

2025 Oat Field Crop Trials

Minnesota Agricultural Experiment Station and the College of Food, Agricultural and Natural Resource Sciences

Oat varieties were sown in trials plots in 2025 at Becker, Lamberton, Le Center Rochester, St. Paul, and Waseca in Southern Minnesota (south of I-94). In Northern Minnesota (north of I-94), trials were conducted in Crookston, Fergus Falls, Grand Rapids, Roseau and Stephen. Fergus Falls and Stephen locations were lost. Yield performance from single years should be viewed cautiously as environmental variability may significantly affect the yields in single locations or years. The highest yields in 2025 were recorded in Hallock (205 bu/a) and the lowest in Lamberton (73 bu/a). Maturity, height, protein, and test weight data are presented as statewide averages from 2023-2025 except where noted. Straw strength data are also a statewide average from the same period, but only from locations where lodging was present. In addition, entries were evaluated for disease resistance to crown rust and loose smut in specific inoculated nurseries.

Variety Selection

While yield is an important selection criterion, grain quality and disease resistance should also be considered. Millers have grain quality and variety preferences which can be considered if that is the intended target. Crown rust continues to be a major limiting factor to oat production in Minnesota that must be managed to achieve optimal yield. Rust in all yield trials was managed through treatment with a propiconazole-based fungicide when the flag leaf was fully extended (Feekes 9) to evaluate the yield potential without disease infection. All disease scores are on a “1-9” scale where “1” is very resistant and “9” is very susceptible. Crown rust resistance was evaluated in the Buckthorn Nursery in St. Paul by the USDA-ARS using an exceptionally aggressive crown rust population. The most economical way of controlling crown rust is through resistant varieties; however, application of fungicide to a variety with rating of “4” or greater is prudent if crown rust is present in the lower canopy at Feekes 9. Smut was evaluated in an inoculated nursery on the St. Paul campus. A seed treatment and certified seed should be used to manage smut. Disease resistance may be a driving factor if pesticides are not economical or if the intended production system is organic.

PVP Status

The U.S. Plant Variety Protection Act (PVP) status is listed for all varieties tested. PVP(94) notation indicates that seed of that variety may not be sold by a grower without the permission of the variety’s owner. If the PVP is pending, consider the variety as having PVP(94) protection.

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Mike Leiseth, Travis Vollmer, Danielle Fiebekorn Wrucke and Donn Vellekson supervised and carried out test plot establishment and management.

Preliminary summary of oats performance evaluations across Minnesota in 2025.

Entry	Becker	Grand Rapids	LeCenter	Rochester	Roseau	St. Paul	Average
	(bu/acre)	(bu/acre)	(bu/acre)	(bu/acre)	(bu/acre)	(bu/acre)	(bu/acre)
CDC Endure	126.7	153.4	131.1	68.1	203.3		136.2
CS Camden	126.6	164.8	126.7	98.1	211.5		145
Deon	126.3	164.3	121.1	93.0	183.5		137.6
Esker2020	144.9	145.6	165.2	110.6	166.7		147.2
Fred	98.2	138.8	141.9	109.8	145.4		126.8
Hayden	125.9	157.2	118.1	98.5	184.9		136.4
Mink	98.2	151.6	160.7	137.2	199.6		149.5
MN-Pearl	116.3	165	111.7	74.2	189		129.4
ND-Carson	119.8	113.6	144.7	71.2	183.8		126.6
ND-Heart	79.9	126	116.8	74.8	180.5		116.4
ND-Spilde	109.6	137.4	144.4	103.4	191.6		137.3
Reins	106.2	138.7	128.9	103.6	157.8		128
Rushmore	110.2	125.9	140.2	80.5	193.5		130
Saddle	117.4	142.8	152.2	91.0	170.5		134.8
SD Buffalo	110.9	137.7	100.2	83.3	186.8		123.8
SD Momentum	107.7	140.3	132.8	142.2	194.5		145.6
SD Titan	105.4	125.3	130.6	127.3	209.6		139.6
Streaker	84.3	128.1	116.9	62.6	144.8		106.8
Sumo	129.6	162	139	102.6	174.8		142.4
Warrior	116.6	173.3	151.7	97.0	185.4		143.2
LSD(0.1)	22.8	24.2	26	14.2	24.5		13.2

1 Predicted average across reported locations

Table A. Origin and agronomic characteristics of oat varieties in Minnesota in multiple-year comparisons (2023-2025).

