

## ***PLANT SCIENCES WEEKLY NEWSLETTER – October 23, 2009***

### **Grand funds project to enhance flavor and quality of fruits and veggies**

Postharvest Pomologist and Specialist Beth Mitcham has been awarded a three-year \$5,869,726 grant from USDA-CSREES for a project entitled "Increasing Consumption of Specialty Crops by Enhancing their Quality and Safety." A collaboration between UC Davis and the University of Florida, the project is co-directed by Beth Mitcham and Jeff Brecht (Univ. FI) and involves nearly 30 faculty members between the two institutions. Within the Department of Plant Sciences, Marita Cantwell, Trevor Suslow, Carlos Crisosto and Florence Zakharov are included. Other UC Davis faculty members who will work on the project are from the departments of Agriculture and Resource Economics, Biological and Agricultural Engineering, Food Science and Technology, Viticulture and Enology and the Department of Public Health Sciences. More than twenty-five stakeholders from the produce industry pledged a major portion of the \$5,869,726 that was required in one-to-one matching funds for the grant. The overall goal of this project is to improve the flavor quality of fruits and vegetables available to US consumers and thereby increase consumption.

### **Fine-tuning improves weather-related models on Web**

Calculating chill accumulation and predicting harvest timing for peaches, plums and nectarines just got a little easier thanks to some fine-tuning of the weather-related models available on the Fruit & Nut Research and Information Center website [fruitsandnuts.ucdavis.edu](http://fruitsandnuts.ucdavis.edu). Among the most popular pages on the website, the weather-related models include the Dynamic Model, which calculates chill accumulation, and the Harvest Prediction Model which helps predict harvest timing for peaches, plums and nectarines. The models are widely used by people involved in crop management, including growers, advisors and researchers. Significant changes were made to the Dynamic Model to fine-tune the output, correcting some drift observed in previous years. This task, initiated by Franz Niederholzer, orchard systems Farm Advisor in Sutter and Yuba Counties, was accomplished by Bryon Noel and Karl Krist, programmers with ANR Communications. Recent additions to the Harvest Prediction Model include details regarding the calculation methods used in the model, the science behind the changes in development of the model and figures providing model details for specific fruits. These additions were initiated by Professor Ted DeJong with the Department of Plant Sciences and Katherine Jarvis-Shean, graduate student in Horticulture and Agronomy. Jarvis-Shean completed the project in September with the help of Noel and Janet Zalom, computer specialist with the Fruit & Nut Research and Extension Center which is housed in the Department of Plant Sciences.

### **Study seeks to advance plant breeding education**

Plant breeding is currently under stress: The global demand for breeders is greater than the current educational system has been producing. Companies are having difficulty finding well-trained plant breeders, slowing the progress of agricultural research. Researchers at UC Davis are initiating a study to gain consensus on the most essential curriculum components for educating plant breeders. Through an iterative process, a diverse group of experts will be surveyed to elicit ideas and suggestions for educational program content. Over 250 participants from all over the world will complete the three rounds of this survey, with each round building on the responses gleaned through the prior round. This consensus-based approach will lead to a comprehensive analysis of content and practical experiences that will guide the design of modern plant breeding curricula. Results will be publically available. "Plant

breeders continually provide the world with necessary advances in crop varieties; however, their numbers are diminishing due to retirements and fewer educational programs offering plant breeding degrees," says Allen Van Deynze, Director of Research at the Seed Biotechnology Center (SBC) and co-founder of the Plant Breeding Academy<sup>sm</sup>. "The scope of this study provides every participant an equal voice to help improve the training experiences of future breeders and will result in a clear understanding of how to focus educational programs to get the best results." Professor Cary Trexler from the College of Education will lead the study in cooperation with the SBC. Funding is provided by private companies, university departments and individual contributors. Additional information is available at <http://sbc.ucdavis.edu>. Please email [breedingstudy@ucdavis.edu](mailto:breedingstudy@ucdavis.edu) or contact Jamie Shattuck at (530) 752-9985 with questions or to help support this study.

