

North Idaho Extension cereal and pulse crop variety testing program

AT A GLANCE

The north Idaho variety testing program provides a valuable source of unbiased agronomic data on existing and new varieties of cereal and pulse crops to Idaho stakeholders.

The Situation

Each year new varieties of cereal and pulse crops are released for commercial production by public and private breeding entities. These new varieties often have improved agronomic or disease resistance traits, making them superior to existing varieties. However, there is not a single variety that will perform the same in each environment across Idaho. There are also unique challenges to each region that may include disease or pest issues, specific environmental stresses such as colder winters, or need for varieties with herbicide resistance traits to manage problematic grassy weeds.

Our Response

Field trials are planned in coordination with colleagues located at University of Idaho Aberdeen and Parma research and Extension centers. Entries are contributed from regional public universities, USDA-ARS breeding facilities and private breeding companies.

Trials are established at multiple locations throughout northern Idaho. Sites are strategically selected to represent the various environmental zones in the region as well as locations where the trials will have the greatest impact based on number of acres of production for each crop. Most trials are established in collaboration



Field day at winter wheat trial in Nezperce. Photo by Audra Cochran.

with growers and located within commercial production fields.

Data collected from these trials are summarized and reported via multiple outlets including email and the north Idaho cereals website: www.uidaho.edu/extension/food/cereals/north. Data are also shared at winter cereal schools and field days coordinated by UI Extension educators.

Program Outcomes

During the 2024-2025 growing season, the north Idaho variety testing program conducted 43 trials and tested a total of 209 varieties or elite breeding lines. Data generated by the variety testing program is used by growers, crop advisors and seed dealers to identify

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the best varieties of wheat, barley, chickpea, lentil and pea to produce in each region of the state. While other factors such as marketing are involved, understanding the agronomic performance and selecting a variety with the appropriate agronomic traits, disease and pest resistance and yield is critical to maximizing productivity and profit. Annually information generated from these variety trials is shared at 6 to 7 winter schools and field days. In 2025, information on variety performance was shared with 262 direct contacts at cereal schools and field days, and there were 525 visits to the north Idaho variety testing website.

Performance data is used by public breeding programs particularly within the University of Idaho and partnering USDA-ARS breeding groups to support variety release for newly developed varieties. Breeders also use this data to determine where breeding lines are best adapted prior to variety release.

Samples from the north Idaho variety trials are routinely shared with the USDA-ARS Western Wheat Quality Lab in Pullman, WA where they are used for determining seed quality characteristics of the various entries. These trials also have provided a valuable source of samples for other projects such as understanding location and varietal impacts on cadmium accumulation, residue decomposition and seed quality assessments of barley.

The Future

The north Idaho variety testing program will continue providing objective performance data for newly

developed varieties. Breeders are continually making improvements in germplasm and regional testing of these materials are vital to ensuring that Idaho growers have access to the newest and best varieties.

Cooperators and Co-Sponsors

These trials are supported with entries from breeding programs at the University of Idaho, Washington State University, Oregon State University, Montana State University and the USDA-ARS. Entries are also supplied by multiple private breeding companies and in partnership with local seed dealers in north Idaho. Funding for these is provided by grants from the Idaho Wheat Commission, the U.S. Dry Pea & Lentil Council, the Idaho Barley Commission and entry fees paid by private breeding companies to enter their materials.



Plot combine in winter wheat field outside of Tensed.

FOR MORE INFORMATION

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