

University of California Cooperative Extension Merced County

ANNUAL REPORT 2009



Making a Difference for Merced County.

University of California
Agriculture and Natural Resources



“Both as a California farm boy and as an attorney, I’ve always grabbed the best and the biggest tools available either to get the job done or to make the decisive point in a legal argument. It’s no different now. I came to UC to lead ANR and I remain committed to ANR. The reasons are simple. UC is a unique institution and ANR is uniquely capable of extending that excellence to California and beyond.”

Daniel M. Dooley, Vice President, University of California

The University of California Cooperative Extension (UCCE), is an outreach arm. UCCE has farm, 4-H, and nutrition, family and consumer sciences advisors based in more than 50 county offices. In addition, Cooperative Extension specialists are headquartered at UC Berkeley, UC Davis, and UC Riverside campuses, where they conduct research. These specialists provide statewide leadership to teams of advisors and Agricultural Experiment Station (AES) faculty, and carry out outreach programs statewide and at the local level. As a land-grant institution, the Cooperative Extension mandate is to the welfare, development, and protection of California agriculture, natural resources, and people.

Cooperative Extension

The University of California Cooperative Extension mission is to develop and extend through educational means the use of research-based knowledge to improve specific practices and technologies in its area of expertise.

Cooperative Extension works in cooperation with county, state, and federal governments to provide local educational programs in the areas of agriculture and natural resources, youth development, family and consumer sciences, and community resource development.

The system was established at the Federal level by the Smith-Lever Act in 1914 and at the State and County levels by acts of the California Legislature in 1915. The cooperative effort with Merced County began with the opening of the Agricultural Extension (Cooperative Extension) office in 1917 with J.F. Grass as the first Farm Advisor in Merced County. The University of California provides the professional staff and Merced County provides funds for the clerical support, operation, and maintenance of the program.

University of California Cooperative Extension Merced County

Committed to Merced County

2009 was a year of trials and tribulations for the county, state and nation. The economic upheaval has greatly affected our county from lowered home and property values, to higher unemployment and reductions in jobs and closing of many businesses. Environmentally, water concerns from drought and court-reduced deliveries have idled or redirected crop productions in many parts of the county. Low milk prices have forced the industry to be more efficient and effective in their management, still others have been forced out of a business that has been the only livelihood they have known.

But still, even with all these issues, agriculture in Merced County has been our major lifeline in this economic dilemma. Based on our soils, our water resources, and our growing conditions our famers and ranchers continue to make agriculture our number one industry and in the top five in the state.

Merced County Cooperative Extension is proud to be a part of this agricultural effort along with the development of our young people and the improved health and nutrition of families.

As you read through the pages of this report we hope you'll see the impacts of a truly cooperative venture combining the resources of the USDA, the University of California and the County of Merced. This is problem-solving at its best, taking local concerns of families, growers and others and applying an extensive team effort to bring solutions back to the local community.

Our advisors are helping Merced County agriculture to be economical and environmentally sustainable by discovering, developing, sharing, and promoting researched solutions that can and are being used by the growers, ranchers, farmers, and dairy industry. Look through this report to learn about the Almond Doctor: An Online Forum or how sunflowers are used in Peach Integrated Pest Management or how Adjusting Nitrogen Balances in Dairies can affect environment and profits or how increasing fertilizer rates does not measurably improve storability of the sweet potatoes, or how young people are learning leadership, citizenship and life skills.

UC Cooperative Extension plays a vital and unbiased role in our community, one that cannot be matched by any others, public or private.

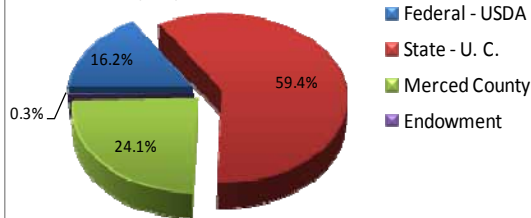
Our staff of university and county employees continues to assist the residents of the county to help them through transfer of knowledge and information that has been researched and designed to assist in helping them make wise choices. Current research and educational programs help to reduced pesticide use, increase healthy eating habits to combat obesity, provide economic advice on management practices and more. U.C. Cooperative Extension Merced County staff is ready to help as we move into 2010, be it in water management, better human nutrition, economics in production, youth development, food security, IPM, or more.


Richard L. Mahacek
County Director
University of California
Cooperative Extension
Merced County

Program Funding

2009 Support for Operations and Programs

**Sources of Funding For the
Merced County Cooperative Extension Office**
2009 Total : \$1,917,686



Cooperative Extension is a unique joint venture between the three levels of government. This partnership brings together the USDA at the federal level, The Land Grant University at the state level (University of California) and the County of Merced locally. While a small part is endowed each of the three partners have and play an important role in the overall functions of the Cooperative Extension office. This operations support is vital for organizing, preparing, and serving the clientele needs in our day to day functions. Clientele contacts in the office, on farm visits , by phone, via e-mail, by web, and general meetings.