### **Date set for seminar to learn more about global horticulture project**

The seminar introducing a new \$15 million Horticulture Collaborative Research Support Program (CRSP) to the Department of Plant Sciences and the UC Davis campus is scheduled for 4 p.m. Wednesday, October 28, in Bowley Center Lecture Hall. A reception will follow. Anyone interested in learning about the Horticulture CRSP and opportunities to participate is welcome. The U.S. Agency for International Development (USAID) recently selected UC Davis to lead the \$15 million, five-year global Horticulture CRSP designed to help the world's poorest people break out of a persistent cycle of poverty by producing and marketing high-value crops. The program will select and support U.S. and international partners undertake research, training, curriculum-development and outreach activities in the neediest countries, most located in sub-Saharan Africa, southern Asia and Latin America. The Horticulture CRSP ([hortcrsp.ucdavis.edu](http://hortcrsp.ucdavis.edu)) will be housed in the Department of Plant Sciences and the College of Agricultural and Environmental Sciences under the leadership of Ron Voss, "retired" extension vegetable specialist. Cooperative Extension Specialist Beth Mitcham will be associate director. Professor Michael Reid will be part of the management team along with Mark Bell, director of the UC Davis International Learning Center. The Horticultural CRSP will be located with the International Program Office in the Environmental Horticulture complex. Jim Hill, associate dean of the international program, will provide programmatic oversight.

### **Pumpkins and Chili: Let's try again**

Muddy fields have postponed the Pumpkin Patch Fall Social and Chili Contest one week. The new date is Thursday, Oct. 29, same place – the Plant Sciences Field Facilities (old Veg Crops Headquarters) - same time, 4 to 7 p.m. Tickets are \$5 in advance, \$7 at the door, and they buy you an evening filled with good food, pretty pumpkins, hay rides and more. Before Oct. 27, you can buy tickets for \$5 from James Cabbage or Lauri Brandeberry in Asmundson Hall, Bette Lerol in PES, Pam Francis-Tuss in PBR or Susie Hermle in Wickson Hall. Children under 10 are free. If you buy tickets at the door, please bring cash or a check made out to the Plant Sciences Courtesy Fund. No matter where you buy tickets, you need to register by Oct. 20 – one form per family – at:

<http://ucce.ucdavis.edu/survey/survey.cfm?surveynumber=4106> Questions?  
Contact Bette at 2-9830 or Angela at 2-1469.

### **Fruit Ripening & Ethylene Management Workshop**

Under the organizational efforts of Carlos Crisosto, the 16<sup>th</sup> Annual Fruit Ripening & Ethylene Management Workshop will be held February 25-26, 2010 at the UC Kearney Agricultural Center located in Parlier, California. The workshop is intended for shippers and destination (wholesale and retail) handlers who are involved in

ripening fruits and fruit-vegetables. The workshop focuses on how to increase profits by delivering ready-to-eat, delicious fruits and fruit-vegetables to the consumer. The registration price will be \$700 for this 2-day workshop, please see the [web page](#) for complete information.

## **Seminars/Conferences/Field Days**

### **Plant Sciences Fall Seminar**

**Wednesday, Oct. 28**

PES 3001, noon

Theresa Hill will present "Capsicum Genomics using the Pepper GeneChip: Genome-wide marker discovery applied to a survey of germplasm diversity and construction of an ultra-high density map"

### **California Nursery Conference 2009**

**Oct. 29, 2009, Ontario, CA**

This year's popular event will be held at the Hilton Ontario Airport Hotel from 7:30 a.m. to 3:30 p.m. on Oct. 29. Registration is \$65 before Oct. 22 and \$80 after. For details and to register, see <http://ceorange.ucdavis.edu/cnc/>

### **California Weed Science Society Conference**

**January 11-13, 2010, Visalia**

"Looking Into the Future of Weed Control" is the topic of this 62nd annual conference, featuring the latest in weed control. To register, visit [www.cwss.org](http://www.cwss.org) or call CWSS at (831) 442-0883 to obtain a program agenda and registration form.

