

Santa Barbara County Cooperative Extension Programs Progress Report July-September, 2013



UC CalFresh Nutrition Education Program representatives collaborate with a nutrition education volunteer group from the Santa Barbara Foodbank. The foodbank donates fruits and vegetables that are used to create healthier dishes for parents to make at home for their family members.

ADMINISTRATION

Note: This progress report covers the period from July 2013 – September 2013.

County Director Mary Bianchi kept in contact with SB Agricultural Commissioner Cathy Fisher throughout the quarter, meeting in person on October 2nd. Mary Bianchi worked closely with UCCE academics and staff to provide input to Cathy Fisher and to the Santa Barbara County Board of Supervisors that supported decisions regarding continuation of funding for UCCE activities in Santa Barbara County.

Rose Aigner provided administrative/clerical support to the 4-H and Master Gardener programs in Santa Barbara County.

A representative from UCCE attended meetings of the Agricultural Advisory Committee and Farm Bureau meetings during the quarter, with the exception of the September Agricultural Advisory Committee in September, due to a scheduling change.

Rangeland and Watershed Advisor Dr. Royce Larsen serves on the Santa Barbara Agricultural Preserve Committee and he attended all the meetings during the quarter.

Advisors will be adapting the format of this report to streamline presentation of activities and impacts for future editions. All activities will continue to be presented in appendices to the report.

NOTABLE HIGHLIGHTS FROM THE REPORT

Mark Battany (Viticulture & Soils Advisor)

Mark continued his air temperature profile measurements at three sites in Santa Barbara County, and plans to develop the most comprehensive understanding to date of how air temperature varies with height above ground, which is critical to determine the optimum height of vineyard trellising in order to address increased vineyard frost risk in winter and heat damage in summer. Mark also published his September 2013 *Grapenotes* newsletter which addresses the extensive drought conditions and provides growers a better understanding of water-loss mechanisms to help them extract maximum benefit and utility of their available water.

Surendra Dara (Strawberry and Vegetable Crops Advisor)

Surendra helped growers in diagnosing Pallidosis related decline of strawberries and promptly provided information related to this disease plus management options. He conducted studies of strawberry fungicide and jalapeno evaluations in products that promote plant health and growth. He also hosted a strawberry meeting with 77 attendees and several media groups, produced a bagrada bug video, published two newsletters, and authored two articles and six blogs. During this quarter Surendra's extension efforts reached 801 people.

Mark Gaskell (Small Farms & Specialty Crops Advisor)

Mark continued his research and education project, “A Collaborative Research and Extension Network for Sustainable Organic Production Systems in Coastal California,” which involves organic strawberry production, fertigation, and application of organic fertilizers through drip irrigation systems. Mark received a grant from CDFA for research to support irrigation management of strawberries, caneberries, blackberries and blueberries. He is also conducting blackberry pruning trials and commercial coffee planting trials including establishing plants in between avocado trees to improve farm income while improving water and nutrient efficiency.

Max Moritz (Wildfire U.C. Cooperative Extension Specialist)

In a continuing collaboration with the Santa Barbara Botanic Garden, Max mentored volunteers to contribute to the live fuel moisture sampling program at the two new sites in Santa Barbara County. The time series continues to grow, and an account has been created for upload to the National Fuel Moisture Database; exchange is also pending with the Southern California Geographic Area Coordination Center for inclusion into their regular fuels discussion updates. Max also had multiple discussions with local author/journalist Ray Ford and took him into the field to show him details of the live fuel moisture program.

Ben Faber - Soils and Water, Avocados and Minor Subtropicals Advisor

Ben Faber continues to provide evidence based information through farm calls and phone calls to subtropical growers in Goleta, Carpinteria and Montecito. Additionally Ben has fielded 5 emails in the last 3 months from people outside the area who are interested in growing avocados here. He attended and presented at the Carpinteria Avocado Festival in October and presented a talk to a grower group on native bees in July and on avocado rootstocks at the California Avocado Society Meetings in September. Ben has initiated an avocado pollination study in Carpinteria, evaluating the different native bees and their effect on avocado production.

4-H

4-H staff supported the Vandenberg AFB 4-H military program of 62 youths who participated in five different 4-H projects. 4-H held its annual review and enrolled and re-enrolled 599 youth in the 4-H hotline. 4-H adult volunteer orientation resulted in reappointment of 162 volunteers and the addition of 31 new adult volunteers. The program plans on establishing a second club in Carpinteria, and it was busy with events such as 4-H Club Officer Book Judging, Annual Club Leadership Training, the 4-H UC Davis State Leadership Conference, Camp Wahoo!, YMCA Family Day, and the Lemon Festival. 4-H staff also supported volunteers in reaching 200-300 families through the THRIVE Healthy School Pantry Program.

