

Project Title: 2019 Hulless Barley Trial

Objective: To evaluate the performance of selected hulless barley varieties in northwestern Montana

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Summary:

The hulless barley trial was planted in April, 2019, and managed under rainfed conditions (Table 1). This nursery received 4.7 inches of rain from planting to harvest.

The highest-yielding variety was 09WA-265.12 at 159.4 bu/A, and the lowest-yielding variety was MT17H09402 at 97.4 bu/A. The average yield in the study was 133.7 bu/A (Table 2).

Plant heights ranged from 75.2 cm (OR29-2-B) to 94.3 cm (MT16H21503) with an average height of 84.7 cm.

Test weights between the varieties were not statistically different (mean test weight was 62.3 lb/bu), and protein values ranged from 11.7% (MT16H09308) to 14.6% (OR29-4-B).

Table 1. Management information

| | | | |
|----------------|--------------------|------------------------------------------------------------------------------------------|-------------------|
| Seeding date: | 4/29/19 | Field: | X4 |
| Julian date: | 119 | Harvest date: | 8/28/2019 |
| Seeding rate: | n/a | Julian dates: | 240 |
| Previous crop: | Faba | Soil type: | Creston silt loam |
| Herbicide: | Huskie/Axial: 5/23 | Tillage: | Conventional |
| Insecticide: | None | Soil residual nutrient (NO ₃ ⁻ , P, K lb/A): | 122-14-212 |
| Fungicide: | None | Nutrient fertilizer applied (N, P ₂ O ₅ , K ₂ O lb/A): | 28-35-90 |

Table 2. Agronomic performance of the hulless barley varieties

| Variety | Grain Yield (bu/A) | Height (cm) | Protein (%) | TWT (lb/bu) | Plump (%) |
|-------------------|--------------------|-------------|-------------|-------------|-----------|
| 09WA-265.12 | 159.4 | 82.5 | 13.4 | 64.8 | 95.1% |
| OR23-B | 148.4 | 92.0 | 13.6 | 61.9 | 95.2% |
| MT16H09302 | 147.6 | 85.8 | 12.3 | 63.3 | 88.4% |
| OR27-1-C | 146.4 | 88.5 | 13.3 | 64.8 | 94.5% |
| Havener | 145.3 | 75.7 | 13.2 | 65.3 | 95.1% |
| OR29-2-B | 140.9 | 75.2 | 12.8 | 63.4 | 94.9% |
| MT16H21503 | 135.7 | 94.3 | 13.2 | 63.8 | 91.4% |
| MT16H09210 | 134.3 | 88.0 | 13.0 | 63.2 | 96.7% |
| OR29-4-B | 131.5 | 86.7 | 14.6 | 46.2 | 92.2% |
| OR45-1-B | 129.4 | 91.7 | 13.2 | 63.1 | 85.9% |
| OR29-3-C | 129.0 | 85.0 | 14.5 | 64.2 | 94.3% |
| OR33-3-A | 125.3 | 89.2 | 13.7 | 64.0 | 95.5% |
| MT16H22201 | 123.9 | 77.2 | 12.0 | 63.0 | 65.5% |
| MT17H09304 | 123.1 | 84.8 | 12.8 | 62.8 | 95.4% |
| MT16H09308 | 121.9 | 76.7 | 11.7 | 62.9 | 91.3% |
| MT17H09402 | 97.4 | 82.3 | 14.4 | 60.9 | 94.5% |
| Mean | 133.7 | 84.7 | 13.2 | 62.3 | 91.6% |
| LSD (0.05) | 36.38 | 14.08 | 1.86 | 25.34 | 5.90 |
| CV% | 6.9 | 4.1 | 3.5 | 10.2 | 1.6 |
| Pr>F | <0.001 | <0.001 | <0.001 | ns* | <0.001 |

TWT = test weight

*ns = not significant

**test weight and yield standardized to 12% moisture level