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

Project #: 4721

Progress Report Year: 2 of 3

Title: Quality of Varieties & Pre-release Lines: Genotype & Environment-“G&E” Study

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

Executive summary: The 2019 harvest sample analysis is more than half done; the project is on-going with the most recent project covering the second of three years. As in previous years, all quality data were/will be analyzed using the t-Score statistic. The quality t-Scores for each soft white winter, club, soft white spring and club, hard red winter, hard red spring, and hard white winter and spring varieties are summarized using ‘Grain’, ‘Milling’, ‘End-Product’, and ‘Overall’ Scores. Varieties in each market class/sub-class are then ranked by the Overall Score. All varieties and advanced breeding lines with three or more years of data are included in the final listing.

Using these results and analyses, the WWQL works closely with the WGC to develop the, “Preferred WHEAT VARIETIES for Washington based on end-use quality” each year with annual updates. Completion of the variety rankings in February represents the first significant accomplishment each year. We coordinate variety classification with Oregon and Idaho cereal chemists.

Impact: This ‘G&E’ project provides value to growers in two significant ways: First, it documents and highlights the quality of varieties so that growers are aware of the importance of quality and will hopefully include quality in their seed-buying decisions. Data are objective “head-to-head” results on Private and Public varieties. Secondly, the data generated by the G&E study supports in a major way the analysis of new breeding lines and the WSU Variety Release process. This program is also “highly visible” such that good end-use quality is reinforced as a priority in both private and public breeding programs throughout the region.
Outputs and Outcomes:

Following are recent advanced lines and released varieties that were supported with complete end-use quality analyses:

<table>
<thead>
<tr>
<th>Variety</th>
<th>Name</th>
<th>为您翻译</th>
<th>Winter Club</th>
</tr>
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<tr>
<td>4J71366C</td>
<td>Pritchett</td>
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<tr>
<td>KXB-01</td>
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<tr>
<td>WA8118</td>
<td>Sprinter</td>
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<td>HRS</td>
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<td>Ryan</td>
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<td>SWS</td>
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<td>Curiosity CL+</td>
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<td>SWW</td>
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<tr>
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<td>Mela CL+</td>
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<td>HWW</td>
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<td>HRW</td>
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<td>Earl</td>
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<td>HWW</td>
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<td>Spring Club</td>
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<tr>
<td>WA8235</td>
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<td>SWW</td>
</tr>
</tbody>
</table>

Advanced winter lines under consideration 2019:
WA8271, WA8268, WA8275, WA8252, WA8290, WA8293

New entries for the 2019 Preferred Wheat Varieties pamphlet:

<table>
<thead>
<tr>
<th>Variety</th>
<th>Name</th>
<th>为您翻译</th>
<th>Winter Club</th>
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<td></td>
<td>SWW</td>
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<tr>
<td>SY Coho</td>
<td>AP/SY</td>
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<tr>
<td>SY Gunsight</td>
<td>AP/SY</td>
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<td>HRS</td>
</tr>
</tbody>
</table>

Preferred Wheat Varieties 2019 following page
### SOFT WHITE WINTER
- Brundage
- UI Castle CL
- Boeuf
- OSU
- Kaseberg
- OSU
- Hsu
- UI
- UI Palouse CL
- UI
- UI Wsu Huffman
- UW/WSU
- Purina
- WSU
- ARS-Selbu
- ARS
- Mary
- OSU
- ORC/191
- OSU
- SY Command
- ARS/PSY
- Sildes
- OSU
- LCS Shark
- LCS
- LCS Drive
- LCS
- WB 323
- WB
- SY Ovation
- ARS/PSY
- UI Sparrow
- UI
- UI Magic CL
- UI
- Ekam
- WSU
- SY Dayton
- ARS/PSY
- WB 328
- WB
- Norwest Duet
- OSUS/LCS
- Resilience CL
- WSU
- Otto
- Wsu
- Stephen
- OSU
- SY Assure
- ARS/PSY
- LCS Hull
- LCS
- LCS Artime
- LCS
- WB 1664
- WB
- Paf
- WSO
- ORC/193
- OSU
- Madsen
- ARS
- WB 1076 CL
- WB
- Melo CL
- WSU
- Curslay CL
- WSO
- Norwest Tandem
- OSU/LCS
- ORC/192
- OSU
- Rosalyn
- OSU
- WB 1523
- WB
- WB 1046 CL
- WB
- WB 1376 CL
- WB
- WB 456
- WB
- Xerphia
- WSO
- SY 107
- ARS/PSY
- SY Banks
- ARS/PSY
- WA 1783
- WB

### SOFT WHITE SPRING
- UI Stone
- UI
- Tukw
- WSU
- Elora
- WSU
- WB 324
- WB
- Louise
- Wsu
- SY Satose
- ARS/PSY
- Ryan
- WSU
- White
- WSU
- Seaborn
- WSU
- Babe
- WSU
- WB 1321
- WB
- WB 1033 CL
- WB

### CLUB
- ARS Castella
- ARS
- ARS Crescent
- ARS
- Cara
- ARS
- ARS Fritche
- ARS
- Bruhl
- WSU

### SPRING CLUB
- Meda
- WSU
- J.B.
- WSU

### HARD WHITE WINTER*
- UI Silver
- UI
- Earl
- Wsu

### HARD WHITE SPRING*
- UI Platinum
- UI
- WB Hartline
- WB
- Day
- WSO

### ABBREVIATIONS
- WSO
- WSU
- OSU
- UI
- University of Idaho
- ARS
- Agricultural Research Service
- ARS/PSY
- Cereals
- WestBread/Monsanto
- LCS
- Limagrain Cereal Seeds

*Hard white wheats were bred for export quality requirements such as bread quality and potential food quality.