UCCE Master Gardeners

This quarter Master Gardeners volunteered 581 hours to educate the community on water conservation, integrated pest management, composting, sustainable landscape, and reduced urban pesticide use. They held two public workshops: “Growing Sensational Succulents,” and “Good bug/Bad Bug-Who’s in your Garden?” They participated in the Sol Food Festival, providing the public with information on home drip irrigation and included a demonstration on tomato grafting. Master Gardeners continue their monthly collaboration with the Santa Barbara

Foodbank and volunteered at an information table at the downtown Farmer's Market twice each month.

UC Cal Fresh

This quarter, the program brought in two new staff members to meet community needs. Program efforts were concentrated in the Santa Maria Bonita School district where 12 of 15 qualifying K-6 schools participate in youth nutrition education, 150 K-6 educators enrolled and are using UC CalFresh curriculum, approximately 4500 students are being reached with unduplicated curricula for each grade, and on average, educators are teaching 15 to 20 hours of nutrition education per quarter. UC CalFresh also worked with two elementary schools to teach youth and adults nutrition through the school's garden program.

UNIVERSITY OF CALIFORNIA SANTA BARBARA COUNTY COOPERATIVE EXTENSION PROGRAMS

PLANT SCIENCES/HORTICULTURE

**Advisors Dr. Surendra Dara Dr. Ben Faber, Mark Battany,
Mary Bianchi, and Dr. Mark Gaskell**

This program specializes in the science and art of growing fruits, vegetables, flowers, and ornamental plants. Advisors conduct local field research to test new crops and varieties that are best adapted to local soil and water conditions, implement improvements in cultural practices and pest control methods, and offer information that optimizes production, conserves natural resources, and protects the environment.

SURENDRA DARA - STRAWBERRY AND VEGETABLE CROPS & AFFILIATED IPM ADVISOR

Pallidosis-related decline of strawberries emerged as a major concern for some growers in the Santa Maria area. Surendra promptly worked on extending information related to this disease, vectors involved, and management options, including a short outreach video on Youtube (http://www.youtube.com/watch?v=m1YRRE_PY8s) with 195 views to date.

He also helped growers in diagnosing the disease in collaboration with Agricultural Commissioner's Office and participated in grower meetings to provide input on this issue.

Surendra's outreach efforts also included a video on the Bagraada Bug <http://www.youtube.com/watch?v=gSj3AZoJIRM> with 483 views to date. In addition, he published two newsletters, authored two newsletter articles, wrote six blog articles, co-authored one Pest Alert, one conference proceedings article, and one technical article in American Vegetable Grower. He was interviewed by TV and other media groups and related articles or news items that appeared in eight sources. One of his articles was republished in Growing Produce. He also contributed to the UCCE pest management guidelines. He also conducted a successful vegetable meeting that was attended by 77 people and gave a talk at this event.

Surendra conducted research trials during this period that included strawberry fungicide evaluation trial, monitoring natural enemy populations in organic and conventional strawberries, and a trial in jalapenos to evaluate products that promote plant health and growth.

Through his meetings, field visits, phone calls, and other means of communication, Surendra reached out to 801 people.

BEN FABER - SOILS AND WATER, AVOCADOS AND MINOR SUBTROPICALS ADVISOR

Ben Faber continued his work with Santa Barbara County subtropical fruit growers, providing evidence based information via phone and email regarding production issues, with more than 90 contacts during this quarter. Ben has also spear-headed the development and delivery of a Topics in Subtropics blog (<http://ucanr.edu/blogs/Topics/>) with current information for growers of subtropical crops. This readily accessed information on crop production had 7,686 direct hits during this report period, demonstrating the value of science-based information for clientele of UC programs. Although no ability to collect access data specifically for Santa Barbara County exists, this information is readily accessible for local producers.

He attended and presented at the Carpinteria Avocado Festival in October and presented a talk to a grower group on native bees in July. Ben worked with Dr. Carol Lovatt to organize and present a field day on research trials assessing rootstock/variety combinations for attendees of the California Avocado Society Meetings in September. At these meetings, Ben introduced and presented the Avocado Society Oliver Atkins Award of Excellence to Mary Bianchi on behalf of the Society. Ben has initiated an avocado pollination study in Carpinteria, evaluating the different native bees and their effect on avocado production.