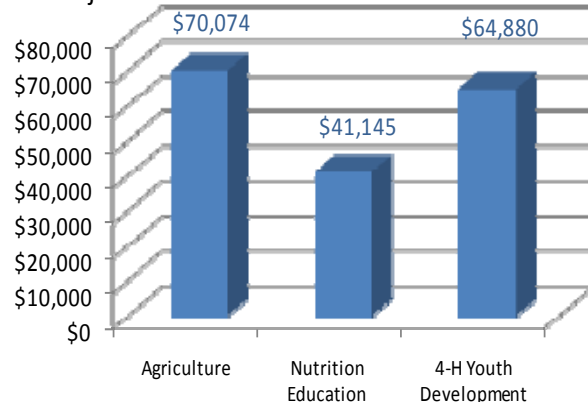
Program Support

In addition to the general office support that provides an operational framework many specialized programs, studies, and research activities require additional support.

Our Advisors as UC academics have Principle Investigator (PI) status allowing them to lead and collaborate on research grants and projects.

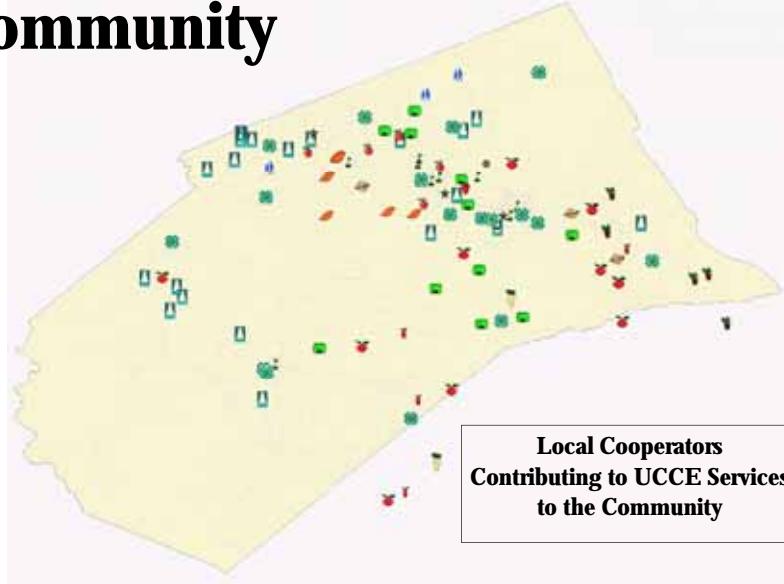
During the 2009 year Merced County Advisors leveraged over \$2,000,000 of funds to assist in the conducting of specific program studies and research that need more funds than the operations budget can provide.

**Grants, Gifts, and Resource Funds
Advisors as Principle Investigators or Collaborators
on Projects and Studies**



Additional 4-H program support is provided through donations, fundraising, and participant fees. These funds are used for youth conferences, camps, and events. These are also used for recognition and awards for members and volunteers.

Service to the Community



**Local Cooperators
Contributing to UCCE Services
to the Community**



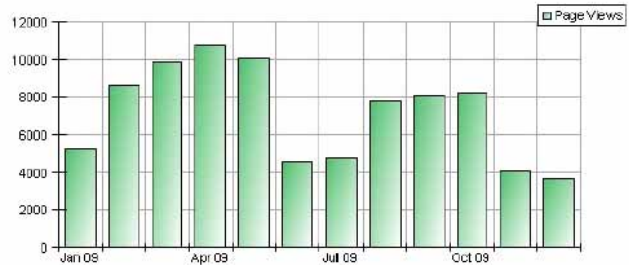
Services to the Farmers, Consumers, Youth and Families of Merced

2009 Contacts:

- 12,165 Newsletters mailed
- 133 Publications sold
- 4,904 Telephone calls received
- 2,081 Visitors to our office
- 78,553 Web site visitors

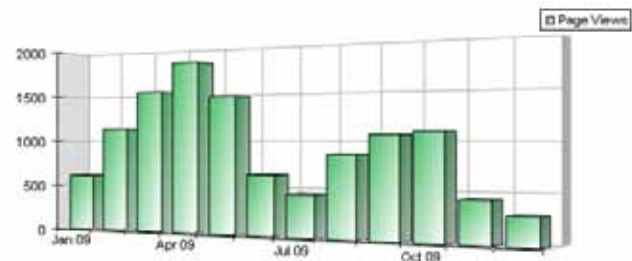
CEMerced Website Page Views - Monthly Totals

Date Range: 1/1/2009 to 12/31/2009



2009 Formal Volunteers:

- 302 4-H Leaders
- 11 Master Gardeners
- 29 Master Gardeners in training



Merced County Cooperative Extension Staff 2009

County Director

Richard Mahacek

Advisors

Alejandro Castillo

Dairy

David Doll

Pomology

Richard Mahacek

4-H Youth Development

Maxwell Norton

Trees and Vines

Scott Stoddard

Vegetables

Cross-County Advisors

Gregory Billikopf - Stanislaus

Labor Management

Terri Spezzano - Stanislaus

Nutrition, Family, and Consumer Science

Emeritus Advisors

Jim Farley

Lonnie Hendricks

Bob Scheuerman

Bill Weir

Program and Support Staff

Russell Hill

4-H Program Representative

Mai Thao *

4-H Program Representative - H.U.D.

