

Barley Coordinated Agricultural Project Work Plan for Year 4 (4/1/09 – 3/31/2010)
Steven E. Ullrich, Washington State University

1. Activity Plan (4/1/09 – 3/31/2010)

Research: Grain hardness will be studied in depth through genetic and environmental, chemical, physical, and electron microscopy analyses. Association mapping will be employed. This will be done in collaboration with B.-K. Baik.

Education: A PhD graduate student (Sindhu Nair) has developed her dissertation research around food quality including grain hardness.

Outreach: Particulars of the CAP project will be relayed to growers, ag. industry representatives and politicians at various field days and grower meetings throughout the year.

2. Outcomes (4/1/ – 9/30/2009)

Research: ~ 50% of grain hardness research should be complete. One manuscript should be completed.

Education: PhD student will have completed association mapping research on grain hardness.

Outreach: Presentations at field days will be completed.

3. Outcomes (10/1/09 – 3/31/210)

Research: Grain hardness research should be ~ 75% complete. A second manuscript should be complete.

Education: PhD student should be ~75% complete on her research on grain hardness.

Outreach: Additional presentation should have been made at growers meetings.

Barley Coordinated Agricultural Project Biannual Progress Report
FY08 (4/1/08 – 9/30/08)
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Research: The 96 CAP breeding lines for 2008 from WSU were identified per the requirements outlined in the CAP Participants Guide. We drilled these lines plus the CAP common checks Robust, Harrington, and Baronesse in three 35 entry preliminary yield trials at Pullman, WA and Genesee, ID in 20 x 4 ft plots with three replicates. We collected data on heading date, height, lodging, yield, and test weight. Plump grain and protein concentration data will come from malting quality analysis of grain samples through the USDA CCRU and expected in the 2nd half of the FY. All trial entries were sent in two replicates from each location to the CCRU for malting quality evaluation.

Education: The PhD graduate student (Sindhu Nair) working in collaboration with Byung-Kee Baik for a food quality genetics CAP related dissertation project is progressing well. She presented an oral paper at the AACC annual meetings in September. She is also working directly in the CAP breeding line food quality evaluation project under Dr. Baik's direction.

Outreach: Outreach activities during this period occurred primarily at field days directed at growers, seedsmen, and other agriculture industry representatives. Presentations were made at six events since April 1.

Outcomes/Deliverables: Paper presentation at the American Association of Cereal Chemists Annual Meetings, Honolulu, HI, Sept. 21-24: S. Nair, S.E. Ullrich, B-K Baik. 2008. Barley grain hardness: affects of genotype and environment and its association with other physical traits. AACC Ann. Mtg. Abstracts. available at: <http://www.aaccnet.org/meetings/2008/abstracts/o08ma82.htm>.