

GRAIN CROPS



BARLEY

Barley varieties are compared in replicated trials at 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. 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. 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. Developed by Busch-Agricultural Resources Inc. (BARI). Released 2003.

PVP (94)

Drummond – Medium yield and medium maturity. Very good lodging resistance. 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 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 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 from crosses involving Robust, Excel and Stander. Released by Minn. AES in 2000. **PVP (94)**

Grain yield as a percent of the mean of the varieties in trials from 2001-2003 and for 2003 alone.

Variety	Crookston		Morris		Stephen		St. Paul	Roseau		Mean	
	2003	3-Year	2003	3-Year	2003	3-Year	2-Year ¹	2003	2-Year ²	2003	3-Year
Robust	81	94	87	85	94	100	88	97	98	90	92
Excel	103	102	97	101	102	107	104	113	112	104	104
Stander	106	105	103	102	97	108	104	98	101	101	104
MNBrite	88	93	101	98	106	105	95	91	90	96	96
Lacey	103	100	105	102	98	99	116	105	105	103	103
Drummond	121	110	102	100	97	93	104	100	99	105	100
Legacy	90	90	97	98	101	101	94	96	102	96	96
Tradition	110	110	108	111	104	-3	-3	100	-3	105	-3
LSD (0.05)	18	11	15	12	12	10	13	20	14	9	6
Mean, Bu/Acre	94	94	94	87	97	70	72	128	117	102	87

¹ Only two years of data, 2001-2002. ² Only two years of data, 2001 and 2003. ³ Not evaluated in all years.

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 the American Malting Barley Association (AMBA). Robust is currently the six-row variety of choice by the malting and brewing industry. 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. 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)**

Stander – High yield and late maturity. Very good lodging resistance and good

Description of barley varieties, 2000-2003.

Variety	Type	Heading*	Height, In.	Lodging	Plump, %	Protein, %
Robust	Malt	56	35	Medium	82	12.5
Excel	Malt	56	33	Medium	77	12.2
Stander	Feed	56	32	Strong	85	12.0
MNBrite	Feed	56	35	Medium	82	13.4
Lacey	Malt	55	32	Strong	83	12.2
Drummond	Malt	55	33	V. strong	79	12.5
Legacy	Malt	57	34	Medium	74	11.8
Tradition	Malt	56	33	Medium	–	–
No. of Trials		12	12	7	12	8

* Days after planting.

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

