



OAT

Proper selection of oat varieties requires consideration of the anticipated growing conditions, the pests that might be encountered in a specific production situation and the purpose for growing the crop. Specific growing situations will dictate the priority and emphasis given to each trait included in the tables.

Generally, crown rust is the most important disease and detailed interpretation of our data follows. We divided the rust reading into columns beneath “Crown Rust” headed “Amount Infected” and “Reaction Type.” The value in the Crown Rust Amount Infected column predicts the relative proportion of rust spores that achieve a successful infection. The Reaction Type value gives the size of the pustule, which indicates how the pustule is restricted by the host reaction. A small and/or restricted pustule produces fewer spores for reinfection.

Depending upon the plant growth stage at initial infection, there can be one to three cycles of reinfection during an oat-growing season. Each infection cycle is 8 to 10 days long. The final amount of rust infection depends upon both the number and size of spore-producing pustules present to cause subsequent infections. It is these later infections that really damage the plant.

Treated seed should be used for smut-susceptible varieties and those with BYDV (red leaf) susceptibility (score of 6 or higher) should be chosen carefully.

Groat percent is an important consideration for grain production, perhaps equal to grain yield, whether for food or feed. Lodging can be site-specific; varieties with lodging scores above 2.5 should be chosen cautiously if soil is highly fertile. Taller varieties may generally produce more forage and/or straw. Earlier varieties tend to perform relatively better in more southerly parts of the state while later varieties usually have an advantage in the north.

General-Purpose Varieties

AC Assiniboia – Late maturity, high yield, medium height, very good lodging resistance, high test weight and groat percentage. Almost brown seed. Good resistance to crown rust and smut and tolerance to red leaf. Selected by Cereal Research Centre, Agriculture and Agri Food Canada in Winnipeg. Released in 1995.

Belle – Late maturity, medium yield, tall, good lodging resistance, high test weight and very high groat percentage. Yellow seed. Resistant to crown rust and smut, some tolerance to red leaf. Selected at Wis. AES. Released in 1995. Foundation seed available to certified

seed producers only under a license/fee collection agreement. **PVP (94)**

Dane – Early maturity, lower yield, short, good lodging resistance, fair test weight, high groat percentage. Yellow seed. Moderately resistant to crown rust and smut, susceptible to red leaf. Selected at the Wis. AES. Released in 1990. Foundation seed available to certified seed producers only under a license/fee collection agreement. Because of smut susceptibility, planting only treated seed is recommended. **PVP**

Ebeltoft – Late maturity, short, high yield, good lodging resistance, medium test weight and groat percentage. Ivory seed. Modest resistance to crown rust, resistant to smut, good tolerance to red leaf. Selected at N.D. AES. Released in 1999.

Gem – Medium-late maturity, high yield, medium height, good lodging resistance, medium test weight and groat percentage. Yellow seed. Resistant to crown rust and smut, good tolerance to red leaf. Selected at Wis. AES. Released in 1995. Foundation seed available to certified seed producers only under a license/fee collection agreement. **PVP (94)**

Oat yield, percent of nursery average, off-station locations, 2002 only.

Variety	Winona ¹	Wells ¹	Average of 2 locations
Riser	76	101	89
Dane	87	104	96
Reeves	104	107	105
Moraine	96	99	97
Richard	105	86	95
Wabasha	105	89	97
Gem	117	101	109
Rodeo	112	122	117
Kildeer	113	113	113
Vista	85	99	92
Milton	104	99	102
Sesqui	99	123	111
Youngs	93	72	82
Leonard	100	108	104
Loyal	106	118	112
Belle	90	95	92
Ebeltoft	102	80	91
AC Assiniboia	105	85	95
Mean, Bu/Acre	71	72	72
LSD .05 (% of Mean)	18	15	12

¹ Pesticide-free organic farmer field

Jerry – Medium maturity, medium yield, tall, good lodging resistance, very high test weight, high groat percentage. Ivory seed. Moderately susceptible to crown rust, susceptible to smut, tolerant to red leaf. Selected at N.D. AES. Released in 1994. Because of smut susceptibility, planting only treated seed is recommended. **PVP (94)**

Jud – Late maturity, high yield, very tall, poor lodging resistance, very high test weight and groat percentage. White seed. Resistant to crown rust and smut, good tolerance to red leaf. Selected at N.D. AES. Released in 1998.

NEW! Leonard – Medium-late maturity, high yield, medium height, fair lodging resistance, medium test weight and groat percentage. Yellow seed. Resistant to crown rust and smut. High tolerance to red leaf. Selected at Minn. AES. Released in 2002.