Summer and Part Time Staff

Kim Heyer

4-H Program Representative - Camping

Stephanie Clendenin

4-H Program Representative - Ag Literacy

Daniel Brooks

Student Intern - Santa Clara University

Andrew Ray

Student Intern - Cal Poly, SLO

County Support Staff

Larry Burrow

Agriculture Field Technician

Cathy Marks

Office Manager

Amelia Lopez

Office Assistant - Reception, Publications

Mia Torrez **

Office Assistant - 4-H Secretary

* - Grant funding ended April 2009

** - County reduction in force September 2009

County Staff

Cathy Marks, Office Manager



Our office experienced many events and experiences this year. I was pleased to be a part of the team providing our services for our community. Supporting the Advisors' work is an interesting and rewarding occupation, I feel very lucky. I served as secretary to our County Director and Farm Advisors as well as managing the accounting for the County and UC budgets, contracts, purchasing, records, and reports. To our dismay, we lost our 4-H



Secretary position in the middle of the year due to reduction in force. Our Office Assistant and I added this position's duties to our own. It was a challenging, yet still rewarding year. Our staff services grew and we grew with it.

Mia Torrez, Office Assistant

Mia served our 4-H Youth Development Program as the 4-H Secretary again this year. Handling the heavy 4-H Secretary work load, she provided support through records-keeping, creating and mailing newsletters, preparation of paperwork for events, and meetings, even helping at a couple of events. Her support was much appreciated.



Sadly this position was eliminated in the middle of the year as part of the County's reduction in force due to budget cuts in a difficult economic period and we had to say good-bye to Mia and wish her well in the future.

Amelia Lopez, Office Assistant

As an English/Spanish-speaking receptionist I greeted the public and was eager to help with information they sought. I provided clerical assistance to our Advisors, including their newsletters, and maintained our educational publications and statistical records. I also handled our classroom's reservations and office maintenance. This year I have taken over some of the duties of the 4-H Secretary which was vacated in mid 2009. These duties include data entry of 4-H enrollments, filing, preparing newsletters for distribution, and maintaining records.



Larry Burrow, Agriculture Field Technician

My position as Field Technician provides support in field research activities, working with all our department's Farm Advisors at various stages of their projects. In 2009 this included planting, spraying, harvesting and evaluating samples in crops such as tomatoes, almonds, cotton, sweet potatoes, and more. In addition to these outdoor activities I assisted by creating maps, parsing data, posting research results and various other publications on our county website, and setting up meetings. I also participated in County 4-H Program activities and provided assistance with set-up of various events and projects.



In my role as Office Safety Coordinator I organized and carried out employee safety training. I leveraged funds from UC safety program to provide additional storage for chemicals and other safety items and for safe material handling equipment.

Pomology

David Doll, *Farm Advisor*



A trial determining the effectiveness of soil fumigants and fumigant alternatives for almond replant disease was established.

Trial Studying Fumigant Alternatives for Orchard Replanting Established in Merced County

Orchard replanting is one of the most critical times of orchard maintenance. Almond orchards removed and replanted back into almond often demonstrate symptoms of slow growth, yellow leaves, and in some cases tree death. The precautionary measure of soil fumigation can prevent the occurrence of this disease, but are facing increasing scrutiny for their environmental impact. To study the effects of fumigants and alternatives to fumigants, an 18 acre trial almond replant was established in the Livingston area. This trial is studying the four different fumigants and their effect on tree growth as well as the non-fumigant alternatives of tree site steam and green manure injection. All treatments have been applied, and trees are planned to be planted in January of 2010 and will be followed for the next six to eight years. This project will help local growers make the proper decision about fumigation upon replanting an almond orchard.

The Almond Doctor: An Online Forum for Research –Based Information, News, and Timely Information

In June, the website “The Almond Doctor,” was launched (<http://www.thealmonddoctor.com>). The website focuses on providing a weekly update of almond growing conditions and/or tips based upon research performed by the University of California. Topics have included disease diagnosis and control, pest management, horticultural practices, and almond news updates. This online form of extension allows users to ask questions and comment on articles written. Since June, nearly 2800 hits were made on the website from 77 countries, 45 states, and throughout all of California; an estimated 325 hits came from Merced County. The website is planned to be continued through 2010 and traffic is expected to increase.