MARK BATTANY - VITICULTURE & SOILS ADVISOR

The extensive drought conditions on the Central Coast have led to increased interest and scrutiny on water use in agriculture. Winegrape vineyards typically use less water per acre than many crops, but under conditions of water scarcity even their use needs to be looked at carefully for potential conservation savings. This was the focus of Mark's September 2013 *Grape Notes* newsletter, in which he explained the various sources of non-productive water loss from vineyards. If growers can address and reduce such losses, they will be able to reduce the amount of water required per acre while maintaining yields. This type of information will be increasingly important to help guide vineyard management and development decisions in the future, particularly in areas where growers may face cutbacks on the amount of water they have available. Under such conditions, a better understanding of the water-loss mechanisms will help growers extract the maximum benefit and utility from their available water.

Mark continued 2013 temperature profile measurements at differing grapevine training heights at three sites in Santa Barbara County, after beginning the measurements last winter. Together with the measurements at four similar sites in San Luis Obispo County, he plans to develop the most comprehensive understanding to date of how air temperature varies with height above the ground

throughout the growing season in the Central Coast region. This information is critical for helping growers determine the optimum height of vineyard trellising, and in particular, can help growers avoid poor trellising decisions. Unwise choices of vine training height can subject the vineyard to increased frost risk in the spring and summer, as well as more risk of heat damage in the summer. This project seeks to accurately quantify the potential temperature risks associated with different vine training heights. To carry out this assessment Mark measures temperatures very precisely at one-foot height increments from one to eight feet above the ground at locations representative of the different growing areas in each county. This project received funding support from the American Vineyard Foundation through 2013 and into the spring of 2014.

MARK GASKELL - SMALL FARMS AND SPECIALTY CROPS ADVISOR

UC Small Farms and Specialty Crops Farm Advisor Mark Gaskell is a collaborator on a research and education project with organic strawberry production that is applying outside funding in support of Santa Barbara County agriculture. The project entitled “A Collaborative Research and Extension Network for Sustainable Organic Production Systems in Coastal California” has been funded by the USDA National Organic Research program. Mark is part of a network of advisors and other UC faculty from Salinas, Santa Cruz, Watsonville, and UC Davis working as part of a research / extension network supported by this project.

As part of this three-year project, Mark is conducting field trials on organic strawberry management with collaborating growers in the Santa Maria Valley. These trials examine the factors limiting efficient organic fertilization practices for strawberry with emphasis on fertigation and application of certified organic fertilizers through drip irrigation systems. Additional trials are also evaluating the application of biochar and its effect on long-term improvement in soil organic matter on the light textured soils commonly used for strawberries in the Santa Maria Valley.

Varying organic fertilizer rates were evaluated at an organic farm in the Santa Maria Valley beginning in late 2012 and weekly fertilizer treatment regimes continued during the first 5 months of 2013. Data collection began in February 2013 with weekly soil sampling and measurement of soil nitrogen. Yield data collection began in March 2013 and continued until early June. That data is now being analyzed and summarized and initial results will be presented at grower meetings during 2013 and 2014.

New separate organic fertigation trials are now established on a site provided by a Santa Maria strawberry grower to evaluate different alternative fertilizer injection regimes. The fertigation system is designed with ports to allow sampling of system pressure, emitter discharge, and sampling of the irrigation solution directly from the lines and at different points along the system during fertigation. Samples from these ports will be compared to samples collected from drippers and the nitrogen content analyzed to compare different fertigation practices and their effects on fertilization efficiency and nitrogen use. These trials will continue in 2013 and 2014.

Mark has an additional grant from the California Dept. of Food and Agriculture to support research and outreach programs in Santa Barbara and San Luis Obispo counties in support of

irrigation management of caneberries, strawberries, and blueberries. He has additional research trials underway evaluating surplus and deficit irrigation regimes and their effects on production and post-harvest quality of blackberries. Results from these trials will be presented at future caneberry grower meetings.

Mark conducted blackberry pruning management trails on fields of a collaborating grower in Santa Barbara County off of Highway 135 between Los Alamos and Lompoc. These trials have been evaluating different mow-down and tip pruning regimes for new primocane fruiting blackberry varieties under high plastic tunnels. Data has been collected on timing of production, and marketable fruit yield and size from the different mow down treatments. Harvest ended in those fields in late September, 2013 and data is now being analyzed and summarized. An annual caneberry grower meeting will be held in early 2014 to report results from these and other studies underway in California and to update growers on additional topics important to the expanding caneberry industry.