Loyal – Late maturity, high yield, tall, poor lodging resistance, medium test weight and groat percentage. Ivory seed. Modest resistance to crown rust and smut, susceptible to red leaf. Selected at S.D. AES. Released in 2000. Because of smut susceptibility, planting only treated seed is recommended.

Milton – Medium-late maturity, medium yield, medium height, good lodging resistance, medium test weight and groat percentage. Yellow seed. Modest resistance to crown rust, resistant to smut, susceptible to red leaf. Selected at Minn. AES. Released in 1994.

Richard – Early maturity, high yield, tall, good lodging resistance, high test weight and groat percentage. Yellow seed. Good resistance to crown rust and smut and good tolerance to red leaf. Selected at Minn. AES. Released in 2000. **PVP (94)**

Riser – Early maturity, lower yield, short, fair lodging resistance, high test weight and groat percentage. Yellow seed. Resistant to crown rust and smut, susceptible to red leaf. Selected at S.D. AES. Released in 1998.

Rodeo – Medium-late maturity, high yield, very good lodging resistance, fair test weight, medium groat percentage. Yellow seed. Susceptible to crown rust and smut, tolerant to red leaf. Selected at Ill. AES. Released in 1996. Because of smut susceptibility, planting only treated seed is recommended. **PVP (94)**

Sesqui – Late maturity, high yield, medium height, good lodging resistance, high test weight, medium groat percentage. Yellow seed. Moderately resistant to crown rust, resistant to smut and good tolerance to red leaf. Selected at Minn. AES. Released in 2001.

Troy – Medium maturity, medium yield, tall, poor lodging resistance, low test weight, medium groat percentage. White seed. Moderately susceptible to crown rust, resistant to smut and good tolerance to red leaf. Selected at S.D. AES. Released in 1991.

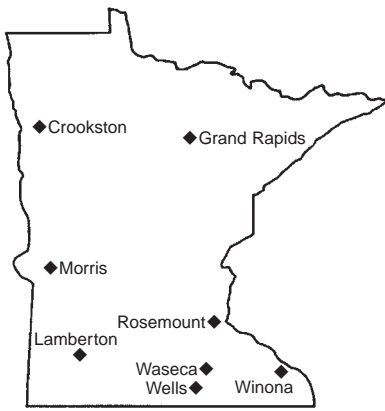
Vista – Medium maturity, high yield, tall, poor lodging resistance, high test weight and groat percentage. Yellow seed. Resistant to crown rust and smut, susceptible to red leaf. Selected at Wis. AES. Released in 1999. **PVP (pending)**

Wabasha – Medium maturity, high yield, tall, good lodging resistance, medium test weight, high groat percentage. White seed. Moderately susceptible to crown rust, resistant to smut and tolerant to red leaf. Selected at Minn. AES. Released in 2001. **PVP (pending)**

Oat yield, percent of nursery average, by location, 2000-2002.

Variety	Rosemount	Lamberton	Morris	Average of 3 locations	Waseca ¹	Crookston ²	Grand Rapids ²	Average of 6 locations
Reeves ³	113	78	73	88	97	98	98	93
Moraine	101	99	85	95	94	95	90	94
Richard	100	109	101	103	101	99	101	102
Wabasha	100	93	99	97	96	103	99	98
Gem	96	106	99	100	100	97	92	98
Rodeo	104	99	114	106	101	101	112	105
Kildeer	94	112	109	105	105	100	99	103
Vista	115	110	106	110	110	108	98	108
Milton	97	92	89	92	95	92	98	94
Morton ⁴	83	98	108	96	98	99	100	98
Sesqui	109	103	108	107	103	111	105	106
Youngs	93	91	89	91	93	87	87	90
Hi-Fi	89	106	112	102	105	103	112	105
Leonard	116	112	107	112	114	107	110	111
Loyal	99	104	104	102	97	103	107	102
Belle	95	101	87	94	95	96	92	94
Ebeltoft	99	92	103	98	95	100	102	99
AC Assiniboia	99	98	107	101	102	101	96	100
Mean, Bu/Acre	72	83	109	88	85	102	82	89
LSD .05 (% of Mean)	8	11	11	6	9	12	17	5

¹ Data from 2001 and 2002, ² Data from 2000 and 2001, ³ Data from 2001 and 2002, ⁴ Data from 2002.



Oat Trial Locations.