### **American Chemical Society Spring Meeting**

**March 21 to 25, 2010, San Francisco**

The program theme for this 239th ACS meeting is "Chemistry for a Sustainable World", a focus central to the vision and mission of the Division of Cellulose and Renewable Materials. The ACS invites participation at the symposium on "Deconstructing the Cell Wall Structure" organized by the Division of Cellulose and Renewable Materials. Online abstract submission is open until October 19 (11pm CST): [http://portal.acs.org/portal/acs/corg/content?nfpb=true&pageLabel=PP\\_MEETINGS&node\\_id=86&use\\_sec=false&uuid=9f911fd1-22e3-4e08-a878-98f01df0d0ab](http://portal.acs.org/portal/acs/corg/content?nfpb=true&pageLabel=PP_MEETINGS&node_id=86&use_sec=false&uuid=9f911fd1-22e3-4e08-a878-98f01df0d0ab)

### **REQUESTS FOR PROPOSALS/SCHOLARSHIPS/FELLOWSHIPS**

For more information on funding opportunities, go to OVCR's Web site at <http://www.research.ucdavis.edu/home.cfm?id=OVC,0,1154>

### **West Side REC proposals**

West Side Research & Extension Center is soliciting proposals for new and continuing research and demonstration projects for the period Jan. 1, 2010, through Dec. 31, 2010. Located on 320 acres in the San Joaquin Valley, West Side REC has land suitable for growing row, orchard and field crops, turfgrass, landscape and nursery plants. The center also provides labor, equipment, facilities and technical and management support to UC academics and to personnel from cooperating non-UC organizations, such as USDA. Approximately 7,000 hours of labor are available to support approved projects. Project proposal forms are available at <http://danrec.ucdavis.edu/rec/form/index.html>.

The deadline for applications is Nov. 16. All project proposals will be evaluated and support hours allocated at the Research Advisory Committee Meeting scheduled for Dec. 10. Please e-mail forms as attachments to Chris Robles at [srobles@ucdavis.edu](mailto:srobles@ucdavis.edu). For questions about the research proposal process or about research opportunities, please contact Bob Hutmacher, center director, at (559) 260-8957, [rbhutmacher@ucdavis.edu](mailto:rbhutmacher@ucdavis.edu), or Edwin Scott, center superintendent, at (559) 618-818, [edscott@ucdavis.edu](mailto:edscott@ucdavis.edu).

### **Milton D. and Mary M. Miller Plant Science Award**

Cooperative Extension staff and graduate and undergraduate students with an interest in Cooperative Extension careers who are U.S. citizens are eligible to apply for the Milton D. and Mary M. Miller Plant Sciences Award. Deadline to apply is October 30, 2009. More information and application available online at: [http://www.plantsciences.ucdavis.edu/plantsciences/undergrad\\_studies/scholarships\\_new.htm](http://www.plantsciences.ucdavis.edu/plantsciences/undergrad_studies/scholarships_new.htm)

## **Job Opportunities**

### **New Listings**

#### **Research Scientist**

Valent BioSciences, is a small, international research company owned by Sumitomo Chemical, has an opening for a scientist specializing in stress physiology and dormancy. The position is posted at: [www.valentbiosciences.com](http://www.valentbiosciences.com).

They are looking for someone who can bring molecular and biochemical methods to bear on whole-plant problems in agricultural production. The company works primarily with natural products, bringing to market previously rare materials. The job will be located in Northern Illinois. For more information, contact Nicole Kellerman at [careers@valent.com](mailto:careers@valent.com)

#### **Research Ecologist or Research Rangeland Management Specialist**

Agriculture Research Service has two openings for Research Ecologists in Burns, Oregon. They are soils/process oriented jobs that will focus on overcoming the barriers to seedling establishment during restoration. It will especially focus on annual grass and weed infested systems. For more information, visit [http://www.ars.usda.gov/main/site\\_main.htm?modecode=53-60-00-00](http://www.ars.usda.gov/main/site_main.htm?modecode=53-60-00-00)  
Or contact Cindy Prucha, 301-504-1581, [scirecruit@ars.usda.gov](mailto:scirecruit@ars.usda.gov)

## **Repeat Listings**

#### **Graduate Student Researcher**

The International Programs Office in the UC Davis Department of Plant Sciences has an opening for a graduate student researcher to provide logistical and organizational assistance to the USAID sponsored program on the Horticulture Collaborative Research Support Program (HORT CRSP). Qualifications include enrollment in any CAES graduate program, excellent communication skills, both written and oral, ability to work with diverse cultures, a valid CA driver's license and knowledge of computer operating systems and programs. Please send letter and resume to Rachel V. Abrenilla ([rvabrenilla@ucdavis.edu](mailto:rvabrenilla@ucdavis.edu)) no later than Oct. 22. Questions? Contact Rachel at [rvabrenilla@ucdavis.edu](mailto:rvabrenilla@ucdavis.edu)

