

## 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 Seed Directory. The directory is available from the North Dakota State Seed Department (NDSSD), your NDSU Extension agent, or under the field seed program of the NDSSD website. [www.ndseed.com](http://www.ndseed.com)



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 NDSSD.

## Other Durum varieties

released by the North Dakota Agricultural Experiment Station:

**ND Riveland** – (2017) Low cadmium uptake, high yield potential and good quality.

**Joppa** – (2013) High yield potential, excellent agronomic traits and outstanding color.

**Carpio** – (2012) Excellent quality, high yield potential and good protein.

**Tioga** – (2010) High yield potential, very large kernel size and excellent quality.

**Alkabo** – (2005) High yield potential, especially in northwestern North Dakota. Large kernel size, good quality and very strong straw.

**Divide** – (2005) Excellent quality with high yield potential, great yield stability and some tolerance to FHB.

## Contact information:

### Foundation seed

**NDSU** FOUNDATION SEEDSTOCKS 701-231-8140  
[ndfss.com](http://ndfss.com)

Agronomy Seed Farm, Casselton..... 701-347-4743  
Carrington Research Ext. Center..... 701-652-2951  
Langdon Research Ext. Center ..... 701-256-2582  
North Central Research Ext. Center... 701-857-7679  
Williston Research Ext. Center..... 701-774-4315

### Registered/Certified seed

<b>NDCISA</b>	<b>NDSSD</b>
<a href="http://ndcropimprovement.com">ndcropimprovement.com</a>	<a href="http://ndseed.com">ndseed.com</a>
701-838-6213	701-231-5400
701-231-8067	

# NDSU

## ND Grano Durum



# ND Grano Durum

**ND Grano** was developed by the Durum Breeding Program at North Dakota State University and released by the North Dakota Agricultural Experiment Station in 2017. The North Dakota Crop Improvement and Seed Association (NDCISA) has a license agreement with the NDSU Research Foundation to produce and distribute ND Grano.

ND Grano has high yield potential, good quality and low cadmium (Cd) uptake. It also has very good test weight, large kernels, medium maturity and medium resistance to leaf diseases.

ND Grano performed well in the Uniform Regional Durum Nursery and has good yield potential across the state of North Dakota. It has similar yield to Carpio and good straw strength. Compared with Carpio and Joppa, ND Grano has higher test weight, smaller kernel size and similar height.

ND Grano is resistant to both leaf and stem rust diseases, similar to Carpio. Fusarium head blight disease severity of ND Grano is similar to Joppa. ND Grano had higher DON accumulation than Carpio and Joppa.

ND Grano has low Cd uptake, lower than the well known low Cd uptake Canadian variety, AC Strongfield. End use quality characteristics of color and firmness are very favorable for ND Grano.

ND Grano is named after Grano, a city in Renville County North Dakota. It is one of the smallest towns in the state with a population of seven in 2010.

To help ensure genetic purity, ND Grano will be protected under Plant Variety Protection Title V and must be sold as a class of certified seed.

For additional information about ND Grano and other durum varieties, refer to the most recent North Dakota Durum Wheat Variety Trial Results and Selection Guide circular A1067. The Extension agronomist can be contacted at 701-231-7971 or visit [www.ag.ndsu.edu/ndsuag/crops](http://www.ag.ndsu.edu/ndsuag/crops).



## ND Grano General Characteristics

- Low cadmium uptake
- High yield potential
- Good quality
- Good straw strength

### Grain yield (bu/a) of ND Grano and other durum varieties grown in variety trials at NDSU Research Extension Centers, 2013-2017.

Variety	Carrington	Langdon	Minot	Dickinson	Hettinger	Williston	Mean
<b>ND Grano</b>	<b>59.7</b>	<b>78.0</b>	<b>72.6</b>	<b>53.7</b>	<b>58.2</b>	<b>37.1</b>	<b>59.9</b>
ND Riveland	58.6	82.3	68.5	58.7	60.5	37.9	61.1
Joppa	58.1	77.5	71.8	56.2	58.5	38.3	60.1
Carpio	59.2	78.1	70.0	52.8	54.2	35.3	58.3
Tioga	57.6	72.4	64.9	55.0	57.9	40.6	58.0
Divide	54.9	73.6	67.3	55.8	57.2	36.6	57.6
Alkabo	54.7	74.9	71.5	53.5	53.8	36.5	57.5
AC Strongfield	51.1	69.7	58.9	51.8	54.6	34.7	53.5

### Agronomic traits and disease scores of ND Grano and other durum varieties grown at various locations in MN, MT, ND and SD, 2013-2017.

Variety	Yield (bu/ac)	Test Weight (lb/bu)	Kernel Weight (g)	Heading Date (days)	Height (cm)	Leaf Disease <sup>1</sup> (0-9)	FHB <sup>1</sup> (0-9)	Lodging Score <sup>2</sup> (0-9)	Protein (%)	Cadmium (ppb)
<b>ND Grano</b>	<b>62.5</b>	<b>60.2</b>	<b>38.2</b>	<b>61.8</b>	<b>85.6</b>	<b>3.1</b>	<b>2.1</b>	<b>0.9</b>	<b>13.5</b>	<b>43</b>
ND Riveland	66.4	60.1	40.8	60.8	90.7	2.8	1.8	1.0	13.4	39
Joppa	62.8	60.0	39.0	60.9	85.7	3.0	2.4	1.2	13.4	120
Carpio	62.6	59.9	39.9	61.5	86.6	2.8	2.0	1.4	13.3	146
Tioga	62.2	59.7	40.7	60.9	91.2	3.3	2.5	1.1	13.4	135
Divide	61.2	59.8	38.7	61.3	88.5	2.8	2.4	1.0	13.6	130
AC Strongfield	60.3	58.9	36.7	60.8	85.5	5.3	—	1.6	14.3	48
Alkabo	59.5	60.2	39.0	60.2	84.4	3.8	2.9	0.6	13.6	154

<sup>1</sup>Leaf disease and Fusarium head blight (scab) reaction score from 0-9, with 0 = resistant and 9 = very susceptible.

<sup>2</sup>Lodging score from 0-9, with 1 the strongest and 9 the weakest.