

WINTER WHEAT

Winter wheat varieties are compared in trial plots at Lamberton, Morris, Roseau and St. Paul. Wheat varieties are grown in replicated plots at each location. These plots are handled so that the factors affecting yield and other characteristics are as nearly the same for all varieties at each location as is possible. These winter wheat trials are not designed for crop (species) comparisons, because the various crops are grown on different fields or with different management. The data should only be used to compare varieties within a table.

Variety Selection Criteria

Varities are listed in order of heading. The varieties tested differ in their winterhardiness and this characteristic should receive attention when choosing varieties. Cultural practices have a major effect on winter survival of all winter wheat varieties. Planting into a firm seedbed with at least some stubble remaining to retain snow cover can reduce winterkill.

Varities

Culver – Awned, early maturity, semidwarf. Moderate winterhardiness. Moderately strong straw. Resistant to stem rust and moderately susceptible to leaf rust. Medium test weight and protein. Released by Neb. AES and USDA-ARS 1998. **PVP (94)**

Ransom – Awned, medium-late maturity, medium height. Moderately high winterhardiness. Medium straw strength. Moderately resistant to stem rust and to leaf rust. Medium-low test weight and protein. Released by N.D. AES 1998. **PVP (94)**

Crimson – Awned, red-chaffed, medium maturity, medium height. Moderate winterhardiness. Moderately strong straw. Moderately resistant to stem rust and susceptible to leaf rust. Moderate resistance to Septoria tritici blotch. High test weight and medium protein. Released by S.D. AES 1997. **PVP (94)**

Harding – Awned, medium maturity, medium height. Moderate winterhardiness. Medium straw strength. Moderately resistant to stem rust and to leaf rust. Medium to high test weight and protein. Released by S.D. AES 1997. **PVP (pending)**

Tandem – Awned, early maturity, medium height. Moderate winterhardiness. Medium straw strength. Moderately resistant to stem rust and susceptible to leaf rust. High test weight and medium to high protein. Released by S.D. AES 1997. **PVP (94)**

Windstar – Awned, early-medium maturity, semidwarf. Moderate winterhardiness. Strong straw. Moderately resistant to stem rust and to leaf rust. Medium test weight and protein. Released by Neb. AES and USDA-ARS 1996. **PVP (94)**

Elkhorn – Awned, medium-late maturity, tall. High winterhardiness. Medium straw strength. Resistant to stem rust and moderately resistant to leaf rust. Medium test weight and high to medium protein. Released by N.D. AES 1995. **PVP (94)**

Arapahoe – Awned, early maturity, medium height. Moderate winterhardiness. Moderately strong straw. Resistant to stem rust and moderately resistant to leaf rust. Medium test weight and protein. Released by Neb. AES Sand USDA-ARS 1988. **PVP (94)**

Seward – Awned, medium-late maturity, tall. Moderately high winterhardiness. Medium straw strength. Moderately resistant to stem rust and susceptible to leaf rust. Low to medium test weight and low protein. Released by N.D. AES 1987.

Roughrider – Awned, medium-late maturity, tall. Very high winterhardiness. Medium straw strength. Resistant to stem rust and susceptible to leaf rust. Medium test weight and medium to high protein. Released by N.D. AES 1975.

Varities Not Adequately Tested

Wahoo – Awned, early, semidwarf. Moderate winterhardiness. Moderately strong straw. Resistant to stem rust and susceptible to leaf rust. Low test weight and protein. Released by Neb. AES 2001. **PVP (94)**

Millennium – Awned, early-medium maturity, medium height. Moderate winterhardiness. Strong straw. Resistant to stem rust and moderately resistant to leaf rust. Medium test weight and protein. Released by Neb. AES and USDA-ARS 1999. **PVP (94)**

Nuplains – Awne d, medium maturity, short-semidwarf. Moderate winterhardiness. Strong straw. Moderately resistant to stem rust and to leaf rust. Medium test weight and protein. White grain color. Released by USDA-ARS and the Nebraska, South Dakota, and Wyoming Agricultural Experiment Stations 1999.

