

GRAIN CROPS



BARLEY

Barley varieties are compared in replicated trials in 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. Currently, among those approved varieties, Robust is preferred by industry. Drummond, Lacey, Tradition and Legacy have recently been approved by AMBA and may be purchased for malting. Industry preference for the newer varieties is uncertain at this time. Please consult the AMBA recommended varieties for the most current information at www.am-bainc.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. 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

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 and slightly better net blotch resistance compared to Robust. Developed

by Busch-Agricultural Resources Inc. (BARI). Released 2003. **PVP** (94).

Drummond—High 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 Robust. Developed from crosses involving Azure, Bumper, Hazen and Stander. Released by N.D. AES in 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; has 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,

Grain yield as a percent of the mean of the varieties in trials from 2002-2004 and for 2004 alone.

Variety	Crookston		Morris		Stephen		St. Paul		Roseau		Mean	
	2004	3-Year	2004	3-Year	2004	3-Year	2004	2-Year ¹	2004	2-Year ²	2004	3-Year
Robust	81	86	96	89	88	92	100	96	88	94	91	91
Excel	116	106	108	106	102	100	102	106	113	101	106	105
Stander	97	101	105	103	94	96	93	95	98	113	101	101
MNBrite	93	92	96	98	99	100	91	94	91	71	90	95
Lacey	100	99	120	113	102	97	102	106	105	104	106	104
Drummond	91	105	86	93	96	95	108	106	100	95	95	100
Legacy	108	98	91	95	110	100	107	104	96	120	107	100
Tradition	114	113	99	105	109	119	96	93	100	108	105	105
LSD (0.05)	20	11	15	10	15	9	15	12	20	29	10	5
Mean, Bu/Acre	112	95	138	99	104	90	116	85	128	76	109	94

¹ Only two years of data, 2002 and 2004. ² Only two years of data, 2003 and 2004.

Excel and Stander. Released by Minn. AES in 2000. **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 from crosses involving Robust, Manker and a sister line of Morex. Released by Minn. AES 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. 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 and has some resistance to FHB. Resistant to spot blotch and 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 the Minn. AES 1994. **PVP** (94).

Characteristics of barley varieties, 2000-2004.

Variety	Type	Heading*	Height, In.	Lodging, %	Plump, %	Protein, %
Robust	Malt	58	36	Medium	83	12.9
Excel ¹	Malt	58	34	Medium	77	12.2
Stander	Feed	58	33	Strong	85	12.3
MNBrite ¹	Feed	58	36	Medium	82	13.4
Lacey	Malt	57	33	Strong	83	12.7
Drummond	Malt	57	34	V. strong	80	12.9
Legacy	Malt	59	35	Medium	75	12.5
Tradition ¹	Malt	58	34	Medium	—	—
No. of Trials		15	15	9	14	11

¹Only three years of plump and protein data, 2000–2002.

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 Minnesota Agricultural Experiment Station 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

Disease reactions¹ of barley varieties, 2001-2004.

Variety	Fusarium		Septoria		Stem Rust
	Head Blight	Net Blotch	Speckled Leaf Blotch	Spot Blotch	
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

¹Most Resistant = 1, Most Susceptible = 9.