Variety	Origin ¹	Release	Legal Status	Seed Color	Heading	(inches)	Strength	(lbs/bu)	Protein
Antigo	WI	2017	PVP	Yellow	56	37	4	39.2	14.1
CDC Endure ²	Sask	2022	PVP	Yellow	64	44	3	35.5	11.7
CS Camden	LS	2013	PVP	White	62	39	4	34.6	12.8
Deon	MN	2014	PVP	Yellow	62	42	4	37.3	12.8
Esker 2020	WI	2020	PVP	Yellow	59	38	4	35	12.7
Fred ³	SD	2025	PVP	Yellow	59	42	6	38.8	13.5
Hayden	SD	2015	PVP	White	61	41	5	38	12.5
Mink	WI	2022	PVP	Yellow	65	41	3	35.4	12.4
MN-Amber	MN	2025	Contemplated	Yellow	61	40	4	38	13
MN-Pearl	MN	2018	PVP	White	62	41	5	35.2	11.9
ND Carson	ND	2023	PVP	White	62	40	3	35.6	12.5
ND Heart	ND	2020	non-PVP	White	61	41	4	37	13.6
ND Spilde	ND	2023	PVP	White	61	42	4	34.7	12.2
Reins	IL	2016	PVP	White	56	33	3	37.7	13.2
Rushmore	SD	2020	PVP	White	59	40	4	37.9	12.5
Saddle	SD	2018	PVP	White	57	38	3	35.9	12.5
SD Buffalo	SD	2021	PVP	White	61	41	4	37.3	12.5
SD Momentum ⁵	SD	2024	Pending	White	64	51	5	39	12
SD Titan ²	SD	2024	Pending	White	63	49	4	38.4	12.4
Streaker ⁴	SD	2016	PVP	Hulless	59	39	5	42.3	15
Sumo	SD	2017	PVP	White	56	39	4	38	13.7
Warrior	SD	2019	PVP	White	59	38	4	36.8	12.9
No. of Trials					11	11	13	17	10

¹ Lantmannen Seed (LS), North Dakota State University (ND), South Dakota State University (SD), University of Illinois Urbana-Champaign (IL),

² Line tested in 2024 and 2025

³ Line tested in 2025 only

⁴ Hulless oat

⁵ 0-9 scale where 0=most resistant, 9=most susceptible

Table B. Disease characteristics of oat

Variety	Crown Rust^{2,3}	Loose Smut^{2,4}
	------(1-9)-----	
Antigo	3	5
CDC Endure ¹	7	-
CS Camden	6	3
Deon	5	1
Esker 2020	3	3
Hayden	6	1
Mink	2	1
MN-Amber	5	2
MN-Pearl	7	1
ND Carson	5	2
ND Heart	5	7
ND Spilde	2	1
Reins	7	1
Rushmore	6	5
Saddle	6	1
SD Buffalo	6	3
SD Momentum ¹	2	1
SD Titan ¹	1	1
Streaker	6	2
Sumo	4	1
Warrior	5	4

¹ Line tested in 2024 and 2025

² Disease scored on a 1-9 scale where 1

³ Crown rust assessed in 2023, 2024, and

⁴ Smut assessed in 2023 and 2024

Table C. Relative grain yield of oat varieties in northern Minnesota locations in

Variety	Crookston		Fergus Falls	Grand Rapids	Roseau		Stephen
	2025	3 yr	2023 ⁴	2025 ⁵	2025	2 yr ⁶	2 yr ⁷
Antigo	78	85	88	-	-	101	92
CDC Endure ¹	119	-	-	100	114	114	-
CS Camden	106	106	111	107	112	106	99
Deon	107	108	102	116	104	104	113
Esker 2020	99	104	95	99	94	98	106
Fred ²	96	-	-	99	83	-	-
Hayden	116	107	102	104	103	102	104
Mink	113	110	116	99	114	123	119
MN-Amber	95	101	103	114	93	96	100
MN-Pearl	104	101	104	111	105	102	110
ND Carson	111	111	103	81	105	101	104
ND Heart	94	99	105	81	95	92	95
ND Spilde	107	107	118	95	105	101	101
Reins	98	95	85	99	84	91	90
Rushmore	106	102	99	94	102	98	101
Saddle	101	104	92	99	96	101	99
SD Buffalo	100	100	103	92	104	106	109
SD Momentum ¹	104	-	-	96	107	102	-
SD Titan ¹	96	-	-	109	110	101	-
Streaker ³	67	72	78	84	78	71	71
Sumo	99	93	94	110	92	90	88
Warrior	84	96	103	112	100	99	97
Mean (bu/acre)	171	179	152	147	183	199	217
LSD (0.10)	13.4	7.6	14.2	15.8	13.6	10.2	10.7