### **Graduate Student Researcher**

Short-term 3-6 mo position for a postdoc or advanced student available immediately. Work will include organizing and summarizing data, writing reports and preparing manuscripts for publication. The topics are invasive species, plant interactions, and animal movement and space selection. Approaches have strong spatial and scaling component. Great opportunity for honing spatial analyses skills. For more information and to apply, contact [ealaca@ucdavis.edu](mailto:ealaca@ucdavis.edu)

Emilio A. Laca

One Shields Avenue, 2306 PES Bldg.

Plant Sciences Mail Stop 1

Davis, California 95616

(530) 754-4083

Cell (530) 220-5315

### **Postdoctoral position in Sensory Analysis of Tree Fruit**

The UC Davis Department of Plant Sciences has an opening for a postdoctoral position in the laboratory of Carlos H. Crisosto (Wickson Hall). This two-to-three-year postdoctoral position (with annual renewal subject to performance and funding) is available to establish a sensory evaluation system to understand fruit sensory losses during postharvest handling and propose innovative treatments to reduce these barrier problems. This sensory evaluation system will consist of a trained panel (descriptive analysis) that will be validated by several in-store consumer panels. Preference will be given to applicants with demonstrable experience in laboratory and statistical analysis techniques relating to descriptive analysis and consumer testing, and postharvest technology of fresh fruit. Requirements include a Master's or PhD degree, good interpersonal skills, well organized, and proficient in written and oral communication. Applicants should submit a letter of interest, curriculum vitae, a brief statement highlighting research interests and experience related to the position, and contact information for three references to: Carlos H. Crisosto, [chcrisosto@ucdavis.edu](mailto:chcrisosto@ucdavis.edu); tel. 530-752-7549 and Gayle Crisosto ([gayle@ucdavis.edu](mailto:gayle@ucdavis.edu)).

### **Seed Scientist**

Mendel BioEnergy Seeds, a division of Mendel Biotechnology, Inc., invites applications for a Seed Scientist. This position can work out of either Hayward, CA or Lafayette, IN locations. The successful candidate will join a team of plant breeders, agronomists, product development professionals, seed production specialists, molecular biologists and biotechnology scientists involved in the development of high performance *Miscanthus* varieties to service the emerging biofuels and power industries. The key objectives of this position are to identify the factors that affect the health and performance of *Miscanthus spp.* seed from seed production to delivery to the market. Applicants must hold a Ph.D. in plant physiology, seed science or related field; and possess a thorough understanding of seed physiology and applied seed technologies in the seed industry. Applicants must be able to demonstrate the organizational skills necessary to design and implement a creative and integrated research program. To apply, please send a letter of interest, CV, and contact information for three references (including email addresses) to [job142@mendelbio.com](mailto:job142@mendelbio.com)  
<http://www.mendelbio.com/jobopportunities/index.php#142>

### **Post Doc Researcher- Fruit Quality (Vegetables Division)**

Monsanto Vegetable Seeds is seeking a researcher to join a diverse team identifying and understanding valuable traits in its genetic resources for vegetable and fruit

improvement. This position will focus on understanding genetic regulation of quality traits as well as understanding the expression of biochemistry relevant to sugar compositions, flavor components, texture, extended post-harvest quality, and nutrition for tomatoes, peppers, melons, and other relevant crops. An ideal candidate has the ability to work with minimal supervision, and develop and leverage networks for hypothesis driven science. The successful applicant will have, or will be acquiring in the next 6 months, a PhD in plant physiology, biochemistry, genetics, or a related field. Familiarity with experimental protocols in biochemistry and molecular biology, comfort with field and greenhouse work, and skill in analysis of experimental data are required. Additional highly desirable skills include proficiency in MS office programs (Word, Excel, Access) and web-based databases. Experience with vegetable crops is desirable, but not required. To view a more complete and detailed job description of this exciting position, visit [www.monsanto.com/careers/](http://www.monsanto.com/careers/) and to apply online select req. # 000IZ.