

**CALIFORNIA CROP IMPROVEMENT ASSOCIATION**  
**ANNUAL MEMBERS MEETING**

Prato Room, Parsons Seed Certification Center  
UC Davis campus  
9:00 a.m. May 26, 2011

1. Call to order – President Ray Johnson

2. Roll call – Executive Director Larry Teuber

<b>Directors present:</b>	Chuck Schonauer	<b>CCIA:</b>	<b>Honorary Member:</b>
Bob Baglietto	Chris van Kessel	Larry Teuber	Bob Simas
Jack De Wit	Mary Wadsworth	Nicole Hostert	
Tom Hearne		Mary Voorhees	<b>Guests:</b>
John Heaton	<b>Directors absent:</b>	Pablo Guzman	Jorge Dubcovsky
Jim Hill	Kent Bradford	Timothy Blank	Dan Putnam
Ray Johnson	Ed Eggers	Alex Mkandawire	L.W. Gallagher
Shannon Mueller	Glenn Hawes	Kitty Schlosser	Paul Gepts
Glenn Powell	Andrea Fox	Katy Soden	
Frank Saviez	Scott Hudson		
Ken Scarlett			

Larry Teuber introduced Katy Soden as a new CCIA employee working as an Assistant Administrative Manager.

3. Minutes of previous meeting

It was ***moved, seconded, and passed*** to accept the minutes as received in the packet.

4. Additions to agenda – Ray Johnson

None

5. Election Results

Elections were held in April 2011 for Districts I, III, V, and VII; all incumbent directors were re-elected as follows:

District I	Ray Johnson
District III	Frank Saviez
District V	Bob Baglietto
District VII	Chuck Schonauer

6. Agency Directors

All current agency directors have been reappointed:

- Agricultural Commissioners – Scott Hudson
- California Farm Bureau Federation – Andrea Fox
- California Dept of Food & Ag – John Heaton
- California Seed Association – Ken Scarlett
- UC Cooperative Education – Shannon Mueller
- UCD, College of Agriculture & Environmental Sciences – Jim Hill
- UCD, Department of Plant Sciences – Chris van Kessel
- Seed Biotechnology Center (*ex officio*) – Kent Bradford

It was ***moved, seconded, and passed*** to accept the appointment of all agency directors.

7. Nomination and election of board officers – Jack De Wit

De Wit reported that the nomination committee (De Wit and Schonauer) recommends the following officers for 2011-12:

- President – Tom Hearne
- Vice-President – Glenn Hawes
- Treasurer – Mary Wadsworth

All directors accepted the nominations. It was *moved, seconded, and passed* to seat the officers as noted.

8. Research reports were presented for research funded in 2010-11 and requests for funding in 2011-12. The abstract from each proposal is included below as a description of their presentation.
  - a. Jorge Dubcovsky reported on two continuing research programs:
    - 1) “Development of Wheat Varieties for California”
 

The overall objective of the UC wheat breeding program is to develop common and durum wheat varieties adapted to different California environments. The specific objectives are 1) introduce new sources of disease resistance and end-use quality characteristics; 2) create new segregating populations by hybridization and select the best lines using field based selection; 3) determine the genetic basis for stripe rust and septoria tritici blotch resistance and develop markers to accelerate the introduction of these genes into breeding lines adapted to different California environments; and 4) produce Breeder’s seed of the best lines targeted for variety release. The field-based selection program will be complemented by marker assisted selection (MAS) to accelerate the introgression of valuable traits. MAS efforts will be focused on the pyramiding of slow rusting resistance genes *Yr48*, *QYr.ucw.3BS*, *Yr36* and *Yr18*. We will continue the introgression of *Septoria tritici* blotch resistance genes *Stb3*, *Stb4*, and *Stb7*. As part of a preventive breeding effort, we will incorporate sources of resistance to the stem rust race UG99. These resistance genes will be pyramided into high-yielding, high quality varieties using MAS.
    - 2) “Evaluation of Small Grains in California”
 

The requested funding will be used to support common wheat, durum wheat, triticale, and barley trials in the major small grain-producing areas of California. The Regional Cereal Evaluation Program will include evaluation nurseries of advanced breeding lines and new and standard cultivars obtained from public and private breeding programs. Trials will be located at representative environments in the Sacramento, San Joaquin, Imperial, and northern intermountain valleys, and south-central coastal foothills. The Regional Cereal Evaluation Program will also provide elite germplasm nurseries for the UC wheat breeding program in two selected locations to help accelerate the development of public cultivars. Nurseries will be grown using production practices appropriate for each environment. The performances (yield, agronomic characteristics, diseases and pest reactions, grain quality) of the entries will be documented and summarized in the Agronomy Progress Reports. The resulting information will be used to help identify areas where new cultivars are best adapted and as supporting data for justifying the release of advanced breeding lines from both public and private breeding programs.
  - b. Lynn Gallagher reported on two programs of continuing research:
    - 1) "Oat Improvement for California"
 

This project will improve oats by traditional breeding methods through the creation and evaluation of new segregating populations and the selection of advanced lines which have potential for release as cultivars in diverse California environments. The breeding program will emphasize forage varietal improvement with selection for earliness to heading/maturity and for resistance to the most important oat diseases, namely, barley yellow dwarf (BYD) and cereal yellow dwarf (CYD), both of which cause leaf reddening/yellowing and stunting. Resistance to crown rust, stem rust, and leaf blotch diseases will also be sought. Selection for grain yield is of secondary importance. Additional agronomic improvement will emphasize culm thinness, stature and resistance to lodging. Until four years ago, no new hybridizations for oat improvement had been made in the last twenty-two years in California. Eight new varieties recently were released by the University of California, Davis, after 25 years of sporadic breeding efforts. The popular oat variety Montezuma, the only early variety in use, was released 40 years ago and is highly susceptible to BYD/CYD, crown rust, stem rust, and leaf blotch. No replacement for Montezuma has been bred. About 240,000 acres of oats were grown in California in 2010, which is about half the bread wheat acreage.
    - 2) “Breeding Malting Barley for California”

