



Santa Barbara County Cooperative Extension

Quarterly Report July -September 2014



UC CalFresh recently implemented *Garden Enhanced Nutrition Education* at two schools in Santa Maria.

The goal is to promote healthy eating habits by getting children involved in growing their own vegetables. Activities include weeding, maintaining the garden, and learning about the nutritional value of plants.

These photos were taken at Rice and Bruce Elementary Schools where second through sixth grade students began by prepping the garden for planting, and carried through to harvesting their crops, using them to prepare veggie tacos and of course eating them!

Garden Enhanced Nutrition Education is extremely popular among the children: they learn about the benefits of adding vegetables to their daily diet while having lots of fun!

Submitted by: Mary Bianchi
County Director, Horticulture Advisor
Santa Barbara County, October 31, 2014

University of California Programs, Advisors and Specialists in Santa Barbara County

PLANT SCIENCES/HORTICULTURE, led by Advisors **Mark Battany, Mary Bianchi, Dr. Surendra Dara, Dr. Ben Faber, and Dr. Mark Gaskell** 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 and markets, implement improvements in cultural practices and pest control methods, and offer information that optimizes production, conserves natural resources, and protects the environment. Advisors are called upon regularly by growers and the general public to assist in enterprise planning and problem solving.

FIRE ECOLOGY AND MANAGEMENT, led by **UCCE Specialist Dr. Max Moritz**, 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.

UC CALFRESH NUTRITION EDUCATION PROGRAM, led by Advisor **Dr. Katherine Soule**, is funded by the USDA and delivered by the UCCE to Santa Barbara County. In collaboration with local partners, UC CalFresh provides evidenced-based nutrition education to low-income individuals and families. The program provides high-quality nutrition education curriculum and training to educators at qualifying schools.

UCCE MASTER GARDENERS, led by Advisor **Mary Bianchi**, 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. Master Gardeners interact directly with homeowners and back yard gardeners to provide information on sustainable and edible landscapes, water conservation, and environmentally sound solutions for pest problems.

4-H YOUTH DEVELOPMENT PROGRAM, led by Advisor **Dr. Katherine Soule**

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 the counties by the University of California, Agriculture & Natural Resources.



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Administrative Accomplishments for UCCE

UCCE County Director Mary Bianchi

The Challenge

Communities beyond the reach of the land grant campuses of the University of California present special challenges for outreach and extension. Cooperative Extension is the public education arm of the University of California's Division of Agriculture and Natural Resources.

Cooperative Extension provides a direct link between all citizens of Santa Barbara County and the research, teaching and public service activities of the University. Our mission is to extend research knowledge and information to empower people to improve and enhance their lives.

We represent a unique partnership between the University of California, the County of Santa Barbara, and the United States Department of Agriculture.

Addressing the Challenge

County Director Mary Bianchi kept in contact with Agricultural Commissioner and County Administrative Office staff throughout the quarter, adapting our 2014/2015 contract to comply with Santa Barbara County's new 2014 contract template.

Director Bianchi searched for and successfully identified a new UCCE office location in Goleta, supporting ongoing lease negotiations. The move to this new location is expected to occur during the October to December quarter. The University of California is continuing its commitment to programs in Santa Barbara County by agreement to a 5-year lease for the facility.

On August 27 and 28, continuing UCCE long-range planning for program support for Santa Barbara County, Mary Bianchi and Agriculture and Natural Resources Associate Vice President Bill Frost met with CEO Miyasato and Supervisors Lavagnino, Farr, Carbajal, and Wolf (Bianchi only) to discuss future Advisor positions.

Results of July drought impact surveys of key agricultural stakeholders, used to report drought impacts to the SLO Board of Supervisors were provided to the Office of Emergency Services Drought Task Force.

Rangeland and Watershed Advisor Dr. Royce Larsen served at all meetings of the Santa Barbara Agricultural Preserve Committee during the quarter, supporting informed land use planning decisions by the committee.

Santa Barbara County Agricultural Advisory Committee meetings in July, August, and September were attended by Mary Bianchi or Soils/Water/Subtropicals Advisor Ben Faber, sharing information on UCCE current local research and upcoming education programs, as well as future Advisor positions proposed to support agriculture in Santa Barbara County.