Coffee trials are continuing in southern Santa Barbara County near Goleta and Carpinteria. Commercial coffee plantings have now been established on three farms in the area and there is also a variety trial at each farm. Coffee production has now begun on all three farms and diverse additional growers from Santa Barbara all through Ventura, Los Angeles, Orange, and San Diego counties have expressed interest in planting coffee. Additional coffee varieties were planted at Condor Ridge Ranch near Goleta during the reporting period. These new plants will eventually be planted out on additional farms in the Santa Barbara area where coffee variety trials are continuing to be established.

New plantings of coffee have been successfully established in avocado orchards, planting coffee between avocado trees. This alternative of intercropping coffee with avocados appears to offer promise as a way to improve farm income and diversify the crop offering while improving on water and nutrient use efficiency.

A new trial planting also has been established in a Morro Bay avocado orchard and in an additional frost-free site near Cambria in San Luis Obispo County to determine if coffee will ripen normally this far north and produce acceptable coffee quality. These additional plantings, if successful, will still be processed and marketed by Goodland Organics at Condor Ridge Ranch in Goleta.

FIRE ECOLOGY AND MANAGEMENT UCCE Specialist Dr. Max Moritz

This program is focuses broadly on scientific questions in fire ecology and management. Research includes analysis of where various fuel management techniques are likely to succeed and be sustainable, mapping of fire weather patterns, and quantifying linkages between fire and climate change. Outreach efforts emphasize fire-related policy decisions and education of the general public to live more safely on fire-prone landscapes.

During this quarter Specialist Max Moritz continued to develop his fire research and outreach program based out of the Santa Barbara County Cooperative Extension office in Goleta. This included ongoing attendance and communication with the Santa Barbara Fire Safe Council (including membership of Board of Directors). He also attended the Santa Barbara County Agricultural Advisory Committee meeting on July 3 and provided an update on his fire programs.

In a continuing collaboration with the Santa Barbara Botanic Garden, Max mentored volunteers to contribute to the live fuel moisture sampling program at the two new sites in Santa Barbara County. The time series continues to grow, and an account has been created for upload to the National Fuel Moisture Database; exchange is also pending with the Southern California Geographic Area Coordination Center (official multi-agency focal point for coordinating wild-land fire resources) for inclusion into regular fuels discussion updates. Max also had multiple discussions with local author/journalist Ray Ford and took him into the field to show him details of the live fuel moisture program.

**UC CALFRESH NUTRITION EDUCATION PROGRAM (UC CalFresh NEP)
Advisor Katherine Soule, Program Representative III Kimberlee Hampton, Program
Representative II Lisa Paniagua, Program Representative II Yvette Serrano,
Program Representative I Melissa LaFreniere**

The University of California's CalFresh Nutrition Education Program (UC CalFresh NEP) is funded by the USDA and delivered by the University of California Cooperative Extension to San Luis Obispo and Santa Barbara Counties. In collaboration with local partners, UC CalFresh provides evidenced-based nutrition education to CalFresh recipients and other low-income individuals and families. It acts as a vital bridge with the community by tailoring the latest science, curriculum, and nutrition information to the needs of low-income families.

The program also provides educators at qualifying schools with research-based nutrition education curriculum and high-quality nutrition education training utilizing the USDA MyPlate as a guidance tool. Recognizing that healthy eaters are better learners, the goal is to help these community members make better nutrition decisions by focusing on increasing vegetable and fruit consumption, choosing low-fat/low-sodium foods, and balancing caloric intake by an awareness of portion size.

The program continues to address community needs through partnerships with Santa Barbara County Food Bank, THRIVE! Santa Maria Parent Educator Consortium, and Partnership for Fit Youth, as well as through collaboration with Santa Barbara County Public Health, Dignity Health (Marion Medical Center), and Santa Maria Bonita School District THRIVE! Cradle to Career.

This quarter, the program bought two new staff members to meet community needs and requests for programing. These positions include a Program Representative II that is working as a bilingual educator with adults, as well as an additional Program Representative I.

