

**Other HRSW** varieties recently released by the North Dakota Agricultural Experiment Station:

**Glenn** – (2005) Scab tolerance similar to or greater than Alsen with improved yield and overall agronomic performance. Excellent milling and baking characteristics.

**Steele-ND** – (2004) High yield with excellent quality and some protection from scab provided by a source of resistance different than Alsen.

**Dapps** – (2001) Exceptionally high protein content with superb milling and baking characteristics and good yield.

**Alsen** – (2000) Great tolerance to scab with good yield and standability and excellent milling and baking characteristics.

**For information** on the availability of Foundation seed contact:

**NDSU Research/Extension Centers**

Agronomy Seed Farm, Casselton.....347-4743  
Carrington Research Extension Center.....652-2951  
Hettinger Research Extension Center.....567-4323  
Langdon Research Extension Center.....256-2582  
North Central Research Ext. Center.....857-7679  
Williston Research Extension Center.....774-4315

**Or**

NDSU Foundation Seedstocks Project  
P.O. Box 5051  
Fargo, ND 58105-5051  
701-231-8140  
[www.ag.ndsu.nodak.edu/aginfo/seedstock/fss/](http://www.ag.ndsu.nodak.edu/aginfo/seedstock/fss/)

**Plant Quality Certified Seed**

Certified seed is field inspected and lab analyzed to help ensure variety identity, germination, and purity. Contact your local seed producer or dealer for quality certified seed.

Seed producers or dealers can be found in the North Dakota Field Inspected Seeds Directory. The directory is available from the North Dakota State Seed Department (NDSSD), North Dakota Crop Improvement & Seed Association, your local county agent, or under the field seeds program of the NDSSD website. [www.state.nd.us/seed/](http://www.state.nd.us/seed/)



Varieties protected under PVPA with Title V option can only be sold as a certified class of seed. **It is the responsibility of the buyer and/or seller to confirm the PVP status of a specific crop variety prior to buying or selling the variety.** PVP status information can be obtained from the ND State Seed Department.

**NDSU**®

**AGRICULTURE**

**Howard**  
Hard Red Spring Wheat



[www.ndcropimprovement.org](http://www.ndcropimprovement.org)

# Howard

## Hard Red Spring Wheat

**Howard** was developed by the NDSU HRSW Breeding Program and released by the North Dakota Agricultural Experiment Station in 2005. The parentage of Howard includes varieties such as Parshall, Amidon, and Grandin. Howard HRSW is named for Dr. Howard Olson, in honor of his long and distinguished career at NDSU. The positive impacts of Dr. Olson's career are far-reaching in the agricultural community and are evident in the admiration and respect he has earned from North Dakota producers.

Howard is a high-yielding semi-dwarf variety with good milling and baking characteristics. Howard is well-adapted to the entire HRSW producing region, but may be better suited for central and western North Dakota or areas where Fusarium head blight (Scab) pressure is moderate to light. The disease resistance package of Howard includes moderate susceptibility to scab, resistance to stem and leaf rust, and moderate to good protection against other fungal leaf diseases.

To help ensure genetic purity, Howard HRSW will be protected under PVP Title V and must be sold as a class of certified seed.

For more information about Howard and other HRSW varieties visit [www.ag.ndsu.nodak.edu/aginfo/variety/index.htm](http://www.ag.ndsu.nodak.edu/aginfo/variety/index.htm) or contact the NDSU HRSW breeder or small grains agronomist at 701-231-7973.

## Howard General Characteristics

- High yield potential
- Very good milling and baking characteristics
- Moderately susceptible to scab
- Wide area of adaptation
- Good test weight and kernel size
- Medium maturity
- Semi-Dwarf
- Strong straw
- Resistant to stem and leaf rust
- Good protection against other fungal leaf diseases



### Agronomic traits of Howard in eastern North Dakota NDSU variety trials (Carrington, Prosper and Langdon, 2003-2005).

	Grain Yield (bu/acre)	Protein (%)	Test Weight (lb/bu)	Leaf Necrosis (%)	DON (ppm)	Lodging <sup>1</sup> (1-9)	Height (inches)
# of Locs.	(20)	(12)	(20)	(7)	(4)	(11)	(20)
<b>Howard</b>	<b>71.9</b>	<b>15.1</b>	<b>60.9</b>	<b>19</b>	<b>1.6</b>	<b>1.8</b>	<b>35.6</b>
Alsen	63.9	15.2	59.7	33	1.5	1.2	36.0
Dapps	65.4	16.1	60.2	14	2.1	1.2	39.8
Glenn	70.7	15.2	62.9	28	0.4	0.8	38.4
Parshall	65.2	15.1	59.5	36	2.7	2.5	38.3
Reeder	62.9	14.9	58.5	42	2.8	0.7	36.6
Steele-ND	68.3	15.0	59.9	31	2.1	2.0	35.8

<sup>1</sup>Scored visually: 1 = best, 9 = worst.

### Agronomic traits of Howard in western North Dakota NDSU variety trials (Minot, Williston, Dickinson and Hettinger, 2003-2005).

	Grain Yield (bu/acre)	Protein (%)	Test Weight (lb/bu)	Leaf Necrosis (%)	Height (inches)	Heading Date (Days)
# of Locs.	(21)	(15)	(21)	(4)	(21)	(21)
<b>Howard</b>	<b>50.6</b>	<b>16.1</b>	<b>59.0</b>	<b>10</b>	<b>32.3</b>	<b>67</b>
Alsen	50.1	16.2	60.0	14	30.0	67
Dapps	48.7	17.1	58.2	9	35.0	64
Glenn	51.1	16.5	62.0	24	32.9	65
Parshall	47.2	16.3	59.2	31	32.9	67
Reeder	49.8	16.4	58.3	22	30.7	68
Steele-ND	52.1	16.4	59.2	14	32.0	67