

Other two-rowed

barley varieties released by the N.D. Agricultural Experiment Station:

Rawson – (2005) Slightly higher yielding than Conlon. Very large seeded, but the loose hulls make it unacceptable for malting.

Conlon – (1996) Good yield and test weight with heat tolerance which helps to maintain kernel plumpness.

Logan – (1995) Similar to Bowman in heading date and plant height and similar to Morex for foliar diseases. Better yield, test weight, lodging score and lower protein than Bowman.

Bowman – (1984) Jointly released by NDSU and USDA. Good test weight and straw strength. Resistant to wheat stem rust but susceptible to loose smut and barley yellow dwarf virus.

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 Center567-4323
Langdon Research Extension Center.....256-2582
North Central Research Ext. Center.....857-7679
Williston Research Extension Center774-4315

Or

NDSU Foundation Seedstocks Project
P.O. Box 5051
Fargo, ND 58105-5051

701-231-8140

www.ag.ndsu.nodak.edu/aginfo/seedstock/fss/

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.ndseed.com

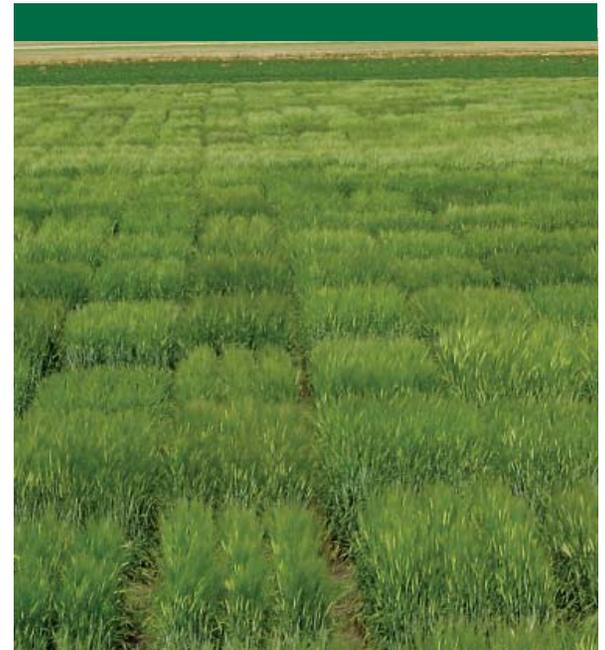


Varieties protected under PVPA with Title V option can only be sold as a certified class of seed. **It is the responsibility of the buyer and/or seller to confirm the PVP status of a specific crop variety prior to buying or selling the variety.** PVP status information can be obtained from the ND State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

NDSU[®]

AGRICULTURE

Pinnacle Two-Rowed Barley



www.ndcropimprovement.org

Pinnacle Two-Rowed Barley

Pinnacle was developed by the NDSU Barley Breeding Program and released by the North Dakota Agricultural Experiment Station in 2006. Pinnacle has a parentage of mostly experimental lines, but includes Logan and Foster in its early ancestry. The original cross was made in 1999 by Jerry Franckowiak, former NDSU two-rowed barley breeder who retired in 2006.

Pinnacle has a white hull, smooth awns and long rachilla hair. Pinnacle has greater resistance to spot blotch than Conlon, and approaches that of Lacey and Drummond

Based on more than four years of trials in North Dakota, Pinnacle has a 15 percent yield advantage over Conlon. Pinnacle heads out about three days later than Conlon, but has greater straw strength than Conlon and approaches that of the strongest six-rowed varieties.

Pinnacle has excellent quality characteristics. Compared with Conlon, Pinnacle has lower protein and a higher percentage of plump kernels. The remainder of its malting characteristics is similar to Conlon, which is accepted by the malting and brewing industry. Pinnacle is currently in the last year of testing to determine if it will be added to the AMBA list of approved varieties for malting.

For more information about Pinnacle and other two-rowed barley varieties visit www.ag.ndsu.nodak.edu/aginfo/variety/index.htm or contact the NDSU BARLEY breeder or small grains agronomist at 701-231-7973.

To help ensure genetic purity, Pinnacle barley will be protected under PVPA Title V and must be sold as a class of certified seed. A research fee will apply to all Registered and Certified Seed sales. This fee will be collected from the labeler by the North Dakota State Seed Department.

Pinnacle General Characteristics

- High yield
- Low protein
- Long rachilla hairs
- Smooth awns
- White aleurone
- Medium-late maturity
- Medium height
- Strong straw strength

Disease reaction¹ of Pinnacle and other two-rowed barley varieties. Ratings based on several years of data collected in various trials and disease nurseries.

| Variety | Stem Rust | Loose Smut | Spot Blotch | Net Blotch |
|-----------------|-----------|------------|-------------|------------|
| Pinnacle | S | S | MR | MS |
| Conlon | S | S | MS | MR |
| Bowman | S | S | MS-S | S-MS |
| AC Metcalfe | S | NA | MS | MS |

¹R = Resistant, MR = Moderately resistant, MS = Moderately susceptible, S = Susceptible



Agronomic traits of Pinnacle two-rowed barley in eastern North Dakota NDSU variety trials (Carrington, Fargo and Langdon, 2008).

| Variety | Grain Yield (bu/acre) | Protein (%) | Test Weight (lbs/bu) | Plump Kernels (%) |
|-----------------|-----------------------|-------------|----------------------|-------------------|
| Pinnacle | 108 | 11.3 | 49.7 | 90 |
| Conlon | 90 | 12.8 | 51.7 | 95 |
| Bowman | 95 | 13.4 | 50.7 | 91 |
| Ac Metcalfe | 92 | 13.3 | 48.4 | 81 |

Agronomic traits of Pinnacle two-rowed barley in western North Dakota NDSU variety trials (Minot, Williston, Dickinson and Hettinger, 2008).

| Variety | Grain Yield (bu/acre) | Protein (%) | Test Weight (lbs/bu) | Plump Kernels (%) |
|-----------------|-----------------------|-------------|----------------------|-------------------|
| Pinnacle | 87 | 13.2 | 47.7 | 86 |
| Conlon | 81 | 14.2 | 49.2 | 93 |
| Bowman | 80 | 14.5 | 48.9 | 87 |
| AC Metcalfe | 75 | 15.2 | 45.6 | 70 |