

Barley Coordinated Agricultural Project Work Plan FY06 (3/1/06 – 2/29/07)
Lee Jackson, University of California

1) Describe the research, education, and outreach activities you are planning for the next year (3/1/06 – 2/29/07)

Research: I will screen 96 CAP barley lines from each of 10 participating breeding programs (total of 960 lines) for reaction to scald, net blotch, stripe rust, and BYD under the natural disease pressure that occurs on barley at the UC Davis Agronomy Farm. I will assess single 8-ft rows of each entry in each of three screening nurseries set-up to provide proper environments and disease pressures for each disease while avoiding the confounding of one disease by high severities from other diseases. I'll use different spreader varieties and susceptible checks for each nursery. I'll plant the first screening nursery, for scald and net blotch, in mid-November; I'll plant the second nursery, for stripe rust, in mid-December; and I'll plant the third nursery, for BYDV, in late February to early March. I'll record time of initial infection for each disease. I'll make two to three disease severity ratings for each disease during the growing season. I'll send excel spreadsheets containing results of each screening to the trait coordinator, Jennifer Kling, at the end of the crop season (June-July).

Education:

Outreach: I conduct an annual UC Davis Small Grains Field Day in May of each year. The Field Day is designed primarily for grain growers, PCA's, seed companies, and handlers of certified seed. Campus-based faculty and students, farm advisors, and others interested in small grain production and research also attend. Since the 2006 Field Day occurs prior to the 1st year of screening, the Disease Screening nurseries will be highlighted during the annual Field Day in subsequent years of the project.

2) List specific outcomes and deliverables that will be accomplished in the first 6 months (3/1 – 8/31). These will be used as benchmarks for your bi-annual progress report.

- Plant seed increases at UC IREC, Tulelake for varieties that will be used as disease spreaders/buffers for each nursery (disease nurseries themselves won't be sown until fall, 2006).
- Request land assignments on the UC Davis Agronomy Farm for screening nurseries (to be sown fall, 2006).

3) List specific outcomes and deliverables that will be accomplished in the second 6 months (9/1 – 2/29). These will be used as benchmarks for the bi-annual progress report.

- Plant 1st of several (bi-monthly plantings) strips of a BYD/aphid trap crop for the BYD screening nursery.
- Plant scald and net blotch screening nursery in mid-November.
- Plant stripe rust screening nursery in mid-December.
- Plant BYD screening nursery in late February to early March.
- Note dates of initial infection for each disease.
- Make first of several disease assessments for each screening nursery (final assessments probably won't be completed until late April to early May each year).

Barley Coordinated Agricultural Project - Biannual Progress Report
FY06 (4/1/06 – 9/30/06)
Lee Jackson, University of California

1) Describe the research, education, and outreach activities you completed in the first half of the FY06 (4/1/06 – 9/30/06)

Research: My activities for the grant, screening 96 CAP barley lines from each of 10 participating breeding programs (total of 960 lines) for reaction to scald, net blotch, stripe rust, and BYD under the natural disease pressure that occurs on barley at the UC Davis Agronomy Farm, are scheduled to begin in Fall, 2006 after I receive seed from the participating breeding programs. Therefore, I don't have anything to report at this time beyond the preparations that I have made. I have identified and increased seed of appropriate spreader varieties and susceptible checks for each nursery ("Commander" for scald and "Meltan" for net blotch; "Max" for stripe rust; and a mixture of "Atlas" barley, "Siete Cerros" wheat, and "Cal Red" oat for BYDV). I have planned staggered planting dates and different spreader varieties to provide for proper environments and disease pressures for each disease while avoiding the confounding effects on one disease by high severities from other diseases. The first screening nursery, for scald and net blotch, will be planted in mid-November; the second nursery, for stripe rust, in mid-December; and the third nursery, for BYDV, in late February to early March. I'll record time of initial infection for each disease and make two to three disease severity ratings for each disease during the growing season.

2) List specific outcomes and deliverables accomplished in the first half of FY06 (4/1 – 9/30).

- Seed increases were produced at UC IREC, Tulelake for varieties that will be used as disease spreaders/buffers for the separate disease screening nurseries (scald and net blotch; stripe rust; and BYD) that will be sown at the UC Davis Agronomy Farm beginning in fall, 2006.
- Began receiving seed from the 10 participating breeding programs (participating breeding programs were directed to send seed by mid-October).