Summer Almond Meeting Held in Merced

On June 17th, nearly 200 growers attended an almond meeting discussing the topics of orchard replanting, summer disease and pest management, and nutrient management. This was the first UCCE almond meeting held in Merced in over eight years due to the recent filling of this advisor position. Growers provided good feedback and are looking forward to future meetings.



Merced County's first almond meeting in over eight years hosted nearly 200 people with topics presented by six University of California Cooperative Extension Specialists and Advisors.

Meetings Hosted: 3	Authored Publications: 22
Presentations Delivered: 27	Research Project Collaborations: 3
Farm Visits: 70	Direct Contacts made: 3,363
Phone Calls: 375	

Trees and Vines

Maxwell Norton, Farm Advisor



Peach Integrated Pest Management Demonstration Project

In 2009 we completed our first year of the regional **Peach Integrated Pest Management Demonstration Project**. Several peach farmers are participating in an intensive project where they are helping to validate and demonstrate IPM practices with an emphasis on biological control. Our goal is to reduce overall usage of targeted chemical and replace them with “softer” chemistry and biological controls. First year results are exciting and everyone is looking forward to our second year.



Most visible from the road are the sites where we have planted giant sunflowers. The sunflowers become infested with the larvae of a moth that feeds on the seed head. The larvae are the host to a tiny parasitic wasp that also attacks the oriental fruit moth – the moth that burrows deep into the peach. In earlier trials in Merced County we demonstrated that this complex relationship was successful in increasing the populations of the parasitic moth in peach orchards.

In 2009 we held a field day in Ballico and another in Hughson to demonstrate these practices. We also held a cooperator wrap-up luncheon meeting here in Merced.

Innovative Technologies of Thinning Fruit

2009 will also be our second year of testing a new machine that UC Cooperative Extension brought into the state to **mechanically thin peaches**. Our peach producers and canneries are under intense pressure to compete with cheaper foreign imports. We must find ways to reduce costs to survive. Working with area growers we are testing this machine for its ability to reduce hand thinning costs.



Fig Variety Trial

I am currently tending a nursery full of new fig seedlings that may have potential for new commercially viable varieties, both fresh market shipping and drying. The shipping of fresh figs is a small but growing industry in Merced County. Our hope is that a couple of these seedlings will add **profitable choices to the fig industry** as Merced is the second largest fig growing county in North America.

Ag Tourism

I developed a series of blossom tours in various parts of the county to promote tourism. They consist of step by step instruction, a map and a detailed description of what to look for on the tours. They are posted on the Cooperative Extension web site and on the Merced Tourism web site. The tours are updated every few years to reflect traffic flow considerations and crop changes. I try to include some local attractions like the Castle Air Museum to maximize visitor time and money spent. Shown is the map for the Los Banos area.



Outreach to Strawberry Growers

Each year we have a special meeting for strawberry growers. The latest information about farming practices is presented. In 2009 we also held a special hands-on session about food safety practices in the field and during transport. Food contamination scares can be costly to the whole industry. Growers left the meeting with education materials that they could share with their workers.

Vegetable Crops

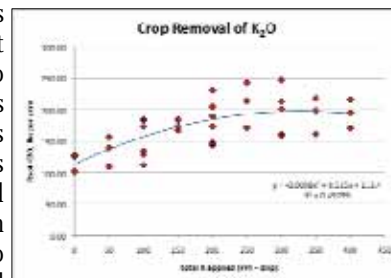
Scott Stoddard, *Farm Advisor*



Sweetpotato Fertilizer Trial 2008 – 2009

A field research project conducted with Bob Weimer, Weimer Farms, Atwater

Now that using sweetpotatoes for processing into fries is an important use for this crop, storage has also become more important. Experience has shown that significant deterioration of the stored roots occurs after February. Sweetpotato growers in Merced County have been told that the kind of fertilizer and when it is applied can impact crop yield and how well it stores. Therefore, two fertilizer trials were conducted in a commercial sweetpotato field in 2008 to test this hypothesis with nitrogen and potassium fertilizers. In a nutshell, there was no observed storage benefit to high rates of potassium, and no effects were seen from nitrogen source or timing. The results from this project suggest that there is little need to increase fertilizer rates to improve storability of the crop. This information should help growers make fertilizer management decisions for sweetpotatoes.



Western Flower Thrips Abundance and Incidence of Tomato Spotted Wilt in Tomato Fields in the Central Valley of California



A field monitoring project conducted with UC Davis researchers with grower cooperators in Le Grand

Tomato spotted wilt (TSW) is a potentially devastating disease, especially for tomatoes, as it can cause drastic reductions in yield and fruit quality. It has been a sporadic problem in certain areas of Merced County for a number of years. The disease is caused by a virus, which is transmitted by western flower thrips, a small insect that can be present in huge numbers in the spring and summer. For three years, we have been monitoring this insect to improve the understanding of the disease and develop an integrated pest management program to keep it controlled. Trap data show thrips populations to increase in April, peak in May and gradually decline by September. Adults can be detected all year long, however. Based on discussions

with cooperators and growers, TSW did not appear to cause economic losses in any of the monitored fields. The implementation of management practices like early insecticide sprays seem to reduce the presence of the disease.

