



# AgHealth News

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University of California, Davis

## MICASA: Assessing the needs of farm workers and their families

By Maria Marois

**M**ICASA is a community-based cohort study examining occupational and environmental risks and the relationship to health in more than 400 farm worker families residing in Mendota, California. The project maintains a field office in Mendota staffed by a local coordinator, Giselle Garcia, and three research staff, Gloria Andrade, Ana Cervantes and Alex Cervantes, all of whom are from Mendota. Through quarterly newsletters and community monthly meetings organized by the field staff on topics of interest, such as alcohol and drug use, immigration, HIV/AIDS and diabetes, the staff has been able to build relationships of mutual respect and trust with participant families.

“There is plenty of need in the community of Mendota about different topics that have been presented thus far. From the comments that I have heard from various participants, the presentations have been helpful,” says Gloria Andrade. “For example, the presentation about tobacco helped many participants who are trying to quit smoking.”

Ana Cervantes acknowledges, “Families participate because they realize that the purpose of the study is to cause no harm and they can trust us. They know that we are interested in their health and in their well-being.” This has inevitably

(see **MICASA** on page 2)



MICASA staff include, back row: Erik Rodriquez, Tamara Hennessy-Burt, Kenneth Payan, Alex Cervantes; front row: Gloria Andrade, Giselle Garcia, Maria Marois, and Ana Cervantes.

## 2008 New Paths: Health and Safety in Western Agriculture Conference

**T**he Pacific Northwest Agricultural Safety and Health Center (PNASH) located in Seattle hosted the biennial NIOSH-supported agricultural workplace health and safety conference in Cle Elum, WA, Nov. 11-13. This marked the fifth Health and Safety in Western Agriculture Conference which showcased “New Paths.”

The program featured new research avenues and innovative approaches for the prevention of disease and injury in agriculture. Presenters were right on point, the event well organized and well attended. The conference took place at the picturesque Lodge at Suncadia, which is surrounded by cascade peaks and set alongside the Cle Elum River. The weather was cold, but mostly sunny.

Keynote speaker, Matthew Keifer, a professor of occupational and environmental medicine at the University of Washington, Seattle, and co-founder and co-director of the Pacific Northwest Agricultural

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## MICASA *from page 1*

contributed in a major way to the success of the project over the years.

MICASA (mi casa means “my home” in Spanish) is beginning its fifth year with several new activities. We are currently conducting follow-up interviews with all of the MICASA families to improve our knowledge of changes in health over time in a farm worker population.

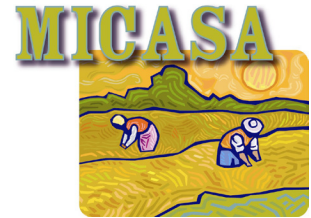


*Two projects are evaluating exposures to dust and pesticides among MICASA participants.*

Another activity starting in February 2009 is spirometry or lung function testing to examine the effects of agricultural work on the lungs. We will be offering the testing to all adult participants, and at the same time, we will be taking blood pressure and measuring height and weight. Spirometry is a medical test that measures the total amount of air your lungs can hold and how fast you can get rid of that air. The test is short, simple and does not hurt. The results generated from the test serve as a screening tool for examining the health of the lungs. These tests have proven to have additional value for participants says Ana Cervantes. “Someone shared with me that they didn’t know they had high blood pressure until they participated in the spirometry testing. The participant was very worried and went to see a doctor and was treated because of his test results.”

Two other projects are evaluating exposures to dust and pesticides among MICASA participants. Last summer we completed a small study that measured the amount of dust particles that farm workers are exposed to while performing different agricultural tasks. This year we are expanding this project to more farms, commodities and workers. Workers participating in the study wear a lightweight backpack during their work shift that is outfitted with an air sampler. At the end of the work shift, workers are interviewed about the specific tasks performed during the shift, along with other basic information. Through this study, we hope to gain ac-

curate measurements and information regarding the levels of dust present during different types of work activities.



