

Barley Coordinated Agricultural Project Work Plan for Year 4 (4/1/2009-3/30-2010)
Mark Schmitt and Allen Budde (USDA ARS CCRU)
Malting and Quality Analysis of Barley CAP CY 2008 Samples

1) Describe the research, education, and outreach activities you are planning for Year 4 (4/1/2009-3/30-2010)

Research We will malt the CY 2008 submissions from participating barley breeders, analyze the malting quality attributes, and report the results to collaborating breeders. As requested, we will provide limited quantities of malt from submitted barley samples to CAP collaborators, and will archive both barley and malt samples of submissions remaining after analyses at CCRU are completed.

Education

Outreach

2) List specific outcomes and deliverables that will be accomplished in the first 6 months. These will be used as benchmarks for your bi-annual progress report.

Malting and malt quality analysis takes place over the course of the year, with the bulk of samples to be processed received generally from October through February, varying from one breeding program to another. We give priority to identified CAP samples, but still will need to use most of the year to complete all malting, analysis, and reporting.

3) List specific outcomes and deliverables will be accomplished in the second 6 months. These will be used as benchmarks for the bi-annual progress report.

See above.

**Barley Coordinated Agricultural Project Six-Month Progress Report
(4/1/08 – 9/30/08)**

**Mark Schmitt and Allen Budde (USDA ARS CCRU)
Malting and Quality Analysis of Barley CAP CY 2007 Samples**

1) Describe the research, education, and outreach activities you completed (4/1/08 to 9/30/08)

Research

During the period 4/1/08 through 9/30/08, we completed malting and malt quality analysis of the 2007 crop year Barley CAP submissions to our program. Final results have been reported to individual breeders submitting the lines for analysis. In addition, a comprehensive summary of the data was provided to the CAP data coordinator at Oregon State University (Jennifer Kling) for entry into appropriate databases.

After malting, subsamples of the lines submitted to CCRU were forwarded to Paul Schwarz at North Dakota State University for analysis of lipoxygenase activity in finished malt.

Samples of both Barley CAP grain submissions and the malt produced from the samples is being archived at CCRU to provide access to this valuable resource for additional testing in the future. Archiving of previous years' samples has been completed, along with a portion of the current CY07 samples. We are awaiting receipt of additional storage containers for the remaining samples and will complete CY07 sample archiving at that time.

Education

Schmitt, Budde, and Zalapa attended the MAS workshop in St Paul June 16 - 18.

Outreach

2) List specific outcomes and deliverables accomplished (4/1/08 to 9/30/08)

During this period we malted the final 154 CAP barleys from the CY 2007 submissions that were not malted in the first half of the year; we analyzed and reported malt quality profiles for 1090 malts; we provided collaborators at NDSU with 1106 CAP malts for assay of lipoxygenase activity; and we archived approximately 70% of the 2007 barley and malt submissions (currently waiting for resupply of archival containers to complete the remainder),