



BARLEY

Although fusarium head blight (scab) continues to impact the barley crop, toxin levels (DON) were down from previous years. Overall it was not a good year for small grains, and barley was no exception. Some growers lost their entire production due to flooding.

Recommended Public Varieties

Robust – Medium yield and medium maturity. Good lodging resistance and 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 for malting and brewing in the Midwest. Resistant to spot blotch. Developed by Minn. AES

from crosses involving Morex and Manker. Released 1983. **PVP**

Foster – Medium yield. Maturity similar to Robust. Kernel plumpness good, similar to Stander. Intermediate in lodging reaction between Robust and Stander. Resistant to spot blotch. Six-rowed, semi-smooth awns, colorless aleurone. Has long rachilla hairs allowing grain to be distinguished from that of Robust and Stander. Classified as a malting variety by AMBA. Discounted in the marketplace as

compared to Robust. Developed by N. D. AES from crosses involving Robust, ND 5570, Glenn and Karl. Released 1995. **PVP (94)**

Stander – High yield. Superior in lodging resistance to Robust and Foster. Good kernel plumpness, similar to Robust. Six-rowed, semi-smooth awn, short rachilla hairs, colorless aleurone. Initially classified as a malting variety by AMBA, but has been removed from the industry approved list. Resistant to spot blotch. Developed by Minn. AES from crosses involving Excel, Robust and Bumper. Released 1993. **PVP**

MNBrite – Provides some protection against Fusarium head blight (scab). It has about one-half as many infected kernels per head as Robust and Stander and its toxin level (DON) is also about one-

half of Robust and Stander. The kernels are brighter and more disease-free than for other varieties, hence the name MNBrite. It is similar to Robust in yield, maturity, and kernel plumpness, as well as lodging reaction. Resistant to spot blotch. Malting and brewing quality not acceptable to industry. MNBrite is higher than Robust in grain protein. Six-rowed, semi-smooth awns, colorless aleurone. Grain samples difficult to distinguish from Robust and Stander. Developed by Minn. AES. Released 1998. **PVP (pending)**

Special Purpose Variety

Royal – Intended for use as a forage companion crop and feed-grain variety. Not a malting type. Six-rowed, semi-smooth awn, blue aleurone, semidwarf stature. Forage quality superior 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, Royal competes less with underseeded forage legumes because of its short stature and superior lodging resistance. Resistant to spot blotch. Developed by Minn. AES from crosses involving Robust, Azure and semidwarf Minn. M32. Released 1994. **PVP (94)**

Grain yield of selected barley varieties in bushels per acre, 1996-1999.

	Crookston	Morris	Stephen	St. Paul	Roseau	Mean
Number of trials	9	7	2	5	2	25
Variety						
Robust	99	98	102	76	81	93
Stander	117	106	107	87	87	105
Foster	109	104	100	87	79	100
MNBrite	105	103	104	81	83	98
LSD 0.05	5	6	10	5	8	3

Other Varieties

Excel – High yield. Medium maturity. Similar to Robust in lodging resistance. Kernel plumpness lower than Robust. Six-rowed semi-smooth awn, colorless aleurone. Has long rachilla hairs, allowing grain to be distinguished from that of Robust and Stander. 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. **FVF**

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

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

Agronomic traits of selected barley varieties, 1996-1999.

	Heading Date	Height, In.	Lodging, %	Plump, %
Number of trials	17	18	11	9
Variety				
Robust	6-22	35	38	77
Foster	6-22	35	40	78
MNBrite	6-23	35	38	77
Stander	6-24	33	32	80

Scab severity, percent infected kernels/spike in selected barley varieties, 1996-1999.

	Inoculated and Misted Trials	Non-Inoculated (Natural Infection)		
		Langdon, N.D.	Crookston	Crookston (1999)
Number of trials	9	2 ¹	3 ²	2
Variety				
Robust	27	15	10	2
Stander	40	15	11	4
Foster	–	15	–	–
MNBrite	14	6	5	1

¹ Trials conducted in 1998. ² Trials conducted in 1996-1998.

Toxin (DON, ppm) values in grain from non-inoculated (naturally infected) trials for selected barley varieties, 1996-98.

	1996 ¹	1997 ¹	1998 ²
Variety			
Robust	3.6	3.4	4.7
Stander	5.8	7.3	6.6
Foster	–	3.4	5.5
MNBrite	2.8	2.6	4.0

¹ Crookston and Stephen, advanced yield trials. ² Dr. Jochum Wiersma, Minnesota on-farm yield trials.