The home pesticide study is focused on examining exposure to permethrin, which is used worldwide in agriculture, home pest control, forestry and in public health programs. Laboratory studies have found negative health effects in animals, and we are interested in assessing possible exposure to the chemical in areas where both agricultural and residential applications occur. We will be assessing permethrin exposure in homes of MICASA study families and asking the mother and one child to participate. Our assessment in the home will include collecting food samples, vacuuming an area of the home to collect a dust sample, taking an inventory of pesticides found in the home and having the participants collect a sample of their urine. Permethrin levels will then be measured in the food, house dust and urine of these participants. Additionally, we will look at the association of housing disrepair indicators and rodent infestation with measured levels of permethrin in the homes. We anticipate that the results of this study will help us identify the most important ways people are exposed to this chemical and suggest changes that can reduce exposure for farm worker families.



*Ginelle Sakima, a researcher from the School of Dentistry at UCSE, presents to community members results of a collaborative MICASA dental study.*

Our goal is that, collectively, these studies will increase our understanding of the circumstances faced by farm workers and that it will lead to future interventions and public policy changes to improve the health of this important population.



## Meet MICASA's new field coordinator, Giselle Garcia

The WCAHS staff in Davis and those “on-site” in Mendota, are extremely pleased with the new person in charge of the MICASA project. Giselle Garcia is the new field coordinator for the WCAHS MICASA Study in Mendota. In 2000, she received her Bachelors degree and is currently in her second year in the MPH program at Fresno State.

Regarding her first two months with MICASA, Giselle says, “so far the job has surpassed my level of expectation from what I presumed the project was going to entail. It has definitely given me a sense of humility with the community in Mendota and has certainly given me the opportunity to bring my knowledge, expertise, and charisma to the program.”



Giselle Garcia

Expanding project components in place, Giselle plans to extend her assistance to other community organizations and partner with other agencies to collaborate in other community activities and events.

Growing up, Giselle's parents took their children with them every summer to do farm work in Northern California. While she admits that although she despised picking cherries during really hot summers, it definitely has made her the person that she is today.

“I am very proud, and am very grateful for the wonderful opportunities I have been given in life, and I am very fortunate that I have three amazing children that look up to me. They are certainly my motive for succeeding in life.”



## DPR recognizes four organizations for efforts to reduce pesticide use

The California Department of Pesticide Regulations (DPR) recently honored its 2008 Integrated Pest Management (IPM) Innovators for their emphasis using a combination of natural and preventive strategies for pest management and pesticides less toxic than traditional treatments.

Among the recipients are the city of Davis, the Santa Clara Valley Urban Runoff Pollution Prevention Program, FreshSense LLC/Fresno and Pestec/San Francisco.

Since IPM Innovator awards were initiated in 1994, more than 100 California organizations have been recognized for their efforts to reduce risks associated with pesticide use and for sharing their research and methods with others.

In the 1980s, the city of Davis controlled pests like most other cities, with scheduled applications of pesticides and fertilizers. Its transformation to a model of integrated pest management was heavily influenced by the University of California, Davis, and residents who demanded more environmentally friendly pest control to ensure the safety of their children and pets in parks, greenbelts, landscaping, bike paths and other public spaces.

Davis' initial IPM efforts were boosted in 1996 when it created a task force composed of UC Davis experts, landscapers and other specialists to recommend ways to reduce pesticide use by businesses and residents.

In 1998, Davis received a grant from the U.S. Environmental Protection Agency for IPM education that included the posting of signs indicating where mulching and other pest-control strategies were being used that residents could also use at home.

The city has an IPM manager who coordinates pest control efforts and training citywide. The city conducts landscape pest control workshops featuring UC Davis researchers, extension specialists, local landscapers, nursery owners and pest control advisers.

Being a university town has its benefits. The city has collaborated with UC Davis to compare less-toxic herbicides on city land. UC Davis studies have addressed wildlife habitat, aquatic weed management and biological control of the elm leaf beetle on city land. City projects include alternative pest control and fertilization trials in parks and greenbelts using solarization, flame weeding, the effect of



## Financial impact of safety the subject of December seminar talk

**A**mjad Ramahi was the guest speaker at the Dec. 1 Western Center for Agricultural Health and Safety (WCAHS) seminar. His talk, titled, “Financial Impact of Safety,” brought new information and



*Amjad Ramahi presenting “Financial Impact of Safety” during WCAHS’ December seminar.*

insight regarding workplace health and safety, and the “...bottom line” as it relates to business.