Drip irrigated double-row tomatoes on 80-inch beds.

An applied research trial conducted at the Westside Research and Extension Center, Fresno.

As the number of acres with drip irrigation in tomatoes has increased, so has the need to evaluate different systems to maximize productivity. This study was designed to provide information regarding costs of production, yield and quality, and optimal plant population of processing tomatoes grown on 80-inch beds with either one or two buried drip lines. Different plant populations were also evaluated. Challenges in 2009 were numerous: limited water availability, poor stand establishment in some plots which required replanting, heavy powdery mildew and stink bug pressure, and a delayed hand harvest because of the unavailability of a commercial harvester. Nonetheless, the trial provided good preliminary data on the potential of the 80-inch, double-row system, and suggests yield increases may be possible. Future work is planned.



Other projects in 2009:

- Statewide Processing Tomato Variety Evaluation Trials
- Fresh Market Tomato TSWV Resistant Variety Trial
- Tomato Worm Control Trials
- Tomato Powdery Mildew Trials
- Bindweed Herbicide Trial in Processing Tomatoes
- National Sweetpotato Collaborators Variety Trial
- LSU Sweetpotato Advanced Line Trial
- L-04-175 Sweetpotato Cultivar Multi-site Evaluation
- Murasaki-29 Plant Spacing Trial
- Sweetpotato Field Fumigation Trial
- Methyl bromide fumigation alternatives for sweetpotato

Some cooperators and locations of projects in 2009

- D&S Farms, Atwater
- Jantz Farms
- Yagi Farms, Livingston
- A-Bar Ranch, Los Banos
- San Juan Ranch, Dos Palos
- trials in Gustine and Le Grand
- Live Oak Farms, Le Grand

Dairy Science

Alejandro Castillo, *Farm Advisor*



In 2009 activities focused on mineral and water balances in feed management practices related to production and environmental regulations.

Salts and Mineral Balance Research

Total salt in the manure coming from the diets should be considered an important issue for the sustainability of our dairy industry. It is necessary to make a mineral content data base of the feeds utilized on each dairy, including the drinking water and the most commonly purchased concentrate feeds. In a few years each dairy will have information to make correct mineral balances and to control mineral supplements strictly according to the animal's requirements. Figure 1 shows information about mineral content in dairy farms for lactating animals in relation to standard requirements of the National Research Council (NRC).

Minerals	< 80	80 ≥ to 120	120 ≥ to 200	≥ 200
Ca ¹	2.5	40.0	57.5	--
P	--	37.5	62.5	--
Mg	--	--	82.5	17.5
Cl	--	2.5	32.5	65.0
K	--	7.5	85.0	7.5
Na	--	15.0	37.5	47.5
S	--	25.0	75.0	--
Cu	7.5	27.5	47.5	17.5
Fe	--	--	--	100.0
Mn	--	--	--	100.0
Se	2.5	15.0	77.5	5.0
Zn	--	17.5	65.0	17.5

¹ The higher near value for milk production was used to determine NRC requirements.

Fig. 1. Mineral content in dairy farms for lactating animals.

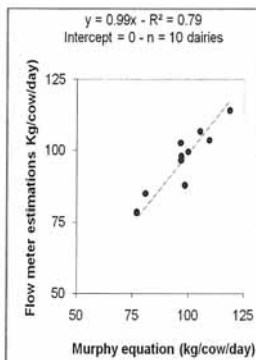
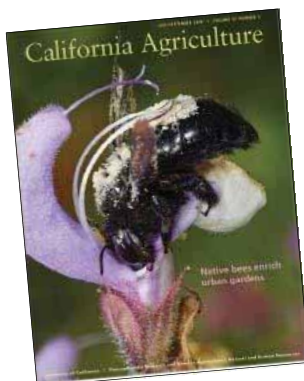


Fig. 2. Water intake estimations in Lactating dairy cows

Water intake estimations

According to the National Research Council (2001) water is the most important nutrient for dairy cattle. Water intake estimations (Fig. 2) and mineral contents in the drinking water for animals are important for dietary mineral balances and to control mineral excretion in the manure.



Co authored article on nutrient balances in July issue of California Agriculture.

Adjusting Nitrogen Balances in Dairies

In California, dairy producers are concerned with waste management plans and nutrient management plans where nitrogen is currently the primary concern. Strategies to improve nitrogen balances for the average California dairy farm include adjusting diets according to animal requirements in order to decrease nitrogen import in feed, increasing on farm crop production and milk yields per cow per day, and exporting manure to cropping and/or other production systems. The following table shows an example of a normal nitrogen balance and some possible improvements.

