

GRAIN CROPS



BARLEY

Barley varieties are compared in replicated trials at Crookston, Morris, St. Paul, Stephen and Roseau. The data collected from these trials should be used to make comparisons only among those varieties included in the trials. Descriptions of barley varieties are listed by year of release.

Variety Selection Criteria

Most barley producers in the region grow barley for malt and therefore select one of the varieties approved by the American Malting Barley Association (AMBA). The most important industry specifications for making malting grade

are grain protein, kernel plumpness and deoxynivalenol (DON), the toxin produced by the Fusarium Head Blight (FHB) pathogen.

Among those approved varieties, Robust is preferred by industry, although Excel and Foster may be purchased for malt as well. In addition, three new varieties, Drummond, Lacey and Legacy, have recently been approved by AMBA and may be purchased for malt. Industry preference for the newer varieties is uncertain.

Stander was initially approved by AMBA, but is no longer considered a malting variety.

For most producers in the region the FHB disease and the presence of DON in harvested grain are the two most important factors limiting production of malting barley. Currently the only variety with partial resistance to FHB is MNBrite, however MNBrite is not approved by AMBA as a malting variety. There are no significant differences among the current malting varieties for resistance to FHB.

General-Purpose Varieties

Drummond – Medium yield and medium maturity. Very good lodging

resistance and good kernel plumpness. Six-rowed, semi-smooth awns, long rachilla hairs, colorless aleurone. Classified as a malting variety by AMBA. Resistant to spot blotch and slightly better net blotch resistance compared to the currently grown varieties. Developed by N.D. AES from crosses involving Azure, Bumper, Hazen and Stander. Released 2000. **PVP (94)**

Legacy – High yield and medium-late maturity. Medium lodging resistance and kernel plumpness. Six-rowed, semi-smooth awns, long rachilla hairs and colorless aleurone. Classified as a malting variety by AMBA. Resistant to spot blotch and slightly better net blotch resistance compared to the currently grown varieties. Developed by Busch-Agricultural Resources Inc. (BARI) from a complex cross involving the parental varieties Bumper, Karl, Manker and Excel. Released 2000. **PVP (94)**

Lacey – High yield and medium maturity. Good lodging resistance and kernel plumpness. Six-rowed, semi-smooth awns, short rachilla hairs, colorless aleurone. Classified as a malting variety by AMBA. Resistant to spot blotch. Developed by Minn. AES from crosses involving Robust, Excel and Stander. Released 2000. **PVP (94)**

Grain yield as a percent of the mean of the varieties in trials from 2000-2002 and for 2002 alone.

| Variety | Crookston | | Morris | | Stephen | | St. Paul | | Roseau | Mean | |
|---------------|-----------|--------|--------|--------|---------|---------|----------|--------|---------|------|--------|
| | 2002 | 3-Year | 2002 | 3-Year | 2002 | 3-Year* | 2002 | 3-Year | 3-Year* | 2002 | 3-Year |
| Robust | 102 | 99 | 75 | 88 | 105 | 98 | 84 | 92 | 89 | 91 | 93 |
| Excel | 98 | 102 | 111 | 107 | 102 | 103 | 111 | 103 | – | 106* | – |
| Stander | 104 | 105 | 99 | 101 | 105 | 109 | 95 | 102 | 108 | 101 | 105 |
| Foster | 104 | 98 | 119 | 105 | 100 | 104 | 108 | 105 | 104 | 108 | 104 |
| MNBrite | 98 | 97 | 97 | 99 | 103 | 94 | 97 | 91 | 95 | 99 | 96 |
| Lacey | 94 | 103 | 109 | 106 | 96 | 82 | 111 | 109 | 104 | 102 | 104 |
| Drummond | 107 | 100 | 92 | 97 | 99 | 88 | 99 | 103 | 100 | 99 | 97 |
| Legacy | 94 | 94 | 99 | 97 | 90 | 102 | 95 | 95 | – | 94 | – |
| LSD (0.05) | 18 | 10 | 25 | 12 | 17 | 14 | 17 | 8 | 14 | 13 | 5 |
| Mean, Bu/Acre | 78 | 94 | 67 | 83 | 62 | 67 | 57 | 77 | 88 | 53 | 82 |

* Only two years of data, 2000-2001.

