**Title:** 202~~4~~ Briess Strip Trial Performance Evaluation

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**Introduction**

The University of Wyoming Powell Research and Extension Center (PREC) conducts a barley variety performance trial in cooperation with Briess Malting and Ingredients Company as part of an ongoing variety development program.

**Objectives**

The purpose of this trial is to observe and evaluate the performance of different malt barley varieties in the Big Horn Basin. Briess uses the data from this trial to perform an initial screening of varieties they are considering growing commercially. Data on grain yield, plant height, lodging, plump weights, and protein concentration are some of the factors considered by Briess and malt barley growers.

**Materials and Methods**

The experiment was located at PREC during 2024. Fertilizer was applied March 29 at the rates of 120 lb/ac of nitrogen (N), 70 lb/ac of P2O5, 20 lb/ac K2O, 50 lb/ac humic acid, 6 lb/ac zinc, 4 lb/ac manganese, and 1 lb/ac boron based on a February soil test. The trial was laid out in strips, where each variety was only planted in one strip (no replicates). On 6 April, 21 barley varieties were established in plots 120 feet by 7.3 feet set at a row spacing of 7 inches. The seeding rate was 100 pounds of seed per acre. Soil type was a Garland clay loam. Weeds were controlled by a post application of HuskyFX® 13 oz/ac. on 21 May. Flood irrigation was applied on 22 April, 29 May, 11 June, 23 June, and 9 July. Measurements included heading and maturity dates, height, lodging (0% = no lodging and 100 = complete lodging), grain yield, test weight, and moisture (Table 1). Plots were harvested on 19 Aug using a Zurn research plot combine, and the entirety of the plot was saved. Briess then took a subsample of each plot to measure plump weights, dockage, protein, skinned kernels, and test for disease (Table 2).

**Results and Discussion**

Results from 2024 are presented in Table 1 and 2. The highest yielding entry was LGBU16-1519A at 245 bu/ac. Test weights measured by the combine and by Briess were highly correlated (r = 0.902) but the combine values ran 1 percentage point higher. The high test weight for CDC Clear did not appear to be an anomaly. Barley yields and quality across the Bighorn Basin in 2024 were among the highest observed in recent years.

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Table 1. Briess barley strip trial data collected at PREC (Powell, WY) in 2024.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Variety** | **DTM2** | **Average Height** | **Lodging** | **Moisture** | **Test Weight** | **Yield 1** |
|  |  | **(cm)** | **(%)** | **(%)** | **(lbs/bu)** | **(bu/acre)** |
| AAC Synergy | 104 | 98 | 10 | 9.2 | 51.4 | 160 |
| AB Dram | 104 | 103 | 40 | 10.1 | 54.0 | 134 |
| ACC Connect | 104 | 104 | 20 | 9.5 | 53.1 | 162 |
| BC Elinor | 110 | 86 | 10 | 6.9 | 50.1 | 236 |
| BC Leandra | 110 | 83 | 5 | 8.4 | 50.9 | 227 |
| BC Lexy | 110 | 88 | 5 | 7.9 | 51.8 | 224 |
| CDC Bow | 104 | 106 | 0 | 8.9 | 53.4 | 144 |
| CDC Churchill | 104 | 102 | 40 | 8.4 | 52.5 | 167 |
| CDC Clear | 105 | 99 | 5 | 16.5 | 62.1 | 132 |
| CDC Copeland | 104 | 105 | 20 | 8.8 | 52.9 | 154 |
| CDC Fraser | 104 | 100 | 10 | 8.2 | 51.3 | 160 |
| LCS Bojo (Czech) | 110 | 87 | 0 | 10.3 | 54.6 | 188 |
| LCS Bojo (WY) | 110 | 91 | 5 | 10.4 | 54.3 | 193 |
| LGBU16- 1519A | 110 | 82 | 20 | 6.1 | 49.3 | 245 |
| LGBU16- 1322A | 110 | 83 | 30 | 7.7 | 51.4 | 195 |
| LGBU17- 1320A | 110 | 76 | 0 | 5.7 | 49.2 | 224 |
| LGBU17- 8502A | 110 | 77 | 0 | 6.8 | 50.7 | 196 |
| LGBU17- 8509B | 110 | 81 | 0 | 6.7 | 51.1 | 210 |
| RGT Asteroid | 110 | 81 | 5 | 7.3 | 51.4 | 216 |
| RGT Planet | 110 | 86 | 10 | 8.0 | 51.7 | 222 |
| Voyager | 105 | 108 | 10 | 9.7 | 53.5 | 153 |
|   |   |   |   |   |   |   |
| Average | 108 | 92 | 12 | 8.6 | 52.4 | 188 |

*1 Adjusted to 14.5% moisture*

*2 DTM, days to maturity*

Table 2. Briess barley strip trial grown at PREC but with data collected by Briess in 2024.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variety / ID  | Dockage | Test Weight | Plump | Thins | Protein | Moisture | Skinned | Immature | Blight | Sprout | Mold | DON |
|   | (%) | (lbs/bu) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| AAC Synergy | 1.4 | 48.7 | 97.5 | 1.7 | 9.4 | 10.7 | >6.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 |
| AB Dram | 0.5 | 53.0 | 95.8 | 1.4 | 10.6 | 10.9 | >6.0 | 0.0 | 1.4 | 0.0 | 0.0 | 0.1 |
| ACC Connect | 0.6 | 51.5 | 97.3 | 1.1 | 9.9 | 10.8 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| BC Elinor | 0.6 | 47.2 | 96.7 | 1.2 | 9.1 | 10.3 | 4.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| BC Leandra | 0.5 | 50.0 | 97.6 | 1.1 | 8.5 | 11.2 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| BC Lexy | 0.4 | 50.7 | 97.9 | 0.8 | 8.1 | 10.7 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| CDC Bow | 0.5 | 53.3 | 99.2 | 0.5 | 10.0 | 10.5 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| CDC Churchill | 0.4 | 51.6 | 94.1 | 2.0 | 9.6 | 10.6 | >6.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.1 |
| CDC Clear | 0.3 | 58.7 | 92.0 | 2.1 | 10.7 | 10.1 | 3.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| CDC Copeland | 0.2 | 52.3 | 97.5 | 1.0 | 9.1 | 10.6 | 4.5 | 0.0 | 1.8 | 0.0 | 1.8 | 0.1 |
| CDC Fraser | 0.7 | 50.9 | 98.3 | 0.9 | 9.5 | 10.1 | 4.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| LCS Bojo (Czech) | 0.4 | 54.4 | 98.5 | 0.7 | 9.5 | 10.7 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| LCS Bojo (WY) | 0.3 | 54.3 | 98.0 | 0.8 | 9.8 | 10.8 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| LGBU16-1519A | 0.3 | 50.2 | 97.0 | 1.0 | 9.5 | 10.0 | 5.7 | 1.4 | 0.0 | 0.0 | 0.6 | 0.1 |
| LGBU17-1320A | 0.5 | 45.5 | 96.7 | 1.7 | 8.2 | 10.1 | 3.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| LGBU17-8502A | 1.1 | 47.9 | 97.3 | 1.4 | 9.0 | 9.9 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| LGBU17-8509B | 0.5 | 50.9 | 97.4 | 1.0 | 8.6 | 10.1 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| RGT Asteroid | 0.5 | 50.4 | 97.3 | 1.0 | 8.8 | 10.5 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| RGT Planet | 0.5 | 50.8 | 96.8 | 1.1 | 8.3 | 10.2 | >6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Voyager | 0.3 | 52.1 | 98.3 | 0.7 | 9.9 | 11.0 | >6.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |