



Introduction

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The USDA has conducted fundamental and applied research in Fresno County in support of diverse agricultural industries and stakeholders in the western United States for nearly 90 years. In 1916, grape growers donated 20 acres on South Peach Avenue in Fresno to the USDA to establish a grape breeding program. Permanent buildings were constructed in the 1930s. In 1954, the breeding program was expanded to include development of new stone fruit varieties. In 1984, ARS consolidated the Water Management and Stored Product Insect Research Laboratories at the Peach Avenue location where the Market Quality and Transportation and Fruit Production Research Laboratories were located. In order to continue to meet increasing agricultural research needs, ARS developed plans for a new research facility, the San Joaquin Valley Agricultural Sciences Center (SJVASC), in Parlier. ARS purchased approximately 105 acres at the current site of the SJVASC in 1992 and an additional 23 acres of contiguous land in 1996. Construction of the SJVASC facilities was completed in 2000 and the move from the Peach Avenue site to Parlier was completed in 2001.

Current Research

As part of the Pacific West Area, the SJVASC consists of four Research Units—Commodity Protection and Quality (CPQ); Crop Diseases, Pests and Genetics (CDPG); and Water Management (WM). **James G. Leesch** is the Research Leader for CPQ; **Drake C. Stenger** is the Research Leader for CDPG; and **James E. Ayars** is the Acting Research Leader for WM. The location is also a work-site for the National Arid Land Plant Genetic Resources Unit (NALPGRU). Current research is focused on (1) Development of effective, safe post-harvest treatments to mitigate the effects of diseases and insect pests (CPQ); (2) Development of alternatives to methyl bromide for pre-plant and post-harvest applications to various horticultural crops and commodities (CPQ, WM); (3) Development of new grape and stone fruit cultivars with improved fruit quality, enhanced disease and pest resistance and seasonal market availability (CDPG); (4) Epidemiology and management of xylella diseases in California, biology of insect vectors of *Xylella fastidiosa* (Xf), and nature of host (almond, grape)-pathogen (Xf) interactions (CDPG); (5) Epidemiology and management of citrus tristeza and stubborn in the San Joaquin Valley (CDPG); and (6) Efficient irrigation and drainage water and vegetation management to sustain productivity and reduce adverse impacts on the environment (WM). The NALPGRU acquires, documents, maintains, evaluates and distributes selected plant genetic resources adapted to long, warm-season and arid conditions.

Special points of interest:

- James G. Leesch – named CPQ Research Leader
- Drake C. Stenger— named CDPG Research Leader
- Hong Lin—2007 T. W. Edminster Award
- James Gerik—2007 Soil Fungus Conference organizer

News

Personnel

James G. Leesch was named the Research Leader of the Commodity Protection and Quality Research Unit in April 2006. **James E. Ayars** is currently serving as the Acting Research Leader of the Water Management Research Unit in Parlier. **Thomas J. Trout** left Parlier in January 2006 to become the Research Leader of the Water Management Research Unit in Ft. Collins, CO. **Sally S. Schneider** left the Water Management Research Unit in Parlier in July 2006 to become a National Program Leader for Horticulture on the ARS National Program Staff in Beltsville, MD. **Drake C. Stenger**, a Plant Pathologist, became the new Research Leader of the Crop Diseases, Pests and Genetics Research Unit in August 2006.

SJVASC Awards

Hong Lin, Plant Physiologist in the Crop Diseases, Pests and Genetics Research Unit, received the T.W. Edminster award in the Class of 2007 Headquarters-funded ARS Research Associates in recognition of the importance of quality of his research. His proposal, entitled "Innovative approach for genomic DNA sequence discovery and development of improved detection of citrus *Candidatus Liberibacter*, an emerging bio-threat agent". Dr. Lin's proposal was judged to be the best overall in ARS among more than 450 proposals submitted. He will receive \$120,000 over two years.

David W. Ramming, Horticulturist, was recently recognized as a 2006 ARS Technology Transfer Award recipient for his outstanding efforts in developing and transferring new table grape varieties. This award recognizes technology or products developed by ARS scientists that are commercially available, or adopted and widely used by farmers, consumers or other ARS customers.

Victoria V. Yokoyama was honored by the Entomological Society of America by being elected a Fellow in 2006.

Meetings, Conferences, Workshops

Raymond K. Yokomi, was invited by the International Centre for Advanced Mediterranean Agronomic Studies (CIHEMA) at Valenzano, Apulia Region, Italy to present a series of lectures on 'Monitoring Plant Viruses and Their Vectors' in a course entitled 'Integrated Pest Management of Mediterranean Fruit Tree Crops' and serve on a 5-member International Jury which administered an oral final exam for this course from June 19-29, 2006. While in Italy, he also presented a seminar on *Citrus tristeza virus* at CIHEAM, Valenzano, and visited the Istituto di Virologia Vegetale del CNR at the University of Bari as a guest of Profs. Giovanni Martelli and Vito Savino.

Jianchi Chen and **Hong Lin**, participated in the International Huanglongbing (Greening) Workshop in Ribeirão Preto, Brazil, from July 16-20, 2006.