Foster – Medium yield and medium maturity. Good lodging resistance and kernel plumpness. Six-rowed, semi-smooth awns, colorless aleurone and long rachilla hairs. Classified as a malting variety by AMBA. Resistant to spot blotch. Developed by N.D. AES from crosses involving Robust, ND 5570, Glenn and Karl. Released 1995.

PVP (94)

Excel – High yield and medium maturity. Similar to Robust in lodging resistance. Kernel plumpness lower than Robust. Six-rowed semi-smooth awn, colorless aleurone and long rachilla hairs. Classified as a malting variety by AMBA. Resistant to spot blotch. Developed by Minn. AES from crosses involving Robust, Manker and a sister line of Morex. Released 1990. **PVP**

Robust – Medium yield and medium maturity. Medium lodging resistance and good kernel plumpness. Six-rowed, semi-smooth awn, short rachilla hairs, colorless aleurone. Classified as a malting variety by AMBA. Robust is currently the six-row variety of choice by the malting and brewing industry. Resistant to spot blotch. Developed by Minn. AES from crosses involving Morex and Manker. Released 1983. **PVP**

Special-Purpose Varieties

MNBrite – Medium yield and early maturity. Medium lodging resistance and kernel plumpness. Six-rowed, semi-smooth awns, colorless aleurone. Not classified as a malting variety. Resistant to kernel discoloration and has some resistance to FHB. Resistant to spot blotch. Developed by Minn. AES. Released 1998.

Royal – Intended for use as a forage companion crop and feed grain variety. Not a malting variety. Six-rowed, semi-smooth awn, blue aleurone, semidwarf stature. Superior in forage quality (RFV) compared to taller varieties based on digestibility and intake potential; low in fiber and lignin. Similar to Robust in forage protein and forage yield at the soft dough stage. Compared to taller barley and oat varieties, it competes less

Description of barley varieties, 2000-2002.

| Variety | Type | Heading* | Height, In. | Lodging | Plump, % | Protein, % |
|---------------|------|----------|-------------|-----------|----------|------------|
| Robust | Malt | 53 | 36 | Medium | 86 | 13.9 |
| Excel | Malt | 52 | 34 | Medium | 81 | 12.9 |
| Stander | Feed | 53 | 32 | Strong | 88 | 13.2 |
| Foster | Malt | 52 | 34 | Strong | 89 | 12.6 |
| MNBrite | Feed | 53 | 35 | Medium | 84 | 14.5 |
| Lacey | Malt | 53 | 33 | Strong | 87 | 13.3 |
| Drummond | Malt | 52 | 34 | V. strong | 85 | 13.3 |
| Legacy | Malt | 54 | 34 | Medium | 84 | 13.7 |
| No. of Trials | | 7 | 9 | 4 | 7 | 7 |

* Days after planting

with underseeded forage legumes because of its short stature and superior lodging resistance. Resistant to spot blotch. Developed by the Minn. AES from crosses involving Robust, Azure and semidwarf Minn. M32. Released 1994. **PVP (94)**

Stander – High yield and late maturity. Very good lodging resistance and good kernel plumpness. Six-rowed, semi-smooth awn, short rachilla hairs, colorless aleurone, and short stature. Not

classified as a malting variety. Resistant to spot blotch. Developed by Minn. AES from crosses involving Excel, Robust and Bumper. Released 1993. **PVP**

Barley Planting Rate and Date

| | |
|----------------------------------|--------------|
| Bushel Weight, Pounds | 48 |
| Seeds/Pound..... | 14,300 |
| Planting Rate, Pounds/Acre | 85 |
| Planting Rate, Seeds/Sq.Ft | 28 |
| Planting Date | Early Spring |

