

## Barley

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Barley varieties are compared in replicated trials in Crookston, Morris, St. Paul, Stephen and Roseau. 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 select 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. Please consult the AMBA recommended varieties for the most current information about industry acceptance of malting barley varieties at [www.ambainc.org](http://www.ambainc.org).

For most producers, the disease FHB and the presence of DON in harvested grain are the two most important factors limiting production of malting barley in the region. 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

**Stellar-ND** – Medium yielding and medium maturity. Good 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 Robust. Released by N.D. AES in 2005. **PVP (94)**

**Tradition** – High yielding and medium 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, slightly better net blotch resistance compared to Robust. Developed by Busch-Agricultural Resources Inc. (BARI). Released 2003. **PVP (94)**

**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

### Relative grain yield (percent of the mean of the trial) of barley varieties showing single-year (2007) and multiple-year comparisons (2005-2007).

	Crookston		Morris		Stephen		St. Paul	Roseau		State Mean	
	2007	3-Year	2007	3-Year	2007	2-Year <sup>1</sup>	2-Year <sup>2</sup>	2007	2-Year <sup>1</sup>	2007	3-Year
Robust	100	96	96	96	81	90	104	103	104	95	98
Stander	110	99	94	104	97	92	102	113	112	103	102
MNBrite	93	98	98	95	97	92	97	109	90	99	96
Lacey	106	100	116	107	106	106	100	101	92	107	102
Drummond	102	98	92	98	105	98	111	94	102	98	100
Stellar ND	103	102	93	90	101	100	93	103	102	100	97
Legacy	100	101	112	108	112	110	111	107	103	108	106
Tradition	95	102	100	108	102	108	99	90	107	97	105
Conlon	92	103	99	94	100	103	84	79	89	92	95
LSD 0.05	12	7	16	13	16	11	8	17	13	8	5
Mean, Bu/A	86	94	82	74	96	93	96	53	82	79	87

<sup>1</sup> Only two years of data, 2006 and 2007.

<sup>2</sup> Only two years of data, 2005 and 2006.

variety by AMBA. Resistant to spot blotch, slightly better net blotch resistance compared to Robust. Developed from crosses involving Azure, Bumper, Hazen and Stander. Released by N.D. AES in 2000. **PVP (94)**

**Legacy** – High yielding 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; slightly better net blotch resistance compared to Robust. 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 from crosses involving Robust, Excel and Stander. Released by Minn. AES in 2000. **PVP (94)**

**Conlon** – Medium yielding early maturity variety. Moderate lodging resistance and very plump kernels. Two-rowed, semi-smooth awns, long rachilla hairs, and colorless aleurone. Classified as a malting variety by AMBA. Resistant to net blotch but moderately susceptible to spot blotch compared to Robust. Released by N.D. AES in 1996. **PVP (94)**.

**Robust** – Low 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. Resistant to spot blotch. Developed from crosses involving Morex and Manker. Released by Minn. AES 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; has some resistance to FHB. Resistant to spot blotch; has slightly better net blotch resistance compared to Robust. Released by Minn. AES 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 with underseeded forage legumes because of its short stature and superior lodging resistance. Resistant to spot blotch. Developed from crosses involving Robust, Azure and semidwarf Minn. M32. Released by Minn. AES 1994. **PVP (94)**

**Stander** – Medium yield, late maturity. Very good lodging resistance and good kernel plumpness. Six-rowed, semi-smooth awn, short rachilla hairs, colorless aleurone, short stature. Not classified as a malting variety. Resistant to spot blotch. Developed by Minn. Agricultural Experiment Station from crosses involving Excel, Robust and Bumper. Released 1993. **PVP**

### Test Plot Research

Test plot establishment and management were supervised by John Wiersma and John Nelson.

<b>Barley Planting Rate and Date</b>	
Bushel Weight, Pounds.....	48
Seeds/Pound.....	14,300
Planting Rate, Pounds/Acre.....	85
Planting Rate, Seeds/Sq. Ft.....	28
Planting Date.....	Early Spring

### Agronomic characteristics of barley varieties, 2000–2007.

Variety	Type	Use	Heading (DAP)	Height (inches)	Lodging (%)	Plump (%)	Protein (%)
Robust	6-row	Malt	56	35	Medium	84	13.3
Stander	6-row	Feed	57	32	Strong	86	12.8
MNBrite	6-row	Feed	56	35	Medium	83	14.3
Lacey	6-row	Malt	56	32	Strong	85	13.3
Drummond	6-row	Malt	56	33	Very Strong	82	13.2
Stellar ND <sup>1</sup>	6-row	Malt	57	32	Strong	86	12.7
Legacy	6-row	Malt	57	34	Medium	78	12.8
Tradition <sup>2</sup>	6-row	Malt	57	33	Medium	85	13.4
Conlon <sup>2</sup>	2-row	Malt	57	31	Medium	93	13.3
No. of Trials			26	26	12	23	20

DAP = days after planting

<sup>1</sup> Only three years of plump and protein data, 2000-2001 and 2006.

<sup>2</sup> Only three years of plump and protein data, 2003-2006.

### Disease reactions<sup>1</sup> of barley varieties; 2001-2006<sup>1</sup>.

Variety	FHB	Net Blotch	Septoria Speckled Leaf Blotch	Spot Blotch	Stem Rust
Robust	8	8	9	2	1
Excel	8	8	9	2	1
Stander	9	8	9	2	1
MNBrite	6	6	9	1	1
Lacey	8	8	9	2	1
Drummond	8	7	9	2	1
Legacy	7	5	9	2	1
Tradition	8	7	9	2	1

<sup>1</sup> Most Resistant = 1, Most Susceptible = 9. No disease reaction data were reported for 2007.