

# GRAIN CROPS



## BARLEY

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.

Morex is an older, lower-yielding variety; consequently, little or no certified seed is available. 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 scab 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 (pending)**

**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. **PVP (pending)**

**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 (pending)**

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

### Grain yield as a percent of the mean of the varieties in trials from 1999-2001 and for 2001 alone.

Variety	Crookston		Morris		Stephen		St. Paul		Roseau		Mean	
	2001	3-Year	2001	3-Year	2001	3-Year*	2001	3-Year	2001	3-Year*	2001	3-Year
Morex	92	92	86	87	91	87	76	87	102	88	89	88
Robust	101	97	92	95	95	96	93	97	99	88	96	95
Excel	106	–	101	–	112	107	101	–	109	–	106	–
Stander	109	108	107	101	121	114	111	104	103	109	110	107
Foster	94	98	104	100	115	109	99	105	92	106	101	103
MNBrite	97	100	100	105	95	92	96	93	88	97	95	98
Lacey	105	107	98	108	96	105	120	107	103	104	105	106
Drummond	106	97	109	96	72	82	109	107	96	101	98	98
Legacy	91	96	102	101	104	109	95	99	109	–	100	–
LSD (0.05)	18	8	16	8	10	10	15	6	17	11	7	4
Mean, Bu/Acre	100	101	97	91	53	67	86	81	105	90	88	87

\* Only two years of data, 2000-2001.

**Foster** – High 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 cross 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 the 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**

**Morex** – Low yield and medium maturity. Susceptible to lodging. Kernel plumpness intermediate. Six-rowed, semi-smooth awns, short rachilla hairs, colorless aleurone. Awns may drop off as crop approaches maturity. Classified as a malting variety by AMBA. Moderate resistance to spot blotch. Developed by Minn. AES from cross of Cree and Bonanza. Released 1978.

**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.

**PVP (pending)**

**Description of barley varieties, 1999-2001.**

Variety	Type	Heading*	Height, In.	Lodging	Plump, %	Protein, %
Morex	Malt	57	35	Weak	70	13.2
Robust	Malt	58	36	Medium	77	13.5
Excel	Malt	59	34	Medium	75	12.2
Stander	Feed	59	32	Strong	82	12.6
Foster	Malt	57	34	Strong	80	12.0
MNBrite	Feed	58	35	Medium	75	13.8
Lacey	Malt	58	33	Strong	79	12.9
Drummond	Malt	58	34	V. strong	74	12.9
Legacy	Malt	60	34	Medium	67	13.1
No. of Trials		8	9	5	6	3

\* Days after planting

**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 by the Minn. AES from crosses involving Robust, Azure and semidwarf Minn. M32. Released 1994.

**PVP**

**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