New opportunities exist for barley production in the Central Valley of California, especially for high quality malting barley free from *Fusarium* head scab and its DON toxin which plagues upper Midwest malting barley production. Malting barley germplasm development at UCD is supported by the American Malting Barley Association (AMBA), but this organization does not encourage varietal development for California. AMBA wants to develop malting barleys with broader adaptation which would require only the development of germplasm resistant to a broader spectrum of diseases. California produces little or no malting barley, except by contract now and then in the Klamath Basin. California produces and consumes more beer than any other state. Because malt houses are built in areas of malting barley production, no malt houses exist at this time in California. California growers must be capable of producing sizeable amounts of malting barley before a malt house will be built. Two-rowed barley moves in international trade but very little six-rowed barley is found in export markets. Malting barley may be produced with annual rainfall in a sustainable way without irrigation, although irrigation would be required in most of the San Joaquin Valley. Development of malting varieties adapted to Central Valley growing conditions requires a long term commitment because of the great number of characteristics desired by the industry. A major constraint in the development of two-rowed malting barley has been the incorporation of resistance to Cereal Yellow Dwarf Virus (CYDV). A mapping population has been created to study the resistance in Madre Selva.

- c. Paul Gepts described his new proposal “Development of a High-Density Genetic Map to Facilitate Transfer of *Lygus* and Nematode Resistance among Lima Bean Varieties”.

Two of the major production constraints in lima bean are *Lygus* and nematodes. Breeding progress so far has yielded varieties or advanced germplasm lines with resistance to individual constraints, but not their combination. Obtaining lines with combined resistances will be facilitated by the availability of a dense linkage map to locate and tag individual resistance genes. The purpose of this research is to rapidly develop such a linkage map (the first-ever for lima bean) using the latest advances in DNA sequencing and comparison with the linkage maps of related legume species, common bean and soybean to facilitate the discovery of resistance genes. Sequence-based markers (indels, simple-sequence repeats, and single-nucleotide polymorphisms) will be developed by a single-lane Illumina sequencing of pooled barcoded DNA of the two parents of a recombinant inbred (RI) population. This population results from the cross between a large lima germplasm line (resistant to nematodes) and a baby lima variety (resistant to *Lygus*), ensuring high levels of molecular diversity and complementarity of agronomic traits. Resulting sequences will be analyzed bioinformatically for polymorphisms and will be mapped onto the common bean and soybean genome sequences. A sub-sample of spaced sequences will then be mapped genetically in the RI population.

- d. Dan Putnam reported on his continuing research “Alfalfa Experimental Variety and Germplasm Adaptation and Evaluation”.

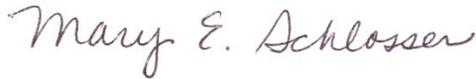
This state-wide alfalfa variety yield testing program is the most comprehensive of any state in the US. It has been of tremendous value to alfalfa growers and seed companies. The potential annual economic differences due to variety, totals \$319 million/year in CA. Individual varieties can be worth hundreds of dollars more per acre per year than older, lower yielding lines. This data allows growers to capture some portion of that value of California’s \$1 billion crop. CCIA funding is a key component of this program and without that support, we would need to stop these trials. We currently have 7 trials, with two new ones established in 2010 (Tulelake & Kearney Research and Extension Center). Three new trials are projected to be planted in 2011: El Centro, Davis, and a new site, Modesto. Trials are harvested up to 10 times/year. This program includes both released lines and experimental cultivars. Funding goes primarily towards support for an SRA (Craig Giannini) at Davis and support at field stations, for labor, travel, and data analysis to handle greater than 8,500 yield observations each year. Current locations to be harvested in 2011-12 will be Tulelake, Scott Valley, Davis, Parlier, Five Points, Lancaster and El Centro. A new variety trial location will also likely be established in Stanislaus County in the fall, should support be forthcoming. Results of these trials are reported at: <http://alfalfa.ucdavis.edu>. Variety trials continue to be of vital interest to growers and seed marketers in California.

- e. Cal Qualset was not able to attend to describe his continuing research proposal “Genetic Resources of Wheat, Barley, and Oat for Public and Private Breeders”, however, Larry Teuber presented for him.

This project, over a two-year period, will document and prepare for distribution to public and private breeders genetic resources of wheat, and to a limited extent barley, that have been developed at UC Davis over a period of some 30 years. In addition, new wheat lines having vernalization requirement will be advanced from some 6,000 F4 lines and made available to public and private breeders for selection. Field grow-out of the various groups of materials: [(1) congenic lines affecting leaf canopy structure, seed protein variants, plant height, tillering and spike variation, (2) disease resistance, (3) molecular mapping populations, (4) Iranian wheat landraces, (5) barley composite crosses, (6) Triticum, and others] will be conducted to produce seed and additional characterization data. The results will be prepared for publication and entry to national and international databases. Seed will be offered for distribution to researchers and to the USDA National Small Grains Collection. Registration of several varieties, germplasm, and genetic stocks by the Crop Science Society of America will be published in the *Journal of Plant Registrations*.

9. Since all the CCIA members present at the meeting are also members of the CCIA Board of Directors, Larry Teuber requested to move the Executive Director report to the Board of Directors meeting scheduled immediately after this meeting. There was agreement.
10. Ray Johnson thanked the CCIA staff for all their assistance during his 3 years serving as President of the Board of Directors for the CCIA.
11. Meeting was adjourned at 10:20 am.

Respectfully submitted,



Mary E. Schlosser