On August 29, 2006 **Jim Ayars**, **Pete Vaughan** and **Jim Gartung** met with Kent Frame, Chief of the California Irrigation Management Information System (CIMIS) Program, California Department of Water Resources (DWR) at the SJVASC. The purpose of the meeting was development of cooperation between ARS and DWR on the use of grass lysimeter located at the University of California West Side Field Station near Five Points, California. The lysimeter is located a few meters from a CIMIS weather station and is capable of directly measuring the evapotranspiration rate (ET_o), therefore providing data that may be used to check the accuracy of CIMIS predictions of ET_o at the site. Reasons for a discrepancy between lysimeter ET_o and CIMIS predictions in 2006 were discussed in addition to plans for upgrading the data collection operations for the lysimeter and sharing data.

Meetings, Conferences, Workshops, continued

Gary Banelos was moderator and discussion facilitator at the International and Interdisciplinary Workshop on Soil Protection for Natural Resources Protection held in Monte Verita and Zurich, Switzerland from October 1-6. In addition, he gave talks on “multi-faceted approaches in field phytoremediation of contaminated soils” at the University of Zurich and at the University of Hohenheim, Germany from October 7-10.

Raymond K. Yokomi presented updates on research on insect vectors and prokaryote diseases of citrus in the United States at the National Citrus Research Council meeting in Denver, Colorado, on October 10-23, 2006. He also presented an overview of his citrus tristeza and stubborn research program.

Chuck Burks presented his research findings to the California Fig Institute’s Annual Membership and Research Meeting in Madera on April 27, 2006, documenting different proportions of insect pest species in ‘Calimyrna’ compared to other varieties.

Visitors

Viviana Catanese, Visiting Ph.D student from the University of Palermo, Italy, has completed her 6-month internship with **Gary Banelos** in the Water Management Research Unit. As part of her Ph.D dissertation, they are jointly conducting research on “heavy metal accumulation in *Opuntia* (cactus).”

Since March **Maria Saponari**, visiting scientist from the Istituto di Virologia Vegetale del CNR, Sezione di Bari, has been working with **Raymond Yokomi** in the Crop Diseases, Pests and Genetics Research Unit on the characterization of *Citrus tristeza virus* (CTV).

Upcoming Events

The 2006 Annual Pierce’s Disease Research Symposium will be held in San Diego from November 27-29, 2006 at the Westin Horton Plaza hotel. Several scientists, **Drake Stenger**, **Hong Lin**, **Jianchi Chen**, **Mark Sisterson**, **Elaine Backus**, and **David Ramming**, will present recent results of their Pierce’s disease and glassy-winged research at this Symposium.

The 34th Almond Industry Conference, organized by the Almond Board of California, will be held in Modesto on December 6-7, 2006 at the Modesto Centre Plaza. Crop Diseases, Pests and Genetics Research Unit scientists, **Mark Sisterson** and **Jianchi Chen** will present progress reports of their almond leaf scorch disease projects funded by the Almond Board of California at this Conference.

Jim Leesch, **Judy Johnson**, **David Obenland**, **Joel Siegel**, **Brad Hanson**, **Suduan Gao** and **Jim Gerik** will attend the Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions (MBAO Meeting) in Orlando, FL on November 6-9, 2006.

Chuck Burks, will present data on navel orangeworm monitoring, movement, and mating disruption at the 34th Annual Almond Industry Conference at Modesto on December 7, 2006, showing that navel orangeworm pheromone trap counts can potentially be used to predict damage to Nonpareil almonds.

Upcoming Events, continued

The 53rd Annual Soil Fungus Conference will be held in Fresno from April 11-13, 2007 at the Piccadilly Inn University. The conference is being organized by **James Gerik**. Additional information will be available online at <http://soilfungus.ars.usda.gov> or contact Jim at (559) 596-2865.

Miscellaneous

An automated 3-D tracking system for free-flying insects will be installed in November, 2006, in the laboratory of **L.P.S. (Bas) Kuenen**. CPQ will be one of only a few labs in the world with this capability that will allow the rapid analysis of insect flight maneuvers under various treatments or environmental conditions.

Joel Siegel and **L.P.S.(Bas) Kuenen**, in collaboration with Brad Higbee, Paramount Farming Company, are evaluating the impact of sanitation and environmental factors on navel orangeworm damage in almonds.

Joseph Smilanick, received a grant from the California Table Grape Commission to study, along with Jennifer Hasham of the University of California, the effects of table grape vineyard management on the quality and storage life of table grapes in storage long after harvest. He also received a grant from the California Citrus Research Board to investigate new practices and materials for use in citrus packinghouses to reduce postharvest losses from decay pathogens.

In the spring and fall of 2006, a biological control program for olive fruit fly in California was implemented by **Victoria Y. Yokoyama** by releases of a parasitoid imported from Guatemala in olive orchards.

L.P.S. (Bas) Kuenen recently was awarded two grants from the California Pistachio Commission for "Field and Laboratory Studies to Improve Pheromone of Navel Orangeworm," and initiated a CRADA with Suterra, LLC to study the sex pheromone based monitoring of the navel orangeworm.

Research Units and Contact Information

Water Management

Research Unit

Commodity Protection & Quality

Research Unit

Crop Diseases, Pests and Genetics

Research Unit

National Arid Land Plant Genetic

Resources Unit

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