

Project Title: Agronomic Performance Evaluation of Intrastate Spring Barley Cultivars.

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Objectives:

To evaluate spring barley cultivars and experimental lines for agronomic performance in environments and cropping systems representative of northwestern Montana.

Results:

Above average temperatures and dry conditions reduced plumpness and grain yield. Yields were reduced by over 30 percent compared to the previous year, averaging only 78 bu/ac, and ranging from 64 to 86 bu/ac. Baronesse was the highest yielding commercial variety, producing 81.8 bu/ac. Despite the dry-hot conditions, test weights were good and ranged from 44 to 53 lb/bu with an average of 50 lb/bu. Grain plumpness was less than previous year and averaged only 72%. Days to heading averaged around 176 Julian days. Plant height ranged from 26 to 33 inches. Protein content ranged from 13.2% to 17.2% with an average of 15.6%.

Summary:

Above average temperatures and relatively dry conditions during heading and grain filling reduced grain yield, and plumpness. MT030063 and MT030042 were among the best cultivars, producing high yields, large seed and good test weights.

Future Plans:

Continue barley evaluations for the purpose of identifying cultivars best suited for District 1.

Table 1. Agronomic data from the Intrastate Spring Barley Nursery grown at the Northwestern Agricultural Research Center Kalispell, MT.

Planted: April 16, 2007

Harvested: August 2, 2007

Cultivar	Yield	Test weight	Grain moisture	Heading date	Plant height	Plump	Protein
	bu/ac	lb/bu	%	Julian	in	%	%
MT040013	86.0	49.1	10.4	177.0	29.5	68.1	14.0
MT030063	85.4	52.4	10.4	177.1	32.6	82.6	15.6
MT910189	85.1	51.0	10.8	175.0	30.0	76.7	14.9
MT050030	84.6	48.1	11.0	177.8	30.4	53.6	15.3
MT030042	83.9	53.2	11.7	176.4	28.0	81.9	13.2
MT050050	83.9	49.4	10.8	175.0	30.9	68.5	15.8
MT040204	83.4	45.3	9.9	179.5	29.2	44.4	15.3
MT040226	83.1	52.0	11.0	174.2	30.2	62.9	15.2
MT030144	83.0	51.5	10.3	178.3	29.4	79.3	15.7
MT050035	83.0	50.9	11.0	176.8	31.5	82.7	15.3
MT050201	82.8	51.9	11.0	173.3	32.1	86.2	14.1
MT040073	82.4	52.5	11.3	173.4	29.7	72.1	15.9
MT050049	82.3	51.7	11.2	175.1	30.7	76.2	14.4
MT020162	81.8	48.6	10.1	177.5	29.9	76.3	15.4
Baronesse	81.8	49.1	10.2	176.6	27.9	68.6	15.6
MT050104	81.6	51.1	11.0	173.2	30.4	89.1	16.0
MT020205	81.4	49.6	10.0	172.9	32.6	74.8	16.2
Boulder	81.4	51.1	11.0	176.7	29.6	74.0	15.8
Conrad	81.3	47.5	10.0	179.8	27.6	77.3	16.7
MT050047	81.3	52.5	11.1	171.9	32.8	80.8	14.8
MT050048	80.7	52.4	11.4	175.3	29.4	80.7	14.9
MT020204	80.7	49.8	10.7	172.8	29.9	79.4	15.8
MT050110	80.6	51.6	9.1	175.9	29.4	93.6	15.5
MT020064	80.4	51.5	10.5	176.1	30.4	90.0	15.7
2B992316	80.3	49.9	10.7	176.6	29.6	73.4	14.6
YU501385	80.3	51.9	11.0	174.6	29.5	74.0	14.4
MT050062	80.2	50.8	10.9	175.3	32.1	71.6	14.1
MT040181	79.7	48.9	10.5	181.3	26.9	59.6	15.2
LR116 6	79.6	51.0	10.8	171.7	33.8	76.4	15.9
MT970116	79.5	51.0	11.0	172.2	32.3	70.5	15.1
MT040209	79.2	47.1	11.0	178.9	27.4	52.3	16.5
MT040058	79.2	52.1	10.6	175.6	28.7	71.2	15.5
MT040024	78.9	49.4	10.3	174.1	28.6	62.5	15.5
Metcalfe	78.7	48.0	8.8	175.0	31.1	79.1	16.2
MT050081	78.4	51.7	10.8	172.0	33.8	88.3	16.4

Table 1 (Continued). Agronomic data from the Intrastate Spring Barley Nursery grown at the Northwestern Agricultural Research Center Kalispell, MT.

Planted: April 16, 2007

Harvested: August 2, 2007

Cultivar	Yield	Test weight	Grain moisture	Heading date	Plant height	Plump	Protein
	bu/ac	lb/bu	%	Julian	in	%	%
MT010158	78.3	50.2	11.4	176.5	28.9	75.1	16.2
MT040220	78.1	47.7	11.2	179.2	29.8	44.6	17.2
Eslick	78.0	46.9	10.1	182.3	26.3	45.3	15.5
MT010160	77.8	50.6	10.9	177.6	31.2	79.7	14.9
MT030079	77.8	50.0	10.7	176.0	29.4	56.4	15.3
MT050082	77.6	49.4	9.7	172.4	31.9	86.2	16.6
Haxby	77.6	51.4	10.1	172.6	29.6	72.9	15.7
Tradition	77.1	49.7	10.3	170.4	32.6	64.5	14.8
MT040136	76.5	52.2	10.8	177.2	29.5	69.9	15.2
MT050080	76.4	51.5	10.9	173.2	33.1	85.2	15.7
MT040231	76.4	49.7	10.8	173.8	29.4	50.0	16.0
MT030137	76.2	49.7	11.5	175.7	28.2	72.3	17.2
MT020155	75.9	49.1	10.2	170.5	31.4	65.8	15.6
Conlon	75.8	48.8	10.4	165.0	29.9	83.2	15.1
MT050187	75.6	51.4	9.0	174.7	30.1	67.7	16.8
MT050182	75.3	51.7	11.1	176.5	30.3	84.9	15.9
Harrington	75.3	48.5	10.5	177.2	29.2	71.1	14.4
MT050184	75.3	51.3	11.4	174.4	31.8	80.7	16.6
MT040130	74.9	47.8	9.9	178.9	28.4	56.0	16.8
MT050117	74.9	49.1	10.4	174.0	29.1	80.8	16.4
MT050088	74.6	50.8	10.8	175.8	29.1	86.5	16.7
MT040216	74.2	50.5	11.2	178.4	28.4	57.7	16.2
LR101 30	73.3	47.1	10.3	180.4	28.6	37.9	16.4
2B992657	72.0	43.9	9.7	177.6	29.3	69.2	16.2
MT960101	71.5	49.4	9.7	180.6	27.7	72.0	14.5
MT020167	68.6	49.3	10.3	176.1	29.4	74.6	15.9
MT040106	68.6	48.5	10.2	182.2	28.9	84.3	15.7
MT040110	67.2	49.5	11.2	183.2	28.3	63.7	17.2
MT040107	64.0	48.4	10.2	182.6	27.7	51.6	16.7
<b>Mean</b>	<b>78.4</b>	<b>50.0</b>	<b>10.6</b>	<b>175.9</b>	<b>29.9</b>	<b>71.7</b>	<b>15.6</b>
<b>C.V. (%)</b>	<b>14.2</b>			<b>1.0</b>	<b>5.7</b>		
<b>LSD (0.05)</b>	<b>12.2</b>			<b>2.8</b>	<b>1.9</b>		