Youngs – Medium maturity, lower yield, tall, good lodging resistance, medium test weight and groat percentage. White seed. Some resistance to crown rust, susceptible to smut, some tolerance to red leaf. Selected at N.D. AES. Released in 1999. Because of smut susceptibility, planting only treated seed is recommended.

Special-Purpose Variety

Paul – Hulless. Medium-late maturity, high yield for hulless cultivar, tall, very good lodging resistance; hulless, so very high test weight. Moderately susceptible

to crown rust, resistant to smut, moderately susceptible to red leaf. Selected at N.D. AES. Released in 1994. **PVF (94)**

Varieties Not Adequately Tested

NEW! HiFi – Medium-late maturity, high yield, tall, good lodging resistance, high test weight, medium groat percentage. White seed. Good resistance to crown rust and smut, good tolerance to red leaf. Selected at N.D. AES. Released in 2001. **PVF (Pending)**

Kildeer – Medium maturity, high yield, short, good lodging resistance, medium test weight and groat percentage. Ivory seed. Moderately susceptible to crown rust, susceptible to smut and tolerant to red leaf. Selected at N.D. AES. Released in 2001. Because of smut susceptibility, planting only treated seed is recommended.

Moraine – Early maturity, medium yield, medium height, good lodging resistance, high test weight and groat percentage. Yellow seed. Resistant to crown rust and smut, some tolerance to red leaf. Selected at Wis. AES. Released in 2001. Foundation seed available to

certified seed producers only under a license/fee collection agreement. **PVF (pending)**

NEW! Morton – Medium maturity, high yield, tall, good lodging resistance, high test weight, medium groat percentage. Ivory seed. Very good resistance to crown rust and smut, some tolerance to red leaf. Selected at N.D. AES. Released in 2001.

NEW! Reeves – Early maturity, medium yield, tall, fair lodging resistance, high test weight and groat percentage. Ivory seed. Resistance to crown rust, moderately susceptible to smut, some tolerance to red leaf. Selected at S.D. AES. Released in 2002.

Oat Planting Rate and Date

Bushel Weight, Pounds	32
Seeds/Pound.....	16,200
Planting Rate, Pounds/Acre	80
Planting Rate, Seeds/Sq.Ft.	28
Planting Date	Early Spring

Oat traits, 2000-2002; disease data 2002 only.

Variety	Days After Planting To Heading	Height, Inches	Lodging, 1 = Erect 5 = Flat	Test Weight, Lb/Bu	Groat %	Crown Rust ¹		Smut Score ³	BYDV Score ⁴
						Amount Infected	Reaction Type ²		
Reeves ⁵	58	41	2.6	39	71	30	R-MR	MS	5.0
Moraine	58	38	2.0	39	72	40	R-MR	R	5.0
Richard	60	40	2.0	38	70	35	MR-MS	R	4.5
Wabasha	60	39	2.2	38	71	10	MR	R	3.0
Gem	60	39	2.3	37	68	20	MR-MS	MR-MS	3.5
Rodeo	61	38	1.8	37	70	30	MR-MS	S	3.5
Kildeer	61	35	2.3	38	70	30	MR-MS	S	5.0
Vista	62	40	2.8	39	71	10	MR-R	R-MR	6.0
Milton	62	36	2.0	37	69	30	MR-MS	MS	7.0
Morton ⁶	62	40	2.0	39	70	Tr	MR	R	5.0
Sesqui	63	38	2.4	39	68	10	MS-S	R	4.0
Youngs	63	42	2.0	36	69	30	MS-MR	S	4.5
Hi-Fi	63	40	2.1	38	68	5	MR-MS	MR	3.0
Leonard	63	39	2.5	37	70	20	MR-MS	R	2.5
Loyal	64	43	2.9	38	68	30	MR-MS	R-MR	6.0
Belle	65	38	2.1	38	73	10	R-MR	MR-MS	4.5
Ebeltoft	65	36	2.2	37	70	10	MS-MR	R	2.5
AC Assiniboia	65	40	1.8	38	73	30	MS-MR	R	4.0
Mean	62	39	2.2	38	70				4.4

¹ 2002 data only from artificially inoculated nursery-² R = resistant, MR = moderately resistant, MS = moderately susceptible and S = susceptible. ³ Artificially inoculated, R = resistant, MR = moderately resistant, MS = moderately susceptible and S = susceptible. ⁴ 1 = no symptoms and 9 = dead. ⁵ 2001-2002 data only. ⁶ 2002 data only.