



# 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. 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.

This year we divided the rust reading into columns beneath "Crown Rust" headed "Amount" and "Reaction Type." The value in the Crown Rust Amount column predicts the relative proportion of rust spores that achieve a successful infection. The Reaction Type value indicates 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.

## General-Purpose Varieties

**Belle** – Late maturity, high yield, tall, fair 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 the Wis. AES. Released in 1995. Foundation seed available to certified seed producers only under a license/fee collection agreement. **FVP (94)**

**Blaze** – Medium maturity, high yield, medium height, good lodging resistance, very high test weight and groat percentage. Ivory seed. Susceptible to crown rust and smut, very tolerant to red leaf. Selected at Ill. AES. Released in 1997. Because of smut susceptibility, planting only treated seed is recommended. **FVP (pending)**

**Chaps** – Medium maturity, high yield, medium height, good lodging resistance, high test weight and medium groat percentage. Yellow seed. Susceptible to crown rust and smut, tolerant to red leaf. Selected at Ill. AES. Released in 1997. Because of smut susceptibility, planting only treated seed is recommended. **FVP (pending)**

**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 Wis. AES. Released in 1990. Foundation seed available to certified seed producers only under a license/fee collection agreement. **FVP**

**Gem** – Medium-late maturity, high yield, medium height, good lodging resistance, high 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. **FVP (pending)**

**Jay** – Medium maturity, high yield, short, very good lodging resistance, medium test weight and groat percentage. Ivory seed. Resistant to crown rust, susceptible to smut, some tolerance to

## Oat yield, bushels/acre by location, 1998-2000.

Variety	Rosemount	Waseca***	Lamberton	Morris	Crookston	Grand Rapids****	Average
Dane****	60	58	73	111	120	68	82
Chaps	81	94	103	167	120	106	112
Jay	80	84	91	169	129	85	106
Richard	84	85	109	154	127	98	110
Rodeo	90	88	109	176	133	102	116
Gem	81	90	117	160	123	94	111
Vista**	99	98	112	137	125	110	114
Milton	80	79	100	153	130	92	106
Young*	87	88	107	157	140	91	112
Jud	79	76	119	141	116	100	105
Belle	80	87	108	144	125	86	105
Loyal	76	88	106	139	125	91	104
Ebeltoft*	90	94	102	165	138	122	119
Paul	42	54	84	92	95	29	66
AC Assiniboia*	82	94	124	176	126	82	114
Triple Crown**	66	97	82	133	141	86	101
LSD	7	12	15	18	13	15	6

\*2000 data only. \*\*1999 & 2000 data only. \*\*\*1998 & 1999 data only. \*\*\*\*1998 & 2000 data only.

red leaf. Selected at Purdue AES. Released in 1998. Because of smut susceptibility, planting only treated seed is recommended. **PVP (pending)**

**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)**

**Jim** – Early maturity, lower yield, short, good lodging resistance, high test weight and groat percentage. Yellow seed. Small resistance to crown rust, resistant to smut, good tolerance to red leaf. Selected at Minn. AES. Released in 1996.

**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. **PVP (pending)**

**Loyal** – Late maturity, high yield, tall, fair 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.

**Milton** – Medium-late maturity, high yield, medium height, good lodging re-

sistance, 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. **PVP (pending)**

***Oat yield, bushels/acre at off-station locations, 2000 only.***

Variety	Roseau	Stephen	Winona*	Wells*	Madison*
Riser	–	–	83	75	27
Richard	101	119	113	109	88
Dane	97	108	80	88	34
Gem	88	128	121	98	68
Rodeo	120	132	118	108	63
Chaps	102	134	98	112	55
Jay	102	123	122	99	41
Jud	118	131	58	103	56
Vista	86	135	90	123	70
Ebeltoft	136	152	–	–	–
Milton	107	127	105	116	60
Loyal	120	127	64	106	56
Belle	106	124	101	102	61
Paul	103	105	72	58	41
Triple Crown	127	158	67	85	72
AC Assiniboia	126	143	92	86	86
Youngs	112	143	–	–	–
LSD	15	18	19	27	13

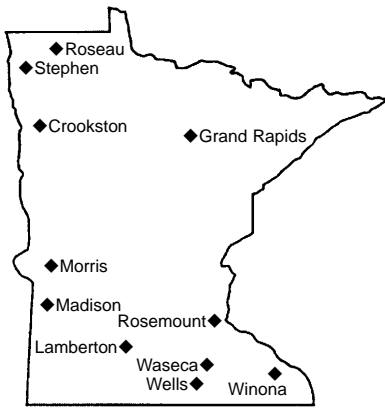
\* These locations are pesticide-free/organic farmer fields and Madison is planted no-till.

