

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

Project #: 4722

Progress Report Year: *3 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 technician time. The additional work is devoted to evaluating breeder samples for quality from late 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 planting decisions 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. The extra personnel helps us meet this goal. Milling and baking evaluations of the 2014-Crop were completed and 2015-Crop testing is well under way at the Western Wheat Quality Lab.

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) 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.

Outputs and Outcomes:

The Western Wheat Quality Lab has been analyzing over 4,000 breeding samples a year for complete milling and baking analyses. Obviously from these only the “best of the best” are suitable to release to growers. We work closely with breeders and try and provide them the very best, accurate and timely end-use quality data; we also provide discussions and interpretations so that the data are used in the most effective means possible.

WGC project number:

4722

Supplemental Support for Assessing the Quality of Washington Wheat Breeding Samples

WGC project title:

Craig F. Morris

Project PI(s):

1-Jul-16

Project initiation date:

Project year (X of 3-yr cycle):

1 of 3 year cycle

Objective	Deliverable	Progress	Timeline	Communication
Provide end-use quality analyses on a greater number of samples in a more timely manner	Full array of end-use quality (milling, flour and baking) analyses	This work is ongoing; we have made good progress on the 2015-crop samples	All samples are completed before early summer	Data are provided directly to the breeders so that they can make their selections
	Wheat Life article			