5	29.4	31.8
Craft	29.6	28.5	30.6	40.8	29.6	31.8
MT050201	29.5	28.9	32.8	40.5	29.5	32.2
Tradition	28.1	28.5	33.1	43.5	28.1	32.3
Bentley	30.4	29.6	31.8	41.4	30.4	32.7
MT050062	30.4	30.6	32.4	41.9	30.4	33.1
<b>Mean</b>	26.70	25.86	28.99	38.69	26.70	29.39
<b>C.V.</b>	2.79	2.46	2.36	2.43	*	2.51
<b>L.S.D.</b>	2.33	2.16	2.16	2.45	*	2.28

\* Data collected for only 1 replication

Table 15. 2009 Montana Irrigated Intrastate Barley - Thins (%)

Cultivar	Bozeman	Sidney	Huntley	Conrad	Mean
Tradition	1.4	4.0	0.9	0.2	1.6
MT061248	1.9	6.0	0.9	1.3	2.5
MT061207	1.3	7.0	0.9	1.0	2.6
MT070174	1.4	7.0	0.8	1.2	2.6
MT070136	3.3	6.0	0.7	0.8	2.7
MT010158	2.7	5.0	1.7	1.4	2.7
Bentley	3.0	7.0	0.8	0.8	2.9
MT050201	2.4	7.0	1.0	1.6	3.0
MT010160	2.0	7.0	1.2	1.9	3.0
MT070148	3.4	6.0	0.7	2.0	3.0
MT061134	2.2	8.0	1.4	0.7	3.1
Conrad	3.2	7.0	1.6	1.0	3.2
MT050048	1.1	10.0	1.1	0.7	3.2
MT070161	2.8	6.0	2.9	1.3	3.2
MT070158	3.3	5.0	2.6	2.6	3.4
Champion	2.6	9.0	0.9	1.0	3.4
MT070111	4.8	6.0	2.0	1.0	3.5
MT061104	2.2	9.0	1.6	1.2	3.5
MT070063	3.8	5.0	3.5	1.7	3.5
MT061045	3.6	6.0	3.3	1.3	3.5
Haxby	3.2	7.0	1.5	2.6	3.6
MT070125	3.2	8.0	1.5	1.6	3.6
Harrington	4.0	7.0	1.8	1.5	3.6
MT061201	3.6	7.0	2.4	1.5	3.6
MT070087	6.7	4.0	2.4	1.5	3.6
MT020162	2.9	6.0	3.8	2.0	3.7
MT061036	4.3	6.0	3.2	1.3	3.7
Craft	4.0	8.0	1.5	1.4	3.7
Hockett	5.1	6.0	1.5	2.4	3.7
MT070086	5.4	6.0	2.4	1.3	3.8
MT050049	1.9	11.0	1.3	1.1	3.8
MT070157	3.5	7.0	2.8	2.1	3.8
MT061048	5.7	5.0	3.9	1.1	3.9
MT070156	3.1	7.0	2.9	2.8	3.9
MT040226	4.3	9.0	1.7	1.1	4.0
MT070062	5.4	4.0	3.2	3.9	4.1
MT020167	4.4	8.0	3.0	1.2	4.2
MT030063	2.7	11.0	2.1	1.4	4.3
MT070175	2.7	11.0	1.8	1.9	4.4
MT050030	2.9	12.0	1.5	1.1	4.4
MT061047	4.9	7.0	4.1	1.5	4.4
MT030079	4.5	11.0	1.2	0.8	4.4
MT070159	3.5	9.0	3.9	1.2	4.4
MT050062	3.0	10.0	2.8	1.9	4.4

*Continued*

Table 15. Continued

Cultivar	Bozeman	Sidney	Huntley	Conrad	Mean
MT061011	7.3	6.0	2.2	2.2	4.4
MT040073	3.4	9.0	3.0	2.7	4.5
MT061225	4.9	8.0	4.0	1.2	4.5
MT020205	5.2	9.0	2.3	2.1	4.6
MT061025	7.1	8.0	1.4	2.4	4.7
MT061035	5.3	8.0	4.7	1.1	4.8
Metcalfe	6.2	10.0	1.9	1.5	4.9
MT061032	4.7	10.0	3.9	1.0	4.9
Goldeneye	7.5	10.0	1.9	0.8	5.0
MT061169	5.2	9.0	2.5	3.6	5.1
MT020204	4.9	11.0	2.4	2.6	5.2
Baronesse	4.3	11.0	5.4	1.1	5.5
MT061026	8.8	8.0	3.8	1.8	5.6
MT040209	4.7	10.0	5.4	2.3	5.6
MT020155	5.6	13.0	1.6	2.3	5.6
MT030042	10.4	7.0	2.9	2.6	5.7
Geraldine	7.2	10.0	5.7	1.0	6.0
MT070219	7.8	14.0	2.1	1.6	6.4
MT070193	12.9	8.0	3.1	2.0	6.5
MT070192	11.6	11.0	2.8	2.3	6.9
<b>Mean</b>	4.41	7.97	2.40	1.61	4.10
<b>C.V.</b>	5.41	*	9.29	6.40	7.03
<b>L.S.D.</b>	1.95	*	2.32	1.39	1.89

