Project #: 4722

Progress Report Year: 2 of 3 (maximum of 3 year funding cycle)

Title: Supplemental support for assessing the quality of Washington Wheat Breeding Samples

Researcher: Alecia Kiszonas

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 2021 Crop were completed and 2022 Crop testing is well under way at the WWQL.

Impact: This work contributes directly to the 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: 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, 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).
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Project PI(s): Kiszonas

Project initiation date:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Deliverable</th>
<th>Progress</th>
<th>Timeline</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Full mill &amp; bake data delivered to breeder by early Feb</td>
<td>Will be reported; progress on last year’s crop is on track</td>
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