

Barley Coordinated Agricultural Project Work Plan FY07 (4/1/09-3/30/10)
Mitchell L. Wise, USDA, ARS, Cereal Crops Research

1) Describe the research, education, and outreach activities you are planning for the next year (4/1/09 – 3/30/10)

Research: We will analyze the 960 CAP breeding lines for beta glucan content as delineated in the CAP Participants Guide. Due to massive failure of aged equipment used for the 2006-2007 year germplasm, the analytical method will be changed as follows. Instead of a flow injection analysis utilizing the calcofluor fluorescence assay we will employ the same fluorescence assay using a microplate reader format. This method has been investigated and found to give results comparable to those obtained with FIA (Schmitt and Wise, Cereal Chemistry 2008 (in review)). Each acquisition will be analyzed a single time.

Education: An undergraduate student worker, under the supervision of a USDA scientist, will be employed to conduct these analyses.

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.

The beta glucan content data from approximately half the germplasm lines will be provided to the appropriate CAP coordinator (Kevin Smith, University of Minnesota).

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

The remaining germplasm line data for beta glucan content will be provided as above.

Barley Coordinated Agricultural Project Biannual Report
Year 2
FY08 (4/1/07-9-30-08)
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1) All 960 grain samples from 2007 were analyzed for beta-glucan content. Results from these analyses were sent to Dr. Kevin Smith upon completion (5/30/08) for inclusion in the database.

2) With respect to outreach and education, one new undergraduate student has been trained in the laboratory procedures to conduct the beta glucan analysis this year.