Cooperative Extension Advisors celebrated the Centennial year of Cooperative Extension in California with an outreach and education booth at Santa Barbara County Farm Bureau's Celebrate Harvest event August 23rd in Los Alamos.

Public Value

The University of California Cooperative Extension programs in Santa Barbara County:

- Ensure that science-based information developed by the University of California is available to all the people of Santa Barbara County through outreach and education provided by UCCE programs
- Narrow the gaps in information needed by county agencies and constituents to inform policy and decision-making through local research into questions & issues unique to Santa Barbara County.
- Bring together the resources and expertise of the University of California and local partners to develop solutions to local problems.
- Provide research and information to local partners on practices or programs that reduce costs or increase benefits for the people and environment of Santa Barbara County.

4-H Youth Development Program

Advisor Dr. Katherine E. Soule and Program Representative Andrea Borunda

The Challenge

Communities of scientifically literate, well-informed, and actively engaged citizens are essential to create positive changes needed to solve important issues facing our nation and help us to prosper in a global economy.

The University of California 4-H Youth Development Program provides training and resources to local volunteers who partner with youth to bring about positive change in our communities. The 4-H program equips youth with hands-on science activities, healthy living knowledge, leadership experiences, and service-learning opportunities. Participation in 4-H prepares youth to understand and acquire the skills that will allow them to become problem-solvers and astute leaders.

Addressing the Challenge

4-H staff supported the delivery of positive youth development programming to youth and families in the county through various events and activities, including:

- Hands-on learning activities presented by 4-H staff, volunteers and youth members to over 500 visitors at the THRIVE Santa Maria's Healthy School Pantry (HSP) program, including displays on cavies, nutrition, arts & crafts, and gardening.
- Hundreds of Santa Barbara County youth members participated in the 2014 Santa Barbara County Fair. 4-H volunteer project leaders, 4-H members, and parents contributed a significant amount of their time and resources to the fair and by providing exhibits of livestock, hand-made items and educational displays.
- 4-H volunteers participated in the programs annual 4-H Camp Wahoo! This program provides a safe and fun residential summer camp experience for young people ages 9 –13 years.
- A delegation of eighteen teens and five adult chaperones traveled to UC Santa Cruz to attend the California 4-H State Leadership Conference August 14 – 17, 2014. The 4-H State Leadership Conference brings together high school youth from across California in a four-day leadership training, networking, and learning experience.
- Agua Pura watershed education activities were provided to over 500 visitors at the 4-H booth during the YMCA's Family Day in August.
- At the Lemon Festival in Goleta, 15 Santa Barbara County 4-H youth members and Adults helped run the 4-H Agua Pura booth, where over 400 individuals took part in a hands-on watershed demonstration and received watershed educational materials.



Playa del Sur 4-H Youth members participated in hands-on 4-H Agua Pura watershed education activities at the Goleta Lemon Festival.

Public Value

In Santa Barbara County, the University of California 4-H Youth Development Program is focused on providing youth with opportunities to develop strong, positive youth-adult partnerships while engaging in meaningful activities, which lead to:

- Reduced participation in risky behaviors (e.g. underage drinking, pregnancy, gang activity), which can decrease related public costs.
- Increased academic success and/or science literacy, which contributes to a highly qualified and productive workforce.
- Increased civic engagement, which can strengthen communities through youth training in leadership skills, innovation, critical thinking, and healthy living.
- Increased youth literacy in science, engineering, and technology through special programming, projects, and access to University curricula.
- Increased environmental stewardship and agricultural knowledge, which ensures a safe, sustainable, and secure food supply.

UC CalFresh Nutrition Education Program

Advisor Dr. Katherine E. Soule and Program Representatives Lisa Paniagua and CR Taylor-Burns

The Challenge

In 2009, the Santa Barbara County Department of Public Health reported that approximately 1/2 of adults and 1/3 of teens in the county are overweight or obese. Obesity is a contributing factor of disease and death. Rates of obesity are generally higher among low-income populations.

To improve the health of the public, the University of California CalFresh Nutrition Education Program (UC CalFresh NEP) provides high-quality, nutrition and physical activity education programs for youth and adults in Santa Barbara County, focusing on low-income populations.



