

# WINTER WHEAT

Winter wheat varieties are compared in trial plots at Morris, Rosemount, and Roseau. 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

Varieties are listed in order of heading in the tables and year of release within variety categories. 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.

## General-Purpose Varieties

**Ransom** – Awne d, medium height, medium maturity and fair lodging resistance. Moderately high winterhardiness. Resistant to stem rust, moderately resistant to leaf rust. Medium test weight

and protein. Released by North Dakota Agricultural Experiment Station 1998.

**PVP (pending)**

**Crimson** – Awne d, red-chaffed, medium height, early-medium maturity, very good lodging resistance. Moderate winterhardiness. Moderately resistant to stem rust and susceptible to leaf rust. Moderate resistance to Septoria tritici blotch. High test weight and protein. Released by S.D. AES 1997. **PVP (pending)**

**Tandem** – Awne d, medium height, early, fair lodging resistance. Moderate winterhardiness. Resistant to stem rust and susceptible to leaf rust. High test weight and protein. Released by S.D. AES 1997. **PVP (pending)**

**Windstar** – Awne d, semidwarf, early, good lodging resistance. Moderate winterhardiness. Moderately resistant to stem rust and moderate resistance to leaf rust. Medium test weight, low-medium protein. Released by Neb. AES and USDA-ARS 1996. **PVP (94)**

**Elkhorn** – Awne d, tall, medium maturity, fair lodging resistance. High winterhardiness. Resistant to stem rust, moderately susceptible to leaf rust. Medium test weight, high protein. Released by the N.D. AES 1995. **PVP**

**Arapahoe** – Awne d, medium height, early and fair lodging resistance. Moderate winterhardiness. Resistant to stem rust and moderately resistant to leaf rust. Medium test weight and protein. Released by Neb. AES and USDA-ARS 1988. **PVP**

**Seward** – Awne d, tall, medium-late and good lodging resistance. Moderately high winterhardiness. Resistant to stem rust and susceptible to leaf rust. Low test weight and protein. Released by N.D. AES 1987

**Roughrider** – Awne d, tall, medium maturity, fair lodging resistance. Very high winterhardiness. Resistant to stem rust but susceptible to leaf rust. High test weight and protein. Released by N.D. AES 1975.

## Varieties Not Adequately Tested

**Millennium** – Awne d, medium height, early, good lodging resistance, medium test weight and protein. Released by Neb. AES and USDA-ARS 1999. **PVP (pending)**

**Nuplains** – Awne d, short-semidwarf, early-medium maturity, good lodging resistance. High test weight, medium protein, white grain color. Released by USDA-ARS and the Nebraska, South Dakota, and Wyoming Agricultural Experiment Stations 1999. **PVP (pending)**

**Culver** – Awne d, medium height, early and fair lodging resistance. Medium test weight and protein. Released by Neb. AES and USDA-ARS 1998. **PVP (94)**

**Harding** – Awne d, medium height, early-medium maturity, fair lodging resistance, medium test weight, high protein. Released by S.D. AES 1997. **PVP (pending)**

## Hard Red 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 Date <sup>1</sup>	Height, Centimeters <sup>1</sup>	Winter-Hardiness <sup>2</sup>	Lodging <sup>3</sup>	Test Weight Lb/Acre <sup>1</sup>	Protein at 12% Moisture	Rust Resistance <sup>4</sup>	
							Leaf	Stem
Arapahoe	6/3	98	M	3.4	60.0	13.5	MR	R
Culver	6/3	95	—	3.6	60.0	13.4	—	—
Tandem	6/3	100	M	4.1	61.1	13.7	S	R
Millennium	6/4	101	—	2.3 <sup>1</sup>	60.5	13.5	—	—
Windstar	6/4	99	M	2.6	60.2	13.2	MR-MS	MR
Crimson	6/6	105	M	2.6	62.2	13.8	S	MR
Harding	6/6	106	—	5.3	60.8	13.8	—	—
Nuplains	6/6	89	—	2.3 <sup>1</sup>	61.4	13.3	—	—
Elkhorn	6/7	115	H	4.6	60.7	13.8	MS	R
Roughrider	6/7	114	VH	5.2	60.5	13.6	S	R
Ransom	6/8	104	MH	4.8	60.4	13.6	MR	R
Seward	6/8	113	MH	4.7	59.9	12.7	S	R
Mean	6/5	104		4.3	60.7	13.5		
LSD	2.1	8		2	0.9	0.5		

<sup>1</sup> 2000 data. <sup>2</sup> 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, —=insufficient data. <sup>3</sup> 1=erect, 9=flat, 1998-2000 data. <sup>4</sup> R=resistant, MR=moderately resistant, MS=moderately susceptible, S=susceptible, —=insufficient data.

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

Variety	Morris 2000	Morris 1998, 2000	Roseau 2000	Roseau 1999-2000	Rosemount 2000	Rosemount 1998-2000	State 2000	State 1998-2000
Arapahoe	107	85	104	110	101	100	104	98
Culver	99	92	92	91	110	120	101	104
Tandem	102	104	98	104	103	107	101	105
Millennium	112	—	83	—	126	—	107	—
Windstar	111	119	96	101	114	119	107	115
Crimson	93	98	101	94	89	99	94	98
Harding	112	119	109	102	102	102	108	108
Nuplains	104	—	69	—	128	—	101	—
Elkhorn	90	96	98	96	81	87	89	92
Roughrider	94	92	97	93	76	79	89	87
Ransom	107	108	107	100	103	116	106	110
Seward	94	97	122	108	91	100	102	101
LSD	16	28	21	21	18	15	24	13
Mean, Bu/Acre	59.4	60	55.2	49	58.4	58	57.7	56