

UA Small Grain Variety Testing Trial

The selection of the right crop varieties is the most important decision a farmer faces, especially regarding small grains production in Arizona. There is considerable diversity among small grain varieties, each exhibiting different adaptation levels and performance characteristics, which ultimately affect the profitability of the farming operation. To succeed, farmers need to grow the most suitable and well-adapted cultivars for their specific conditions. However, due to time constraints and limited resources, many producers struggle to field-test multiple cultivars to identify which ones will thrive in Arizona's unique growing conditions.

To address this challenge, agronomists from the University of Arizona have stepped in to offer essential support. Through annual variety performance testing, the university provides farmers, seed producers, extension agents, and consultants with timely and unbiased information. These insights are invaluable for helping farmers identify the crop varieties that will perform best in their local environments and meet their individual farming needs.

In winter 2024, a collaborative initiative was launched featuring a small grain variety trial (see Picture 1), led by a team of scientists from the University of Arizona. This team includes Dr. Bhupinder Singh, the State Extension Agronomist at the Maricopa Agricultural Center; Dr. Avik Mukherjee, the Extension Agent in Pinal County; and Dr. Randy Norton, the Extension Agronomist at the Safford Agricultural Center. This study is partially funded by the Arizona Grain Research and Promotion Council.

The primary goal of this variety trial is to assess the growth, yield, and quality characteristics of commercially available small grain varieties that farmers can use. Nineteen varieties for spring planting were chosen, including Durum wheat, barley, Hard Red wheat, Hard White wheat, and Triticale, as detailed in Table 1. The ongoing trial is taking place at the Maricopa Agricultural Center (MAC) in Maricopa, Arizona. Throughout the trial, various crucial measurements will be taken, including stand count, plant height, maturity dates, lodging tendencies, test weight, grain protein content, and overall yield (see Picture 2). The findings from this research are expected to be extremely beneficial for farmers, assisting them in making informed variety selections and laying the groundwork for future research on cultivar-specific management practices.

S.NO.	Company	Name	CLASS
1	Arizona Plant Breeders	T308	Triticale
2	Arizona Plant Breeders	DORATO	Durum wheat
3	Arizona Plant Breeders	TIBURON	Durum wheat
4	Arizona Plant Breeders	APB709	Hard Red wheat
5	Arizona Plant Breeders	KOPIUS	Barley
6	Arizona Plant Breeders	T298	Triticale
7	Arizona Plant Breeders	ALBERTO	Durum wheat
8	UC Davis Foundation Seed Program	Desert Gold	Durum wheat
9	UC Davis Foundation Seed Program	BOPAK	Triticale

10	UC Davis Foundation Seed Program	Central White	Hard White Wheat
11	UC Davis Foundation Seed Program	Desert King	Durum wheat
12	UC Davis Foundation Seed Program	ISHI	Barley
13	UC Davis Foundation Seed Program	Central Red	Hard Red Wheat
14	UC Davis Foundation Seed Program	Tehama	Barley
15	WestBred	WB9725	Hard Red Wheat
16	WestBred	XF9222	Hard Red Wheat
17	WestBred	WB9623	Hard Red Wheat
18	WestBred	WB9444	Hard Red Wheat
19	WestBred	WB9215	Hard Red Wheat

Table 1. A list of 19 commercially available small grain varieties that will be included in a variety trail test.



Picture 1. Research Trial of 19 commercially available small grain varieties at Maricopa Agricultural Center, University of Arizona. (Picture Credit: Bhupinder Singh)



Picture 2. Stand counts and height measurements were taken at the seeding stage of 19 commercially available small grain varieties that are being tested at Maricopa Agricultural Center, University of Arizona.

Please contact Dr. Bhupinder Singh (Assistant Professor and Conventional Crop Agronomist) at bhupindersingh@arizona.edu for more information. The trial details will be updated regularly and made available to stakeholders on [SINGH LAB](#)