

Washington Grain Commission
Wheat and Barley Research Annual Progress Reports and Final Reports

Project #: 4127-1605
Progress Report Year: 2 of 3
Title: Evaluation of Barley Varieties
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Executive summary: Of the 12 spring barley variety trials planted in 2020, Palouse and Pullman were the only data not published due to high unexplained variability within the trial. The trials included seven feed, eight malt, two hulless food varieties, and seven experimental lines. Three private companies and two land grant breeding programs entered material into the trial. Dry conditions in March and early April allowed for most sites to be planted one to four weeks earlier than normal. Cooler temps and precipitation picked up in late April and hung around through June improving yields. All 2020 barley variety trial data was uploaded by November 25 on to the WSU Small Grains website (<http://smallgrains.wsu.edu>). The 2020 final report with additional information was posted January 5. In addition to our website and final technical report, variety performance information was delivered to barley growers and other clientele through virtual field tours, emails with preliminary results after harvest (over 200 recipients), Wheat Life article, WSCIA seed buying guide, and reports to the Washington Grain Commission. The Variety Testing Program was unable to conduct in-person field days due to COVID-19 and so virtual field days were recorded at four locations and posted on the WSU CAHNRS YouTube Channel (www.youtube.com/user/WSUCAHNRS).

Impact: Variety selection is a major decision on most farms and influences not only yield potential, but other management factors (input costs) such as insect and disease (pesticide applications), fertility, and herbicide program. The WSU spring barley VT has two important direct impacts: 1) Provides critical and unbiased data for growers to make informed decisions on which barley varieties are best adapted for their environment and management practices and 2) provides breeders, seed companies and seed dealers reliable information to make decisions regarding experimental line advancement, varietal releases/seed increases, and marketing strategies. Plant pathologists also use these trials to rate disease reactions. On average in 2020, there was an 890, 710, and 620 lb/a advantage between the highest yielding spring barley variety and the trial average in the >20", 16-20", and 12-16" precipitation zones, respectively. At \$6.35/cwt, potential additional income generated ranges from \$39 to \$57/acre. Multiplied across 71,000 acres of harvested barley, these trials have the potential to generate approximately \$3.3 million across the state.