UC CalFresh Community Educator Lisa Paniagua discusses the importance of making Half Your Plate Fruits and Vegetables while offering a green bean tasting and garden planting.

Addressing the Challenge

The UC CalFresh Nutrition education Program provides no-cost, no-prep, research based nutrition education to K-6 students in the Santa Maria-Bonita School District through participating educator extenders. During July, August and September staff redesigned educator curriculum to meet USDA Dietary Guidelines for Americans 2010 and California's Common Core Curriculum.

In collaboration with Santa Barbara County Public Health, UC CalFresh held Summer School Fun day to 125 students in Guadalupe Unified School District featuring Garden Nutrition Education, fruit and vegetable tastings, Re-Think Your Drink, and physical activity. Students received family recipes, nutrition and physical activity tips along with incentives to encourage healthy life choices.

In collaboration with THRIVE! Santa Maria, UC CalFresh assisted the food bank community advocate volunteers in preparing and presenting a healthy recipe from fresh ingredients in their Healthy School Pantry food bag, reaching an average of 250 family members in the Santa Maria community.

In August, UC CalFresh staff collaborated with the Dairy Council of California and met with administrators, educators, and food service staff in the Santa Maria Bonita School district to present trainings of classroom nutrition education, garden nutrition education, the Smarter Lunchrooms Movement, and physical activities to promote healthy lifestyle choices.

At four school sites in Santa Maria Bonita School District with over 80 educator extenders, CalFresh is incorporating nutrition, garden, and physical activity curriculum to the school-day.

Public Value

The UC CalFresh NEP in Santa Barbara County is focused on improving the health of the public, which in turn reduces public costs, by providing research-based quality nutrition education. These efforts include:

- Serving as a vital bridge between the learning and knowledge of the UC system and our community.
- Promoting healthy living, food safety, food budget maximization, and physical activity to CalFresh recipients and other low-income individuals, families, and youth.
- Tailoring the latest science, curriculum and information to the needs, culture and language of low-income communities to provide culturally sensitive programming that meets nutrition education and resource needs in Santa Barbara County.
- Enhancing individual efforts to make healthier lifestyle choices by utilizing the Socio-Ecological Model (SEM) to encourage social and environmental (e.g. home, school) changes.

Viticulture

Advisor Mark Battany

The Challenge

Growers of wine grape vineyards throughout California face challenges with increased competition for limited water supplies and potential changing climate conditions.

Improved information on climate conditions resulting from local field research can provide growers with the knowledge to make the most informed decisions possible to ensure that their vineyards remain productive and economically viable under these changing conditions.

The efficient management of irrigation water will become increasingly more critical in the future. Limitations of water supplies will force all farmers and other water users to generate the maximum possible returns from their available water.

Addressing the Challenge

Improvements in the efficiency of irrigation management can be achieved by having more precise information on the crop water stress levels.

Our current tools for measuring plant water stress require large amounts of labor and only provide information from a few plants in a field; thus this information is expensive to generate and may not best represent the actual conditions.

Recent work by UC Davis and USDA scientists have improved upon an automated method called Surface Renewal that can measure the rate of water vapor loss from a farm field; this information is a good proxy for plant water stress levels, because as a plant's water supply becomes limited the loss of water vapor from the field is reduced.

The Surface Renewal method has the advantage in that rather than measuring conditions at single plants, it is measuring average conditions over a large area, typically 4-5 acres.

Viticulture Advisor Mark Battany

- began working with the Surface Renewal method in 2012, and
- in 2014, conducted a large vineyard trial to evaluate the method compared to standard manual measurements at ten sites.

The results of this work will improve our understanding of the benefits that can be achieved with the adoption of the Surface Renewal method in commercial agriculture. Ultimately improved information on crop water status will enable growers to manage irrigation more efficiently while maintaining or improving crop health and quality.



Surface Renewal station in a commercial vineyard. The primary sensor is a fine-wire thermocouple (here protected inside a cage of chicken wire) that measures the air temperature at very high frequency. Complex calculations based on this measurement are used to estimate water vapor loss from the field.