***Oat traits, 1998-2000; disease data 2000 only.***

Variety	Days After Planting To Heading	Height, Inches	Lodging,		Test Weight, Lb/Bu	Groat %	Crown Rust		Smut Score <sup>2</sup>	BYDV Score <sup>3</sup>
			1=Erect 5=Flat				Amount	Reaction Type <sup>1</sup>		
Dane****	56	34	2.5		36	72	20	MR-MS	R	8
Chaps	60	36	2.5		38	70	20	MS-S	S	4
Jay	60	32	1.6		38	70	5	S	S	7
Richard	60	39	1.9		39	71	5	MR-MS	R	4
Rodeo	61	37	2.0		37	72	20	MS-S	S	6
Gem	61	37	2.5		38	72	5	MS-S	MR	6
Vista	62	39	2.7		38	70	<1	MS	R	7
Milton	63	35	2.0		37	71	10	MR-MS	MR	8
Youngs*	64	39	2.0		39	72	<1	MS	S	7
Jud	65	42	3.2		40	73	5	MS-S	R	5
Belle	65	38	2.5		39	74	<1	MS-S	MR	8
Loyal	66	41	2.7		39	71	<1	MS-S	MR	7
Ebeltoft*	66	34	1.9		38	71	<1	MS-S	MR	5
Paul (hullless)	66	40	2.3		43	95	<1	S	R	7
AC Assiniboia*	66	37	1.6		40	74	<1	HR	R	4
Triple Crown**	67	41	1.6		36	68	<1	S	MR	8
Mean	63	38	2.2		39	73				

\* 2000 data only. \*\*1999 and 2000 data only. \*\*\* 1998 & 1999 data only. \*\*\*\* 1998 & 2000 data only.

<sup>1</sup> HR=highly resistant R=moderately resistant MR=moderately resistant S=susceptible. <sup>2</sup> R=resistant MR=moderately resistant MS=moderately susceptible S=susceptible. <sup>3</sup> Barley yellow dwarf virus, 1=no symptoms, 9=dead



**Location of oat trials.**

**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 the Minn. AES. Released in 2000.

**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. **PVP (pending)**

**Rodeo** – Medium-late maturity, high yield, good lodging resistance, fair test weight, high 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 (pending)**

**Starter** – Early maturity, lower yield, short, fair lodging resistance, medium test weight and groat percentage, medium protein percentage. Yellow seed. Susceptible to crown rust and red leaf, resistant to smut. Selected at Minn. AES. Released in 1986. Well suited for companion cropping. **PVP**

**Troy** – Medium maturity, high 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 the S.D. AES. Released in 1991.

**Special-Purpose Varieties**

**Pal** – Forage establishment only. Medium-late maturity, low grain yield, very short, good lodging resistance, low test weight, medium groat percentage, yellow seed. Moderately susceptible to crown rust, resistant to smut, susceptible to red leaf. Selected at Minn. AES. Released in 1994 as a special-purpose forage oat variety. Pal has good forage yield with high levels of crude protein and good relative feed value, although no forage data are provided in this publication.

**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. **PVP (94)**

**Varieties Not Adequately Tested**

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

**Ebeltoft** – Late maturity, short, very high yield, good lodging resistance, medium test weight and groat percentage, ivory seed. Modest resistance to

crown rust, good resistance to smut, some tolerance to red leaf. Selected at N.D. AES. Released in 1999. **PVP (pending)**

**Triple Crown** – Late maturity, medium yield, tall, very good lodging resistance, low test weight and groat percentage. White seed. Resistant to crown rust, moderately resistant to smut and susceptible to red leaf. Selected by the Svalöf Weibull Seed Company and distributed by Svalöf Weibull Seed Company, Lindsay, Ontario, Canada. The company can be contacted at [www.swseed.ca](http://www.swseed.ca).

**Vista** – Medium maturity, high yield, tall, fair lodging resistance, medium 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)**

**Youngs** – Medium maturity, high yield, tall, good lodging resistance, medium test weight and groat percentage. White seed. Good resistance to crown rust, susceptible to smut and red leaf. Selected at N.D. AES. Released in 1999. Because of smut susceptibility, planting only treated seed is recommended. **PVP (pending)**

**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