	Spears (2003)	Improved N Balance	
	ton N/yr	ton N/yr	
TOTAL INPUTS	126	101 (-20%)	
feeds	106	81 (i)	
fertilizers	5	5	
bedding	1.3	1.3	
animals	1	1	
fixation	13	13	
TOTAL OUTPUTS	45	54 (+20%)	
animal products	28.5	34 (ii)	
crops	1.0	1	
dry manure	15.5	19 (iii)	
BALANCES (ton N/yr)	81	47	
BALANCES (%)	36	53	

(i) reducing 20% feed imports by increasing ~10% crops and restricting ~10% nitrogen in the diet
(ii) increasing nitrogen in animal products in 5.5 ton/yr
(iii) increasing export manure nitrogen in 3.5 ton/yr

Fig. 3. Normal nitrogen balance and some possible improvements.

Labor Management

Gregory Billikopf, *Farm Advisor*
(Cross County with Stanislaus/Merced /San Joaquin Counties)



Website, books, and meetings on personnel management are offered for producers and labor management. Negotiation and conflict management are expertise to be shared by Dr. Billikopf.

Agronomic Crops

Bill Weir, *Farm Advisor Emeritus*



Farm Advisor Emeritus Bill Weir continued his service to cotton growers in Merced County during the 2009 season. Bill assisted with the variety trials on the west side that looked at both Pima and Upland cotton varieties. The annual cotton variety trials have been conducted annually by UCCE Farm Advisors since the early 1980's.

Student Support

Kyndel Burgfeld, UCM, *Student Assistant*

Daniel Brooks, SCU, *Student Assistant*

Andrew Ray, Cal Poly, SLO, *Student Assistant*

Ernesto Mora-Lua, UCM, *Student Assistant*

Shane Ross, UCM, *Student Assistant*

Students from our California universities participated in Merced County's U.C. Cooperative Extensions research and programs. This year these students assisted with our Advisors' research in water quality, sweet potato and tomato crops, drip irrigation, fumigation alternatives, and the 4-H Robotics Program.

Master Gardener Program



David Doll, *Farm Advisor*



The 11 members of the 2009 class of Merced County UC Master Gardeners

Merced County's First UC Master Gardener Class Completes Their Training

Eleven volunteers from three different communities within Merced County completed their training to become the first graduating class of certified UC Master Gardeners in Merced County. Trainings were held in collaboration with Mariposa County. The eleven volunteers joined the ranks of our two existing UC Master Gardeners. Since graduating the volunteers have worked to make the public aware of their services by participating in community events such as the County Fair, Earth Day events, and talks at local service organizations.

Of the 13 volunteers, four are from Le Grand, eight from Merced, and one from Atwater. Training in 2010 will recruit more volunteers and provide the ability to become involved in more programs.



Merced County UC Master Gardeners Assist in School and Community Garden Development

Mitchell Elementary in Atwater and Fremont School in Merced held planting days in which Master Gardener Volunteers worked with teachers to demonstrate the planting of vegetables and flowers. The gardens gave the children a chance to get their hands dirty, learn about plants, and watch their work transform from seed to flower. Working with Golden Valley Health Center, the UC Master Gardeners have developed a community demonstration plot which will be used to help educate the South Merced public about gardening. Three demonstration modules are planned for 2010, with one beginning in February, May, and September. The demonstration plot is the first phase of the development of a 36 plot community garden.



Diane Penders, a Merced County UC Master Gardener, works with teachers at a local elementary school to educate children about gardening.



Presentations Delivered: 12
Community Events Attended: 12
House Visits: 10
Trainees Selected for 2010 Training: 26
Direct Contacts made: 3,517



Nutrition, Family, and Consumer Science

Terri Spezzano, *NFCS Advisor (Stanislaus/Merced)*



FSNEP

Restarting the Food Stamp Nutrition Education Program (FSNEP) again in Merced County has been a challenge but has slowly been picking up. In 2009 our Representatives started working in this exciting and motivating journey in educating low-income families on the importance of nutrition using the “Eat Smart, Being Active” curriculum, and using the “Making Every Dollar Count” curriculum to help families save money and balance their budget when buying food.

Their main focus during the year was recruitment for both youth and adult programs and involvement in the community so that our program can be expanded and continue the Adult Education in Nutrition and physical activity.

Youth Development

The Youth FSNEP Program offers free nutrition curriculum to low-income schools in Merced County. Our curriculum meets the California School Standard and each curriculum is designed specifically for a certain grade level. We currently have a Memorandum of Understanding (MOU) with Dos Palos Oro Loma Joint Unified School District, Gustine Unified School District, and Merced County Office of Education-ASSETS Program. This year we worked with 13 teachers at Bernhard Marks Elementary and Dos Palos High School. Teachers who signed up with the program were offered free training and a “Super Size Lesson” ticket. In July we trained 90 teachers from the ASSETS program on how to use “Reading Across MyPyramid”, “Eat Fit/Walk Fit” and “Power Play” curriculum. The “Super Size Lesson” ticket is an incentive to our hard-working teachers. This ticket entitles the teacher one lesson of their choice taught to their students by a program representative.



