

**Barley Coordinated Agricultural Project Work Plan for Year 4 (4/1/2009-3/30-2010)**  
**Jennifer G Kling, Oregon State University**

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

Research

I will serve as a Data Curator/Validation Coordinator for the project. In the next 12 months, I expect to:

- Continue to work with collaborators to implement protocols for phenotypic data collection, annotation and submission. Post templates for standardized spreadsheets with instructions on the BarleyWorld website. Provide customized spreadsheets for phenotypic data to collaborators on request and respond to questions about data input formats.
- Review the data as it is received, address any concerns about quality or statistical methodologies, and ensure that annotations to the data are complete.
- Monitor pedigree information for accuracy and consistency and tabulate pedigrees for use in QTL Miner.
- Compile all of the pedigree and phenotypic data into appropriate formats for uploading into the THT database.
- Maintain a system that has been established for tracking input of phenotypic data from collaborators, quality control, and submission of curated data to THT:
  - Provide a timeline for data submission, with deadlines for each trait that are agreed upon by all collaborators.
  - Maintain e-mail contact with collaborators to remind them of deadlines and answer any questions they have about formats for data submission.
  - Maintain a record of data submission and curation on a website (The “Wall of Pride/Shame”) that is accessible to all collaborators, and clearly indicates the information or action that is needed to finalize the data for submission to THT.
  - Post datasets on the BarleyWorld website as they are being updated and curated. Ensure that the newest versions of the datasets can be readily distinguished and maintain an archive of obsolete versions of datasets.
- Serve as liaison between the NSF-sponsored Plant Ontology Consortium (POC) and the Barley CAP, to promote development of robust Triticeae ontologies and broader utility of THT.

**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.**

- Templates of spreadsheets for submission of phenotypic data and annotations for the 2008 and 2009 CAP years will be available online.
- The system for tracking data submission (Pride Wall) for the 2008 and 2009 CAP years will be available and updated at least twice each month.
- Pedigrees for 2008 and 2009 CAP lines will be tabulated.
- Phenotypic data for 2008 lines will be finalized for all traits that were evaluated in 2008.

**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.**

- Phenotypic data for 2008 lines that were evaluated for specific disease, quality and physiological traits in 2009 will be finalized.
- Phenotypic data for 2009 lines will be finalized for all traits that were evaluated in 2009.
- Phenotypic data from 2009 lines that were evaluated for specific disease, quality and physiological traits will be reviewed and compiled as they are received.

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

**Jennifer G. Kling, Oregon State University**

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

Research

- I continued to work with collaborators to refine and implement protocols for phenotypic data collection, annotation and submission. I circulated standardized spreadsheets for phenotypic data to collaborators on request (customized for the particular group of lines and traits evaluated) and responded to questions from the breeders about data input formats.
- I traveled to Ames, Iowa to meet with the THT programmers on 4/25/08. We discussed a number of issues that needed to be resolved in order to finalize curation of pedigree and phenotypic data sets and annotations for uploading to THT:
  - standard CAP line nomenclature
  - input of descriptive information required for CAP lines
  - definitions and codes for “trials” and “experiments”
  - use of standard ratings scales for disease data
  - input of phenotypic data for standard checks
  - input of summary statistics for each trait
  - formats for annotation files associated with each trial
  - use of placeholder names in tabulated pedigrees
  - handling unknown ancestors in pedigrees
  - file naming conventions
  - designating updated files and archiving older versions of files
- Based on the outcomes of the Iowa meeting, we were able to finalize ~90% of the phenotypic data for 2006. The remaining files will be completed by 11/30/08.
- The pedigrees for 2006 CAP lines were tabulated for use by QTL Miner. This was an interactive process with the breeders and corrections to original text versions of pedigrees were made as needed. Our revised target for tabulating 2007 pedigrees is 12/31/08.
- Timelines for data submission and a system for tracking data input from collaborators and revisions to the data sets (Pride Wall) were established.
- A better system for designating versions of files and archiving obsolete files was implemented.
- Phenotypic data sets for the 2007 cropping season were received from some collaborators and have been posted on a temporary website. We aim to complete curation of 2007 data sets by 3/31/09.
- I liaised with breeders and other collaborators by e-mail to determine status of 2006 and 2007 data sets that have not yet been submitted.

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

All of the deliverables have been posted on a temporary website, for review by breeders and for easy access by those involved with THT and QTL miner development:

- Templates and instructions for submission of genotype descriptors, phenotypic data sets and annotations: <http://barleyworld.org/CAPdata/>

- Curated 2006 phenotypic data files:  
<http://barleyworld.org/CAPdata/DataSets/phenotype/phenotype06/Data06.htm>
- Tabulated pedigrees for 2006 CAP lines:  
<http://barleyworld.org/CAPdata/DataSets/pedigree/2006Pedigrees/2006Lines.html>
- Data input tracking system (Pride Wall) for 2006 and 2007 CAP lines:  
<http://barleyworld.org/CAPdata/PrideWall/PrideWall06/PrideWall06.htm>  
<http://barleyworld.org/CAPdata/PrideWall/PrideWall07/PrideWall07.htm>
- Phenotypic data sets received for 2007 lines:  
<http://barleyworld.org/CAPdata/DataSets/phenotype/phenotype07/Data07.htm>