

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 high precipitation provided ideal conditions for barley growth and development. The plants were about 7 inches taller than last year, which resulted in moderate to severe lodging for most of the entries. Consequently, yield was greatly reduced. Mean yield was 114 bu/ac and ranged from 90.4 to 144.6 bu/ac. Despite the yield loss, most of the entries had excellent test weight that ranged from 46.2 to 53.4 lb/bu with an average of 51 lb/bu. Grain plumpness was less than previous year and averaged 85%. Heading was delayed a few days compared to last year and averaged around Julian 178. Plant height ranged from 35 to 45 inches. All entries had some degree of lodging except Calgary. Lodging ranged from 0 to 85%. Average protein content was 14.7% and ranged from 12.5 to 17%.

Summary:

High soil moisture particularly during vegetative growth resulted in delayed heading, increased plant height, and increased lodging. Consequently, yield and plumpness were reduced. Top yielding cultivars Calgary, MT040114, and MT040106 had less lodging.

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 26, 2006

Harvested: August 28, 2006

Entry	Cultivar	Yield	Test	Grain	Heading	Plant	Lodging	Plump	Protein
		bu/ac	weight lb/bu	moisture %	date Julian	height in	----- % -----	----- % -----	----- % -----
49	MT040114	144.6	52.9	12.4	178.0	39.8	34.2	97.4	13.0
6	Calgary	144.5	51.8	11.7	178.0	35.0	0.0	93.5	13.3
46	MT040106	142.1	51.8	12.6	178.3	37.7	28.2	96.7	13.7
12	2B992657	141.0	48.4	12.1	178.3	40.8	70.0	84.2	15.0
44	MT040104	133.3	52.2	12.4	177.0	40.8	28.4	91.9	15.5
45	MT040105	128.6	53.0	12.3	179.7	39.6	28.6	97.5	12.9
15	MT960101	128.5	51.7	12.2	180.0	39.4	37.5	88.9	14.0
51	MT040130	127.5	53.2	12.6	178.0	40.6	39.5	99.2	12.5
4	WPB Xena	127.5	50.0	13.2	178.3	43.0	61.4	77.6	14.9
61	LR101 21	125.9	51.4	13.4	180.3	38.8	42.3	92.2	13.7
39	MT040021	122.9	51.0	13.8	177.3	40.8	57.6	95.7	15.4
57	MT040216	122.0	53.3	11.9	179.0	38.5	38.8	96.3	14.0
62	LR101 30	120.5	51.0	12.8	180.0	40.7	40.0	89.2	13.9
40	MT040024	120.0	51.8	13.3	177.0	39.5	50.2	89.9	14.1
22	MT010080	118.1	50.5	13.1	176.0	42.7	35.6	88.3	15.6
50	MT040129	117.9	52.3	12.9	180.0	40.4	55.0	93.9	14.1
3	Baronesse	117.9	49.5	12.4	178.3	38.7	64.8	79.1	14.9
41	MT040058	117.9	52.1	13.0	177.0	40.6	65.4	91.2	14.0
21	MT000138	117.9	53.4	12.2	176.3	42.7	40.8	99.6	14.5
42	MT040073	117.6	53.1	12.6	177.7	40.4	75.9	87.4	15.1
48	MT040110	117.4	52.9	13.1	179.3	39.5	50.9	93.7	14.3
1	Haxby	117.1	52.4	12.6	177.3	43.2	62.7	87.3	14.7
30	MT020167	117.0	51.7	15.0	177.3	41.5	69.0	87.0	15.7
38	MT040013	116.8	50.5	12.6	179.0	42.3	60.2	83.8	14.8
20	MT000125	116.7	52.2	14.4	177.3	42.4	36.8	94.4	14.2
13	YU501385	116.6	52.1	12.5	176.7	42.0	53.5	95.6	13.9
35	MT030079	116.6	52.5	13.3	178.0	41.2	59.4	93.0	13.7
52	MT040134	115.9	50.9	12.0	179.3	40.3	67.7	77.5	15.4
16	MT970116	115.5	51.8	13.9	177.3	43.0	60.9	94.2	14.5
14	MT910189	115.4	51.1	13.2	176.7	40.4	60.5	92.3	14.4
60	MT040231	114.4	52.1	12.8	177.0	41.9	65.9	90.7	15.1
32	MT020205	113.9	50.1	12.9	176.3	42.7	67.9	82.5	15.9
28	MT020155	113.7	51.3	13.0	173.3	43.4	63.7	82.5	14.1
26	MT010162	113.4	50.9	11.7	178.3	44.2	61.9	77.0	15.9
19	MT000047	113.4	52.2	12.4	177.0	41.9	33.8	87.3	14.4