¹ Line tested in 2024 and 2025² Line tested in 2025 only³ Hulless oat⁴ Trial data is from 2023 only⁵ Trial data is from 2025 only⁶ Trial data is from 2024 and 2025⁷ Trial data is from 2023 and 2024

Table D. Relative grain yield of oat varieties in southern Minnesota locations in single-year (2025) and multiple-year

Variety	Becker		Lamberton		Le Center		Rochester		St. Paul		Waseca	
	2025	2 yr ⁴	2025	3 yr	2025	3 yr	2025	2 yr ⁴	2025	2 yr ⁴	2025	3 yr
Antigo	-	97	120	99	-	95	117	102	107	110	102	100
CDC Endure ¹	120	110	77	-	94	-	70	88	99	84	81	-
CS Camden	113	111	73	103	97	102	102	102	111	106	96	104
Deon	108	107	114	116	98	107	96	103	112	109	101	101
Esker 2020	128	116	114	109	120	109	111	115	106	111	109	116
Fred ²	89	-	138	-	105	-	111	-	110	-	93	-
Hayden	110	99	92	97	87	101	99	99	108	105	98	94
Mink	104	106	125	109	119	109	141	139	97	104	142	130
MN-Amber	90	95	82	99	111	107	100	98	106	111	95	106
MN-Pearl	101	90	50	86	88	92	77	87	89	96	95	97
ND Carson	103	100	97	102	104	96	73	87	102	100	95	91
ND Heart	74	86	80	87	87	89	77	90	92	86	82	84
ND Spilde	98	105	160	114	103	114	107	113	82	90	109	129
Reins	96	90	57	93	108	102	106	92	100	102	96	98
Rushmore	97	93	49	88	103	103	84	89	83	105	97	97
Saddle	107	108	94	104	104	101	92	100	112	121	100	94
SD Buffalo	101	100	78	101	81	96	85	87	98	94	104	103
SD Momentum	95	103	138	-	101	-	146	131	95	96	108	-
SD Titan ¹	97	102	146	-	99	-	132	115	99	103	117	-
Streaker ³	77	78	88	80	85	83	68	69	76	70	77	67
Sumo	87	93	112	104	100	92	106	94	102	96	104	88
Warrior	107	110	117	107	108	104	100	97	112	99	100	101
Mean (bu/acre)	112	104	59	86	138	139	98	110	102	136	80	73
LSD (0.10)	18.2	13.2	32.4	12.6	17.3	9	25.7	15.4	12.5	13.6	15.1	12.4

¹ Line tested in 2024 and 2025² Line tested in 2025 only³ Hulless oat⁴ Trial data is from 2024 and 2025

Table E. Relative grain yield of oat varieties in Minnesota in single-year (2025) and

Variety	North			South			State		
	2025	2 yr	3 yr	2025	2 yr	3 yr	2025	2 yr	3 yr
Antigo	80	95	92	96	102	99	85	96	94
CDC Endure ¹	112	107	-	93	93	-	102	100	-
CS Camden	109	102	105	101	102	105	105	102	105
Deon	109	108	109	104	105	108	107	106	108
Esker 2020	98	100	102	116	114	112	108	108	107
Fred ²	92	-	-	106	-	-	100	-	-
Hayden	108	104	104	99	97	100	104	100	102
Mink	110	113	115	120	118	115	116	116	115
MN-Amber	101	99	101	100	101	104	100	100	102
MN-Pearl	107	103	105	86	88	92	96	95	99
ND Carson	101	102	104	97	95	97	99	98	100
ND Heart	91	94	96	83	88	87	87	91	92
ND Spilde	103	102	104	106	108	111	105	105	108
Reins	94	94	92	98	96	97	96	95	95
Rushmore	101	100	100	90	96	97	95	98	99
Saddle	99	102	101	103	106	105	101	104	103
SD Buffalo	100	102	104	92	93	97	96	97	101
SD Momentum ¹	103	102	-	112	111	-	108	107	-
SD Titan ¹	105	102	-	112	111	-	109	107	-
Streaker ³	76	73	73	79	76	76	78	75	75
Sumo	100	96	93	101	97	95	101	97	94
Warrior	99	99	99	108	103	103	104	101	101
Mean (bu/acre)	166	189	185	98	107	106	120	134	135
LSD (0.1)	8.2	5.4	4.8	8.2	5.7	5.1	5.8	4	3.5
No. of Trials	3	6	9	6	12	15	9	18	24

¹ Line tested in 2024 and 2025² Line tested in 2025 only³ Hulless oat