Ramahi is a Ph.D. candidate in the Biological Systems Engineering Graduate Program at UC Davis. He is also a senior safety consultant in the Workers Compensation Insurance Branch of Zenith Insurance. Ramahi’s research focus explores direct and hidden costs of injuries, the financial implications of injuries, including insurance premiums and government fines. During his presentation, Ramahi also detailed how his work relates to academia.

“Amjad Ramahi has been an important member of the Ag Center, through his research, and as a graduate student working with Dr. Fadi Fathallah in agricultural ergonomics,” said WCAHS Director Dr. Marc Schenker.

Amjad’s Power Point presentation may be viewed at: [http://agcenter.ucdavis.edu/seminar/webcast\\_2009.php](http://agcenter.ucdavis.edu/seminar/webcast_2009.php)



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### Conference from page 1

Safety and Health Center, inspired colleagues, students and guests through his words, life’s work, good humor and even musical talent.

The four sessions and their chairs were: Engaging Populations at Risk, chaired by Jeffrey Levin, Southwest Center for Agricultural Health, Injury Prevention and Education; Pesticides – New Findings and Technolo-

gies, chaired by Helen Murphy, PNASH; Air Quality and Pulmonary Pathways to Disease, chaired by Kent Pinkerton, Western Center for Agricultural Health and Safety; and Ergonomics of Industrialized Dairy Operations, chaired by Stephen Reynolds for John Rosencrance of the High Plains Intermountain Center for Agricultural Safety and Health.



*Orchard platform at Auvil Fruit Company (AFC) enables labor efficiency and safety. Note: apple trees are trained to grow in a V-shape, optimizing production and eliminating ladders during thinning, pruning and harvest.*

In addition to presentations by WCAHS researchers and graduate students, round-table discussion breakout sessions highlights included presentations titled, “Applying Community-based Participatory Research Principals: Cultural Considerations,” by Eva Doyle, Baylor University; and “Developmental Effects of Pesticides on Children in Salinas,” by Kim Hartley from the Center for Children’s Environmental Health at the University of California, Berkeley.

The Agricultural Tour began at the 80-year-old Auvil Fruit Company (AFC), a 4,000-acre farm in eastern Washington. The tour then proceeded to the Cave B Estate Winery at Sagecliffe, Washington state’s wine country.

The sixth such conference, to be hosted by NIOSH, is being planned for 2010. Watch for details on our Web site at <http://agcenter.ucdavis.edu>

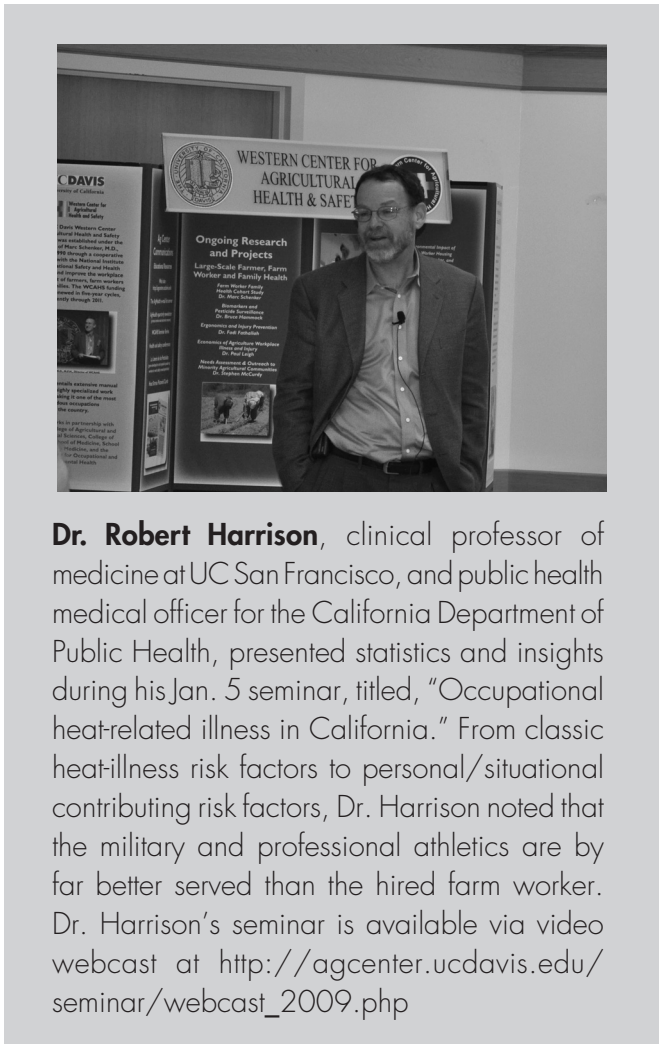


composting and irrigation rates on poor soil, predatory nematode effectiveness against turf grubs and effective microorganisms in turf.