PVP (94)

Winter Wheat Planting Rate and Date

Bushel Weight (Pounds).....	60
Seeds/Pound.....	14,500
Pounds Rate/Acre.....	75+
Seeds / Square Foot.....	25
Planting Date.....	Aug. 20 - Sept. 20

Growth characteristics of winter wheat varieties.

Variety	Heading, Days From Jan 1	Height, Inches	Winter-Hardiness ¹	Lodging Rating	Test Weight, Pounds/Bushel		Protein % at 12% Moisture		Rust Resistance ²	
					2002	2-year	2002	2-year	Leaf	Stem
Culver	163	35.3	M	M. Strong	56.3	57.8	13.3	13.2	MS	R
Wahoo	163	35.0	M	M. Strong	55.3	57.2	13.1	12.4	S	R
Tandem	164	36.7	M	Medium	58.2	59.6	13.9	13.9	S	MR
Arapahoe	164	37.1	M	M. Strong	56.5	58.2	13.7	13.0	MR	MR
Windstar	164	36.3	M	Strong	57.8	58.8	13.2	13.2	MR-MS	MR
Crimson	165	36.3	M	M. Strong	59.0	60.4	13.5	13.4	S	MR
Millenium	165	35.1	M	Strong	56.8	58.9	13.4	13.1	MR	R
Harding	165	36.1	M	Medium	59.0	59.9	13.9	13.4	MR	MR
Nuplains ³	166	31.2	M	Strong	57.7	59.5	14.0	12.9	MR	MR
Roughrider	166	39.2	VH	Medium	57.5	58.7	13.9	13.5	S	R
Jerry ⁴	167	37.1	–	M. Strong	58.0	–	13.9	–	MR	R
Ransom	167	36.6	MH	Medium	55.9	57.6	13.1	12.2	MR	MR
Seward	167	40.0	MH	Medium	56.7	58.4	13.1	12.2	S	MR
Elkhorn	168	41.7	H	Medium	57.4	58.9	14.2	13.2	MR	R
Mean	165	36.8			57.4	58.8	13.6	13.0		
LSD	1	1.8			2	1	1	1		

¹ Winterhardiness rating is a relative ranking that includes data from North Dakota, Nebraska and South Dakota:VH=very high, H=high, MH=moderately high, M=moderate. ² R=resistant, MR=moderately resistant, MS=moderately susceptible, S=susceptible. ³ White seeded. ⁴ 2002 data.

Yield (percent of the mean) of winter wheat varieties.

Variety	Lamberton		Morris		Roseau		St. Paul			State			
	2002	2002	00-02	2001	2-year	3-year	2002	2-year	3-year	2002	2-year	3-year	4-year
Culver	98	91	95	112	102	103	76	97	101	90	100	100	104
Wahoo	88	83	–	106	–	–	70	92	–	81	93	–	–
Tandem	105	116	109	110	104	109	102	91	95	109	104	103	104
Arapahoe	110	104	106	101	103	109	71	92	95	98	101	102	105
Windstar	117	103	107	105	101	105	138	133	127	116	116	113	114
Crimson	80	87	90	107	104	102	91	94	92	86	93	93	95
Millenium	115	107	109	120	102	–	101	103	111	108	110	109	–
Harding	107	93	103	97	103	102	123	110	108	105	102	104	104
Nuplains	94	94	99	96	83	–	115	114	119	99	101	101	–
Roughrider	78	91	92	91	94	94	91	81	80	86	85	87	88
Jerry	115	130	–	–	–	–	155	–	–	131	–	–	–
Ransom	128	122	114	99	103	102	114	104	104	122	112	110	110
Seward	102	102	98	94	108	104	116	106	101	106	101	101	103
Elkhorn	84	101	96	83	91	92	119	102	95	100	94	92	93
LSD	39	28	22	18	20	18	28	25	22	21	20	22	14
Mean, Bu/Acre	50.0	63.7	61.6	81.9	68.6	58.7	38.2	51.6	53.9	50.7	60.0	59.1	56.9