UC-Cal Fresh NEP's Santa Barbara programming efforts have been concentrated in the Santa Maria Bonita School District (SMBSD) in Santa Maria:

- 12 of 15 qualifying K-6 schools participate in school-wide youth nutrition education.
- 150 K-6 educators have enrolled and are using UC CalFresh NEP curriculum in the classroom.
- Approximately 4500 students are being reached with unduplicated curricula for each grade level.
- On average, educators are teaching 15-20 hours of nutrition education per quarter.
- Adult nutrition education series are being offered to families through 4 elementary schools.
- UC CalFresh has worked with School Garden Programs in 2 elementary schools to begin teaching youth and adult nutrition from the school's garden.

UC CalFresh NEP continues to collaborate with SMBSD-Thrive, Cradle to Career and Santa Barbara County Food Bank. Each monthly UC CalFresh NEP provides nutrition lessons and food demonstrations to approximately 250 families at Santa Maria Veteran's Memorial Building (reaching Bruce and Fairlawn elementary families), as a part of "Healthy School Pantry." Additionally, UC CalFresh NEP provides nutrition lessons and food demonstrations to approximate 40 families at Evans Park Housing Authority, Santa Maria (reaching Rice elementary families), as a part of "Healthy School Pantry."

MASTER GARDENERS

Advisor Mary Bianchi & Program Representative II Fiona Brennan

UCCE Master Gardeners (MGs), through their volunteer activities, provide the primary outreach and extension method for improving horticulture and science literacy for homeowners and back yard gardeners. They provide research based information for home horticulture, pest identification, landscape management, and other environmental and natural resource information. They interact directly with homeowners and back yard gardeners to provide information on plant selection, alternatives to pesticides, water conservation, and environmentally sound solutions for pest problems.

MG Program goals are to support healthy people and communities, healthy food systems, and healthy environments in Santa Barbara County through the extension of research-based knowledge and information on home horticulture, pest management, and sustainable landscape practices.

There are 53 Master Gardeners in the Santa Barbara County Program as of September 30, 2013.

Important outreach and education activities for the Master Gardener Program in Santa Barbara County resulted in 619 educational contacts through the following volunteer events:

- Master Gardeners volunteered 581 hours to community education on sustainable gardening. Using the estimate of \$22.14 for volunteer hours (http://www.independentsector.org/volunteer_time), this represents \$12,868 in support of education that includes water conservation, integrated pest management, composting, and reduced urban pesticide use.
- Master Gardeners provided information and resources on sustainable landscape practices through a telephone helpline for a total of 16 hours.
- In July, a very well attended public workshop took place, called “Growing Sensational Succulents.” It was presented by Master Gardeners Anne Chewing and Kristin Lewis and Tony Krock of Terra Sol Garden Center. The workshop covered topics such as how to grow succulents, propagation of succulents, and creative ideas for planting them in landscapes.
- Master Gardeners held a public workshop on “Good Bug/Bad Bug- Who’s in YOUR Garden?” presented by Master Gardener Bob Lloyd and Kyra L. Rude of Rincon Vitova Insectaries. The presentation covered interesting topics such as how to attract and keep beneficial insects in the garden, how to identify a beneficial insect versus a pest, insects and their importance to the Soil-Food Web and biological controls were also explained.
- In collaboration with the Santa Barbara Horticultural Society, the Master Gardeners provided an information table to support their two day plant sale which was held at the Santa Barbara Home and Garden Expo. They provided a resource to attendees who had questions on their garden or were interested in the technicalities of a plant. We thank the Santa Barbara Horticultural Society for inviting us to their event.
- For the second year in a row, we had a booth at the Sol Food Festival. It is a great opportunity to connect with the community and we had seventy visitors come by our booth at this one-day event. This year we requested time to present two topics at the Making Change stage. Master Gardener Gary Kravetz presented a 15 minute demonstration on Home Irrigation and a publication from UCANR on Drip Irrigation in the Home Landscape was available for sale as a resource. Master Gardener Bob Lloyd provided a demonstration on Tomato grafting and explained grafting and a handout was provided to attendees. Both were well received and attended.
- Master Gardeners continue their monthly collaboration with the Santa Barbara FoodBank – “Grow Your Own Way”. The project distributes seeds and educational instruction and promotes gardening for home food production. There are at least two bilingual Master Gardener volunteers that are present to help give gardening

information and answer any gardening questions the client may have. Approximately 80% of the clients are Spanish speaking. We play an integral role in assisting families with gardening questions and helping them grow their own food from their backyard.

- The Master Gardeners volunteer at an information table at the downtown Santa Barbara Farmers' Market. The help table is staffed two times a month, weather and staffing permitting.