The city distributes pest control information on its Web site, posters, handouts, signs, press releases, community-access television, booths at Davis' popular weekly farmers market and festivals and at volunteer training. Field days are provided to groups of volunteers and other interested parties.

"This year's IPM Innovators are role models for change from traditional pest control to a combination of strategies that reduce or eliminate toxic pesticides," said DPR Director Mary-Ann Warmerdam. "Recognizing innovation fulfills our mission to encourage businesses, government entities, homeowners and others to consider pest control methods that are more protective of public health and safer for the environment."

Additional information about the award-winning programs is available by contacting FreshSense Chief Executive Officer Blair Richardson at (866) 747-3673, www.freshsense.net; Pestec Chief Executive Officer Luis Agurto Sr. at (925) 757-2945, www.pestec.com; Santa Clara Valley Urban Runoff Pollution Prevention Program Assistant Program Manager Jill Bicknell, at (408) 720-8811, www.scvurppp.org; and city of Davis Communications Specialist Robert Wallis at (530)757-5656, www.cityofdavis.org.



**Dr. Robert Harrison**, clinical professor of medicine at UC San Francisco, and public health medical officer for the California Department of Public Health, presented statistics and insights during his Jan. 5 seminar, titled, "Occupational heat-related illness in California." From classic heat-illness risk factors to personal/situational contributing risk factors, Dr. Harrison noted that the military and professional athletics are by far better served than the hired farm worker. Dr. Harrison's seminar is available via video webcast at [http://agcenter.ucdavis.edu/seminar/webcast\\_2009.php](http://agcenter.ucdavis.edu/seminar/webcast_2009.php)



- **Upcoming conferences**
- **The 22nd California Small Farm Conference**
- **"Farming for the Future"**
- **March 1-3, Sacramento**

- The California Small Farm Conference is the state's premier gathering of small farmers and those who support them. The three day educational conference includes on-farm tours, focused workshops, general educational sessions and opportunities for peer networking.
- For registration or for more information, visit <http://www.californiafarmconference.com> on the Web.



## **Green Acres, Blue Skies II: Working Towards Common Solutions, June 1-2**

**Activities & Recreation Center (ARC) UC Davis**

The UC Davis Air Quality Research Center (AQRC) will present the second "Green Acres, Blue Skies" conference June 1-2 at the Activities and Recreation Center (ARC) on the Davis Campus.

Green Acres, Blue Skies II is an air quality conference for stakeholders and researchers covering agricultural air sources, impacts, technology/mitigation and innovative best practices. Sponsored by the UC Davis AQRC and the California Air Resource Board, Dr. Frank Mitloehner is program chair.

For more information, contact Donna Reid, AQRC, at (530) 754-8374, or [dvreid@ucdavis.edu](mailto:dvreid@ucdavis.edu).





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### **WCAHS Seminar Series**

4-5 p.m., 3201 Hart Hall, UC Davis Campus  
Refreshments provided by University Catering

#### **Feb. 2**

**Deborah Bennett**, Ph.D., professor of Public Health Sciences, UC Davis. "Environmental Exposures Among Farmworkers"

#### **March 2**

**Kevin R. Johnson**, Dean, UC Davis School of Law; professor Chicana/o Studies; Mabie-Apallas Public Interest Law Chair "Immigration"

#### **April 6**

**Asa Bradman**, associate director, Children's Environmental Health Research, UCB School of Public Health. "CHAMACOS: A community/university partnership to assess environmental exposures and their health effects on young children"

#### **May 4**

**Ron Strohlic**, director of the California Institute for Rural Studies. "Sustainable Food & the Promise of Improved Farmworker Conditions"

**The WCAHS seminar series is available via video webcast at <http://agcenter.ucdavis.edu/seminar/webcast.php>**