

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

Project #: 4722

Progress Report Year: *2 of 3*

Title: Supplemental Support for Assessing the Quality of Washington Wheat Breeding Samples

Cooperators: Kim Garland-Campbell, Arron Carter, Mike Pumphrey

Executive summary: This WGC support provides for about 3 months of additional technician time. The additional work is devoted to evaluating breeder samples for quality from early October through mid-January. During this period, spring wheat samples are given priority over winter wheat samples. The aim is to coordinate with the WSU Wheat Quality Program, and complete as many analyses as possible before spring wheat planting decisions are made in early February. In this way, the spring wheat program is made more efficient because inferior quality lines are not planted and grown. The standing goal for WSU winter wheat breeding lines is to complete as many as possible before June 1. Milling and baking evaluations of the 2018-Crop were completed and 2019-Crop testing is well under way at the Western Wheat Quality Lab.

Outputs and Outcomes: We provide breeders with SKCS single kernel size, weight, and hardness, and the variability (SD) of each; grain protein, test weight, flour yield, break flour yield, milling score, flour ash and protein, dough mixing time and type, dough water absorption, Solvent Retention Capacity (SRC) Water, Lactic Acid, Sucrose and Carbonate; SDS Sedimentation, cookie diameter and score, bread volume and score, sponge cake volume, and RVA (Rapid Visco Analyzer) peak pasting viscosity or Flour Swelling Volume (FSV) (RVA and FSV are for starch quality).

Impact: This work contributes directly to WSU and ARS variety development and release. New varieties need to be fully evaluated for end-use quality so that our customers can purchase predictable, high quality Washington wheat.

WGC project number:	4722			
WGC project title:	Supplemental Support for Assessing the Quality of Washington Wheat Breeding Samples			
Project PI(s):	Craig F. Morris and Doug Engle			
Project initiation date:	1-Jul-18			
Project year:	3			
Objective	Deliverable	Progress	Timeline	Communication
Complete spring wheat samples	Full mill & bake data delivered to breeder by early Feb.	will be reported; progress on last year's crop is on track	Starts at harvest when samples come in, ends with completion of last nursery	Data delivered directly to breeder; dialogue may ensue as to interpretation,
Complete winter wheat samples	Full mill & bake data delivered to breeder by early June	will be reported; progress on last year's crop is on track	Starts at harvest when samples come in, ends with completion of last nursery	Data delivered directly to breeder; dialogue may ensue as to interpretation,