

Other Durum varieties

recently released by the North Dakota Agricultural Experiment Station:

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

Grenora – (2005) Great yield potential, strong straw, medium maturity, white chaff, medium height, and good overall 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.

Lebsock – (1999) Very high test weight with great yield potential and good quality.

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), your local NDSU Extension Service agent, or under the field seeds program of the NDSSD website. www.ndseed.com



Varieties protected under PVP 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.

For information on the availability of Foundation seed, contact:

NDSU Research/Extension Centers

Agronomy Seed Farm, Casselton.....(701) 347-4743
Carrington Research Extension Center....(701) 652-2951
Hettinger Research Extension Center.....(701) 567-4323
Langdon Research Extension Center.....(701) 256-2582
North Central Research Ext. Center.....(701) 857-7679
Williston Research Extension Center(701) 774-4315

Or

NDSU Foundation Seedstocks Project
(701) 231-8140
www.ndfss.com

NDSU[®]

AGRICULTURE

Carpio Durum



www.ndcropimprovement.org

Carpio Durum

Carpio was developed by the NDSU Durum Breeding Program and released by the North Dakota Agricultural Experiment Station in 2012. Carpio was selected from a cross between two NDSU durum experimental lines D95580 and D95595. Carpio durum is named for the northwest North Dakota town of Carpio in Ward County.

Carpio has shown excellent yield potential in NDSU yield trials as well as very good yield stability across multiple environments. Carpio provides yield advantage over Divide and Lebsock across environments in North Dakota. Carpio has larger kernel size than Mountrail. The test weight of Carpio is very good.

Carpio has been given an overall quality rating of “Excellent” by the NDSU Cereal Chemists. The overall quality rating is based on agronomic, milling, and pasta processing performance. Carpio has very good protein content and has the highest mixograph, gluten index, and firmness scores among NDSU’s varieties. Therefore Carpio has very good yield potential that is combined with excellent quality.

The scab tolerance of Carpio is close to that of Divide which is slightly better than Grenora, Alkabo, Lebsock, Mountrail, and Pierce. Carpio has a moderate level of resistance to foliar diseases which is similar to Divide and Mountrail.

To help ensure genetic purity, ‘Carpio’ durum will be protected under the Plant Variety Protection (PVP) under Title V and must be sold as a class of certified seed.

For more information about Carpio and other durum varieties visit www.ag.ndsu.edu/varietytrials/durum or contact the NDSU durum breeder Dr. Elias Elias at (701) 231-8159 or small grains agronomist Dr. Joel Ransom at (701) 231-7971.



Carpio General Characteristics

- Very good yield potential
- Test weight similar to Divide
- Exceptional quality traits, very high gluten index, mixograph score, and pasta firmness.
- Very good protein content
- A good level of Fusarium Head Blight (FHB) resistance
- Moderate Resistance to leaf diseases

Grain yield (bu/a) of Carpio and other durum varieties grown in the variety trials at NDSU Research Extension Centers, 2007-2011.

| Variety | Carrington | Langdon | Minot | Dickinson | Hettinger | Williston | Mean |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Carpio | 56.5 | 79.9 | 67.5 | 64.5 | 45.7 | 32.9 | 57.8 |
| Alkabo | 61.3 | 79.7 | 65.5 | 57.5 | 46.0 | 37.1 | 57.9 |
| Divide | 58.0 | 76.1 | 66.7 | 61.2 | 43.2 | 34.5 | 56.6 |
| Grenora | 55.7 | 81.6 | 62.6 | 64.5 | 46.2 | 36.9 | 57.9 |
| Lebsock | 59.0 | 81.9 | 60.1 | 58.9 | 49.0 | 33.4 | 57.1 |
| Mountrail | 57.5 | 77.9 | 67.6 | 65.6 | 45.6 | 35.7 | 58.3 |
| Pierce | 53.5 | 75.6 | 66.5 | 62.8 | 44.4 | 33.1 | 56.0 |
| Tioga | 58.6 | 80.1 | 68.3 | 62.3 | 43.2 | 37.3 | 58.3 |

Agronomic traits and disease scores of Carpio and other durum varieties grown at various locations in North Dakota, South Dakota, Montana, Minnesota and Canada, 2007-2011. Quality traits are from drill strips grown at 38 locations in ND, 2007-2011.

| Variety | Yield (bu/ac) | Test Weight (lb/bu) | Kernel Weight (mg) | Heading (days) | Height (cm) | Leaf Disease (0-9) | FHB (0-9) | Lodging (0-9) | Protein (%) | Mixograph | Gluten Index |
|---------------|---------------|---------------------|--------------------|----------------|-------------|--------------------|------------|---------------|-------------|------------|--------------|
| Carpio | 62.8 | 59.6 | 42.0 | 63.5 | 87.6 | 4.4 | 1.5 | 0.8 | 14.4 | 7.8 | 94 |
| Alkabo | 61.9 | 59.8 | 40.5 | 61.5 | 85.7 | 4.5 | 1.6 | 0.0 | 14.3 | 6.0 | 59 |
| Divide | 62.2 | 59.5 | 41.0 | 62.2 | 88.7 | 3.9 | 1.5 | 0.5 | 14.7 | 7.2 | 79 |
| Grenora | 62.8 | 59.2 | 42.0 | 61.1 | 84.2 | 3.2 | 1.9 | 0.2 | 14.3 | 6.5 | 73 |
| Mountrail | 65.4 | 59.0 | 39.8 | 62.6 | 88.8 | 4.3 | 2.5 | 0.6 | 14.6 | 4.3 | 30 |
| Tioga | 63.4 | 59.5 | 42.5 | 61.9 | 92.8 | 4.0 | 1.7 | 0.5 | 14.6 | 7.4 | 83 |