Adult Program



In the adult program, we continue to be active with our partnership agencies: Central Valley Opportunity Center (CVOC), Merced Lao Family Community, Inc., Human Service Agency (HSA), and Nineh Outreach Inc. Throughout the year we have reached hundreds of participants through direct delivery, health talks, and events. One of our roles with the Nineh Outreach is to attend food pantries and show participants how they can make a healthy meal with the food they receive. Being able to work with these agencies, we have been able to reach families and provide them with life style skills in making healthier food choices, keeping their families healthy, active and learning about each area of the MyPyramid.

Our goal for the future is to continue to expand throughout Merced County and educate more families in nutrition and money management.



4-H Youth Development

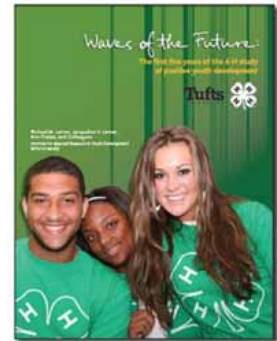


Richard Mahacek, 4-H Youth Development Advisor

As 4-H Youth Development Advisor I focus on both engagement of youth and in youth development. In advancing the field of youth development I serve on the county WIA Youth Council, the P-16 Council, and on the California Endowment's Building a Healthy California, planning for South Merced and Eastern Merced County. I represent non formal education and positive youth development and have assisted in goal setting, k-12

4-H Study of Positive Youth Development

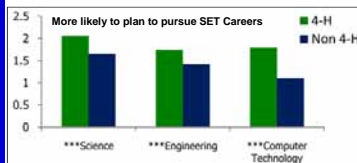
Richard Learner of Tufts University has been working on National Study on Youth Development to look at how positive influences in the lives of youth help protect them from getting involved in "problem behaviors." This was the second year that I had Merced County youth participate in this longitudinal study about youth development. Data from the prior years shows positive impact in youth development and specifically in 4-H programs.



Tufts's study shows 4-H participants are more involved than youth in other programs or not in any youth program.

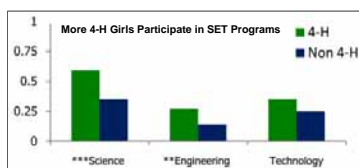
Compared to other youth, 4-H'ers excel and are:

- 25 percent more likely to contribute to their families, themselves, and their communities.
- More likely to see themselves going to college compared to other youth.
- 41 percent less likely to engage in risk/problem behavior.
- Higher scores on goal setting and goal management



Key findings show that 4-H youth are more likely to:

- Perform better in subjects related to SET compared to their classmates,
- Plan to pursue careers in SET, and
- Have higher levels of female involvement in SET programs



4-H Science Engineering and Technology Mission Mandate

In 2009 I finished 5 years serving on the national 4-H SET Leadership Task Force. This service has been invaluable for the work I do locally and as part of the five person Leadership Team for the California 4-H SET Initiative. I coordinated part of a statewide 4-H SET training with one site in Merced in February of 2009. I presented on 4-H SET at the National Society of Women Engineers conference in Long Beach.

Also highly related to the Youth development study above are the findings on 4-H participation in the national 4-H SET program efforts. 4-H youth are more likely to choose careers in SET and more girls are more likely to participate in 4-H SET programs than those in other organizations

Tools of the Trade II and the T3 trainings

I recruited a team of afterschool program leaders in Merced to attend the state 4-H sponsored Tools of the Trade II workshop at UC Davis in May. This included Merced City parks and recreation, MCOE afterschool program staff and 4-H. Following the workshop, we conducted trainings at the ASSETS summer conference for afterschool staff and then we lead monthly workshops for teens, volunteers and afterschool staff on these and other topics.



4-H Youth Development continued



Russell Hill, 4-H Program Representative



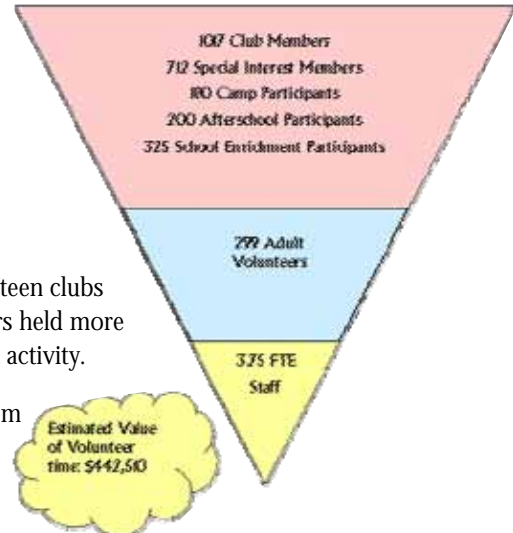
Young people become confident, mature adults ready for success in today's challenging world through 4-H. 4-H is the largest youth serving organization in the United States. 4-H is a place where young people are given many opportunities to build confidence, learn responsibility, and develop skills that will last them a lifetime. It's a place where youth make friends and share interests, ranging from

building robots to raising rabbits, from designing web pages to landscape design. It's a place where youth work together to make a positive difference in their community, and adult volunteers make a powerful difference in the lives of young people.

