PROJECT TITLE: Agronomic performance evaluation of Spring Malt Barley Cultivars near Ronan, MT.

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OBJECTIVES:

To evaluate two and six row spring malt barley cultivars for yield, test weight, harvest moisture, plump, and protein in environments and cropping systems representative of western Montana.

RESULTS:

Irrigation water and stored soil moisture replaced normal rainfall during the growing season. While lack of precipitation limited crop disease development, a summer hailstorm may have limited yields, particularly for the six row varieties. Barley yields ranged from a low of 112 and 114 bu/acre for cultivars Galena and Moravian 22 to high yields of 146, 147, and 155 for Baronesse, Menuet, and GS 1750, respectively (Table 1). All test weights exceeded 50 lbs/bu. The greatest test weight was 54.4 lbs/bu from cultivar Gallatin. GS 1750 and Gallatin had moistures levels above 14 percent. Plump percentages all exceeded 85 %. MTLB 05, Merit, B2L20-36, and Morex had protein percentages below 14 percent. Moravian 22 had a protein of 16.48 percent, but Baronesse, Gallatin, Foster, and Galena had protein percentages above 15. The nursery was planted on April 7 and harvested on August 10.

SUMMARY:

Despite limited rainfall events during head filling, reserve subsoil moisture permitted excellent yields, test weights and plumps. Although all yields were excellent, several cultivars exhibited superior yield performance. Protein percentages of some cultivars were greater than desirable for malting.

FUTURE PLANS:

None.

Table 1. Agronomic data from the Off-station Spring Malt Barley Nursery grown at the Tobol Farm in Cooperation with Westland Seed Inc. Ronan, MT.

Variety	[1]Yield Bu/A	[2]Test Wt Lbs/Bu	Moist %	Plump %	[2]Protein %
GS 1750	155.3	53.1	14.0	94.6	14.82
Menuet	146.9	53.7	12.8	89.9	14.10
Baronesse	146.2	52.9	12.9	91.7	15.77
Busch Agri 1202	142.6	52.6	13.3	93.4	14.53
Chinook	136.3	53.6	13.3	94.6	14.13
MT910189	134.0	52.7	13.2	93.1	14.41
[3]Stander	131.4	51.8	13.5	92.7	14.53
Harrington	128.7	53.7	13.7	96.2	14.73
MTLB 05	128.2	53.5	13.7	91.8	13.75
Coors 37	127.0	54.0	13.3	97.3	14.90
Klages	126.0	52.4	12.8	85.7	14.25
Merit	123.3	52.7	13.1	92.7	13.84
Gallatin	122.7	54.4	14.6	92.8	15.17
[3]Excel	119.7	52.3	13.0	93.9	14.57
B2L20-36	119.3	51.9	12.9	90.6	13.99
B2L20-42	117.7	50.9	13.2	91.8	14.36
[3]Foster	116.3	52.7	13.5	92.7	15.23
[3]Morex	115.5	52.8	13.4	90.2	12.38
Moravian 22	113.6	52.1	13.0	97.2	16.48
Galena	111.5	52.6	13.8	95.9	15.65
Mean	128.1	52.8	13.3	92.9	14.58
[4]LSD p=0.05	29.5	2.2	1.1		
C.V.	14	2	5		
Replicate F	18.96	0.55	10.19		
Replicate Prob (F)	<0.0001	0.5827	0.0003		
Treatment F	1.4	1.18	1.42		
Treatment Prob (F)	0.1830	0.3195	0.1756		

[1]Yields adjusted to 13 % moisture.
[2]Plump and protein (composite sample) 1 replicate only
[3]Six-rowed cultivar
[4]Data analyzed as RCBD with GLM of SAS