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

Planted: April 26, 2006

Harvested: August 28, 2006

Entry	Cultivar	Yield	Test	Grain	Heading	Plant	Lodging	Plump	Protein
		bu/ac	weight lb/bu	moisture %	date Julian	height in	----- %	-----	
17	MT970229	112.9	52.2	13.2	179.0	42.0	46.2	91.0	13.8
29	MT020162	112.9	51.0	12.7	178.3	43.3	40.6	86.8	14.3
59	MT040226	112.4	52.3	12.6	177.3	44.6	71.3	73.1	15.1
34	MT030063	112.1	50.0	12.8	179.7	45.1	51.2	77.8	15.0
36	MT030137	110.9	50.4	12.2	176.0	40.0	59.6	82.4	17.1
64	LR116 6	110.7	51.8	12.5	177.0	43.8	32.5	87.0	13.7
10	Tradition	109.6	50.9	12.3	175.0	44.5	29.4	78.5	15.0
31	MT020204	109.1	50.9	13.1	176.7	41.3	70.1	82.5	16.0
54	MT040181	108.7	50.6	12.6	178.7	38.6	70.5	75.7	15.1
47	MT040107	108.2	51.8	12.5	178.7	38.7	66.5	84.4	14.8
24	MT010158	108.2	49.9	12.6	177.3	42.8	59.5	82.6	14.3
56	MT040209	107.2	49.1	14.6	178.7	39.9	71.3	71.6	14.1
27	MT020064	106.7	50.3	11.9	176.3	41.5	68.9	74.9	15.8
58	MT040220	106.6	50.3	12.8	179.3	39.9	70.5	84.0	14.0
33	MT030042	106.1	50.8	13.5	177.3	37.1	78.5	80.6	13.8
53	MT040136	105.9	50.0	11.9	178.0	40.6	70.6	71.7	16.1
43	MT040093	105.8	50.2	13.2	178.0	40.6	62.4	85.9	15.6
2	Eslick	105.2	51.4	12.8	178.0	40.9	64.2	89.7	14.6
9	Conrad	104.4	48.0	13.3	178.0	39.1	75.4	72.9	16.5
63	LR116 5	103.5	51.4	13.0	177.0	42.4	37.7	84.9	13.5
55	MT040204	102.9	47.4	12.8	180.0	40.7	85.2	73.5	15.6
5	Boulder	101.4	49.5	12.3	178.0	41.9	69.2	67.8	17.0
23	MT010081	101.2	51.6	12.9	177.0	42.4	46.0	90.1	14.9
37	MT030144	100.7	51.6	12.8	177.0	39.4	65.6	89.9	14.8
7	Harrington	97.8	48.3	13.1	179.3	41.1	59.8	78.4	14.0
8	Metcalfe	96.4	49.1	13.2	177.0	42.3	78.9	84.7	14.8
25	MT010160	95.8	49.1	12.4	178.3	42.0	57.0	78.0	14.0
11	2B992316	91.3	46.2	12.7	178.0	39.1	80.8	64.4	15.3
18	MT000040	90.4	50.7	13.2	178.0	39.9	63.9	84.7	15.6
Mean		114.3	51.0	12.8	177.8	41.0	55.8	85.6	14.7
CV (%)		10.7			0.4	3.3	29.5		
LSD (0.05)		19.0			1.2	2.1	25.6		