4-H Delivered

In 2009 Merced had a ~27% increase in participation over 2008. Seventeen clubs represent almost 1017 youth and 299 adult volunteers. Those volunteers held more than 1800 educational meetings with more than 19000 hours of project activity.

4-H youth and volunteers spent the last year implementing findings from the 2008 year's planning process to help improve participation, learning opportunities, and inter-club interaction.

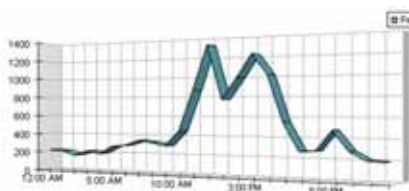


Science and Adventure Camp

4-H Goes Green was the 2009 Science and Adventure Camp theme where 22 high school staff, 14 adult chaperones, 120 campers 4-8th grade, and 5 other adult helpers worked together for 5 days and 4 nights at Camp Sylvester in Pinecrest, CA. We also had 6 youth who had family members actively serving in the Military attended our camp as part of the 4-H Military Partnership.

Agricultural Literacy

Nearly ten thousand visitors toured Old MacDonald's Farm, an agricultural literacy project that we recently took on for the Merced County Fair, included in this were almost 700 school aged children who signed up for group tours. Individuals, projects, and clubs each develop, design, and create displays that showcase the value of agriculture to consumers.



4H Web site

The county 4-H web site has provided information and resources for our members, volunteers and parents. We find that peak daily usage at noon, 3 pm and a smaller increase at about 8pm. We use this data for posting and blogging to meet their needs.

4-H Youth Development continued

After-school



During the summer of 2009 Merced County 4-H Youth Development staff presented Tools of the Trade II and robotics curriculum to ASSETS after-school staff at their annual summer planning conference. From that conference we had three middle school sites in the city of Merced and three school sites in Delhi sign up to participate in robotics curriculum and activity. The goal of robotics is to make science, engineering, and technology engaging and meaningful in the lives of young people. The activities do this by encouraging youngsters to use the processes and approaches of *science*, the planning and conceptual design of *engineering*, and the application of *technology* in their personal portfolios of skills and abilities.

Citizenship, Leadership, Life skills

Youth leaders, club officers, county All Stars, adult volunteers, club leaders, and members of our county management team attended a leadership retreat at Camp Pacifica near Oakhurst. The retreat was a direct result of our strategic plan to promote more interaction between club members from throughout the county. Youth planned the year for their community clubs, developed a budget, and learned specific tools to carry out the duties of their office.



Teen and Teacher Training (T3)

Beginning in October teens, 4-H volunteers, and after-school staff were invited to attend a series of professional development workshops hosted by the 4-H Youth Development staff in the UC Cooperative Extension Classroom. The workshops focused on methods to adapt and teach Science, Engineering, and Technology curriculum in after-school settings, 4-H projects, and summer camps.

Merced Focus

A unique citizenship educational experience that combines hands-on participation in workshops, debates, and simulations with outstanding speakers and visits to historical, cultural, and governmental sites at in Merced. The 2009 theme was "Keeping it Green", the 20 youth who participated in Merced Focus had an opportunity to visit Gallo Dairy, Merced County landfill, recycling plants, MCAG and attend a County Board of Supervisor's Meeting. Youth also met with the staff of local, state, and federal elected officials to ask questions and hear what actions were being taken to "Keep It Green". Youth then created presentations on their findings and presented them to citizens, business people, and politicians of Merced County.



Cooperating with and serving Merced County since 1917

Farm Advisors ...

... work to enhance California agricultural productivity and competitiveness. Together with farmers, pest control advisors, and industry representatives, they identify current and emerging agricultural opportunities and problems. The advisors collaborate with campus-based Cooperative Extension specialists and Agricultural Experiment Station scientists to research, adapt, and field-test agricultural improvements or solutions and promote the use of research findings.

Nutrition, Family and Consumer Sciences Advisors ...

... focus on nutrition, food safety, food preparation, food preservation, and finance management. Collaborative partnerships with government and private agencies extend the reach of UC advisors. Workshops, public meetings, newsletters, the mass media, and other communications tools bring information to the community.

4-H Youth Development Advisors ...

... provide meaningful, learn-by-doing educational activities to children in 4-H clubs, camps, school enrichment and after-school programs. They also provide information and resources for youth development to the community.

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