SANTA BARBARA COUNTY 4-H YOUTH DEVELOPMENT PROGRAM
Advisor Katherine Soule and Program Representative III Sherry Mills
Office Assistant Rosemarie Aigner, Program Representative II Andrea Borunda

4-H is a positive youth development organization that empowers young people to reach their full potential. A vast community of more than 6 million youth and adults working together for positive change, 4-H enables America's youth to emerge as leaders through hands-on learning, research-based 4-H youth programs and adult mentorship, in order to give back to their local communities. 4-H is the youth development program of our nation's Cooperative Extension System. The 4-H Youth Development Program is brought to SB County by the University of California, Agriculture & Natural Resources.

The 4-H staff supported a 4-H military program at Vandenberg AFB by:

- Working with Vandenberg AFB Youth Center staff to complete a 4-H Military Club Program Report for the year ending June 30, 2013. The report contained the accomplishments of the 62 youth who participated in five 4-H projects: Exploring Your Environment, Cooking, Horses, Photography, and Butterflies.
- Assisting the military club leader with plans for the coming year, including planning club goals, updating the club's constitution and by-laws, and planning projects in Robotics, Cooking, and Art.

The 4-H staff provided support for the 4-H community club program and special programs in various ways, including:

- Reviewing the 2012-2013 end-of-the-year financial documentation and reports of programmatic goals and outreach efforts of each of the seventeen 4-H community clubs. This annual review process helps ensure the clubs meet the requirements necessary to maintain a 4-H Charter from the 4-H National Headquarters at the United States Department of Agriculture and the University of California Cooperative Extension.
- Handling the annual process of setting up the clubs and projects in the 4-H hotline enrollment system and enrolling new youth and re-enrolling continuing members for the new program year. During the quarter 599 youth enrolled in 4-H hotline.
- Screening adult volunteer applications, self-disclosure, and live scan reports, and assisting volunteers with orientation, training, and resources for their various volunteer

positions. During the quarter, 162 adults re-applied to continue as volunteers, and 31 new adults applied to serve in the program.

- Processing facility use applications and obtaining UC Certificates of Insurance for club and project meetings and county-wide events.
- Hosting the annual 4-H Club Officer Book Judging and 4-H Office Open House where forty-three treasurer, secretary, historian and reporter books were judged and volunteer leaders received resources to take back to their clubs.
- Working with volunteers toward establishing a second club in Carpinteria and helping them meet the requirements for applying for a 4-H Charter.
- Planning the annual Club Leadership Training and presenting 36 adult volunteers with training on best practices pertaining to their roles as club leaders.
- Overseeing the county-wide Management Board and Program Development Board, and assisting the Directors and Key Leaders with fundraising, budgeting, and program planning and implementation.
- Assisting delegations of adult volunteers and high school aged members with trips to the 4-H State Leadership Conference at UC Davis and the 4-H Citizenship Washington Focus Program in Washington, D.C.
- Helping adult and teen volunteers in the 4-H Camp Wahoo! Program provides a safe and fun residential summer camp experience for young people ages 9 – 13 years.
- Coordinating monthly 4-H outreach and hands-on learning activities presented by 4-H staff, volunteers and youth members to 200 – 300 families at the THRIVE Santa Maria's Healthy School Pantry (HSP) program, including displays on goats, cavies, beef, arts & crafts, and gardening.
- Providing hands-on 4-H Agua Pura watershed education, wildlife education, and horticultural activities to 541 visitors at the 4-H booth during the YMCA's Family Day in the Park at Waller Park in Santa Maria.
- Running the 4-H Agua Pura booth at the Lemon Festival in Goleta, where 665 individuals took part in a hands-on watershed demonstration and received watershed educational materials.

The 4-H staff supported development and expansion of the 4-H Science, Engineering and Technology (SET) Program in several ways, including:

- Exploring the idea with the SET Key Leader and committee of expanding 4-H SET programming by establishing a 4-H School Enrichment Program using the Project Butterfly curriculum at an elementary school in Santa Barbara.

- Establishing a 4-H Thrive Master Training Team of two adults, and two teens to help staff provide training to adult volunteers on how to cultivate positive attitudes and aspirations toward science, engineering and technology in junior high and high school aged 4-H leaders.
- Assisting the SET Key Leader and committee in planning a local 4-H National Youth Science Day event and new 4-H SET projects to be led by UCSB students trained as 4-H leaders to take place later in the program year.