\* Data collected for only 1 replication

Table 16. 2009 Montana Irrigated Intrastate Barley - Plump (%)

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
Tradition	91.9	95.0	98.0	97.3	99.1	96.3
MT061248	94.0	93.0	99.0	97.9	97.0	96.2
MT061207	94.3	91.0	99.0	97.7	97.3	95.9
Bentley	91.1	92.0	99.0	98.3	97.6	95.6
MT070136	89.9	93.0	98.5	98.1	97.6	95.4
MT070174	95.1	87.0	98.5	98.2	97.0	95.1
MT070148	92.1	91.0	97.5	98.5	95.9	95.0
MT050048	93.7	88.0	99.0	96.7	97.4	95.0
MT061134	92.5	90.0	97.5	95.9	98.1	94.8
MT010158	90.3	92.0	98.5	95.7	97.0	94.7
MT070125	90.9	90.0	98.0	97.0	97.2	94.6
MT061201	89.9	92.0	99.5	94.8	96.5	94.6
Champion	91.7	89.0	97.5	97.3	97.1	94.5
Conrad	90.0	91.0	98.5	96.0	97.0	94.5
MT050049	92.7	87.0	98.5	96.8	97.4	94.5
MT050201	91.2	91.0	95.0	97.4	96.5	94.2
MT070161	90.7	92.0	97.0	94.7	96.6	94.2
MT010160	90.6	91.0	96.0	97.2	95.6	94.1
Craft	89.2	91.0	97.0	96.4	96.7	94.1
MT070158	89.6	93.0	98.0	94.9	94.3	94.0
MT061104	92.2	87.0	97.5	96.0	97.1	94.0
Harrington	87.3	92.0	98.5	95.6	96.4	94.0
MT030063	91.2	87.0	99.5	94.8	97.0	93.9
MT070111	87.5	92.0	97.5	94.8	97.2	93.8
MT070157	89.7	91.0	98.0	94.6	95.6	93.8
Haxby	89.4	90.0	98.0	96.5	94.5	93.7
MT020162	90.7	90.0	99.0	92.9	95.7	93.7
MT070086	87.1	93.0	97.0	93.7	96.9	93.5
MT030079	88.0	86.0	98.5	96.6	97.8	93.4
MT070175	90.5	87.0	98.5	95.6	95.3	93.4
MT040226	88.3	87.0	98.5	95.9	97.2	93.4
MT050030	91.3	84.0	97.5	96.9	97.0	93.3
MT020167	87.9	90.0	98.0	93.6	97.0	93.3
MT061045	89.1	91.0	97.5	91.3	96.8	93.2
MT061036	88.9	92.0	96.0	92.0	96.5	93.1
MT070062	84.4	96.0	98.5	93.3	92.9	93.0
MT070156	90.1	90.0	96.5	94.1	94.1	93.0
MT040073	89.5	89.0	97.5	93.4	95.3	92.9
MT061048	85.9	92.0	97.0	91.7	97.6	92.8
MT061225	86.7	90.0	98.0	92.4	96.9	92.8
MT020205	86.2	90.0	98.0	94.5	95.1	92.8
MT070063	86.9	92.0	98.0	91.4	95.4	92.7
Hockett	86.4	92.0	93.5	96.4	95.3	92.7
MT061047	87.8	90.0	98.5	90.3	96.8	92.7

*Continued*

Table 16. Continued

Cultivar	Bozeman	Sidney	Kalispell	Huntley	Conrad	Mean
MT070159	88.5	90.0	96.5	91.8	96.5	92.7
MT050062	90.6	85.0	98.0	92.5	95.9	92.4
Metcalfe	85.2	88.0	97.5	94.3	96.1	92.2
MT061169	85.9	88.0	97.5	95.4	93.8	92.1
MT070087	83.4	92.0	95.0	93.4	96.3	92.0
MT061035	86.7	89.0	97.0	89.6	97.4	91.9
Baronesse	88.6	84.0	98.5	88.7	97.2	91.4
MT061032	88.0	83.0	98.0	90.5	97.5	91.4
MT020204	86.5	85.0	97.5	93.0	94.0	91.2
MT061025	79.1	91.0	93.5	95.1	92.9	90.3
MT020155	81.7	84.0	95.5	96.1	94.1	90.3
Goldeneye	80.0	88.0	91.0	94.8	97.6	90.3
MT030042	75.5	91.0	96.5	93.7	93.4	90.0
MT040209	84.7	88.0	93.5	88.9	93.9	89.8
MT061011	78.6	92.0	91.0	93.4	92.9	89.6
Geraldine	81.0	86.0	95.5	86.7	97.6	89.4
MT061026	74.7	91.0	90.5	89.6	93.5	87.9
MT070219	73.2	84.0	93.0	92.7	94.1	87.4
MT070193	68.7	91.0	92.5	90.2	93.5	87.2
MT070192	71.6	87.0	88.5	90.9	93.7	86.3
<b>Mean</b>	87.29	89.63	96.89	94.30	96.07	92.83
<b>C.V.</b>	2.16	*	*	2.82	1.44	2.14
<b>L.S.D.</b>	3.47	*	*	44.42	2.42	16.77

\* Data collected for only 1 replication