Public Value

The University of California Viticulture/ Soils program in Santa Barbara County is focused on developing and extending critical research-based information to help wine grape growers maintain sustainable production. This effort benefits Santa Barbara County through:

- Achieving sustainable wine grape vineyards that enhance productivity, crop quality and economic returns to growers with benefits to the entire local economy
- Vineyard irrigation and soil management practices that help reduce water use and maintain soil productivity, thus relieving the strain on impacted water resources and ensuring more reliable supplies for all water users
- Improved understanding of frost conditions and protective measures to help achieve effective practices that minimize impact on water resources

Strawberries and Vegetables

Advisor Surendra Dara

The Challenge

Public health and environmental resources are protected through efficient use of agricultural inputs and safe agricultural practices. Strawberry and vegetable growers and pest control advisors are continually in need of information on improved production technologies and strategies for managing endemic and invasive pests, diseases, and weeds. Optimizing inputs and maximizing returns with food safety in mind are key strategies for healthy, safe, and prosperous agricultural operations.

The Strawberry and Vegetable program identifies growers' needs, develops solutions based on sound scientific research, and extends information in a timely and proactive manner.

Addressing the Challenge

Research and outreach efforts address major concerns of the strawberry and vegetable growers and also promote sustainable management practices for a safe environment.

- Organized an extension meeting for vegetable growers where 99% of the feedback indicated that they gained useful information and 78% indicated that they would use that information.
- Communicated with and provided feedback to Ag Commissioner's pathologist and entomologist about pest and disease issues to help assess current situation and review management options.
- Provided input for seven media interviews about Bagnrada bug pest status and management options, using entomopathogenic fungi for improved moisture and nutrient absorption in strawberries and vegetables, and current status of fumigation options in strawberries.
- Developed six extension publications, available to Santa Barbara County growers, about new and existing pests, pest and natural enemy interactions, and management options that improve the knowledge of pests and their management to protect crops.
- Studies that were completed during the quarter include broccoli irrigation and nutrition monitoring study which adds data to UCCE CropManage tool to optimize water and nutrient input, evaluation of lures for spotted wing drosophila in blackberries to help with pest management, improving the compatibility of various fungicides with a fungus-based biopesticide used in strawberries and vegetables to help increase the acceptability of biopesticides for improved IPM practices and reducing chemical pesticides for environmental safety.
- Reached out to 273 people through direct contact and 61 people through the meeting held during this period.
- UCCE continues to provide timely information on production practices, pest, disease, and weed management to the clients that help them protect their crops and improve yields through sustainable practices.



Annual Santa Maria Vegetable Meeting in Bonipak Conference Room on 23 September, 2014

Public Value

The UCCE strawberry and vegetable program promotes a prosperous local economy, as well as a safe and healthy food system through:

- Improved production practices by optimizing input costs and increasing yields
- Innovative research on alternatives to chemical fumigants, insecticides, miticides, fungicides, and improved Integrated Pest Management practices
- Efficient use of fertilizers and irrigation water which contribute to reduced leaching of nitrates, reduced ground water contamination, and water conservation
- Education on invasive pests and diseases that impact both the farming community and home gardeners better equips them to take appropriate preventive and/or control measures.

Soil/Water/Subtropicals

Advisor Ben Faber

The Challenge

Santa Barbara County's agricultural competitiveness depends on adopting new scientific and technological innovations derived from new knowledge in agriculture. Research and educational efforts must enhance the opportunities for markets and new products. Creating a sustainable local agricultural economy also depends upon improving water quality, quantity, and security; managing pests and diseases; and improving cultural management practices for subtropical producers.

The Soils/Water/Subtropicals Program in Santa Barbara County has a 60 year history of local research and extension that optimizes crop production, maximizes net farm income, conserves natural resources and protects the environment.

Addressing the Challenge

Ben Faber continues his extension work with Santa Barbara County subtropical fruit growers, providing evidence based information via phone and email regarding production issues, with more than 50 contacts during this quarter.

Ben also coordinated and/or authored 8 articles for the 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 15,665 direct hits during this report period. Although this information is not specific to Santa Barbara County, it is information that is readily accessible and useful to Santa Barbara producers and is used by local growers. Typical viewership is 300 per day.

A blog article authored on Stubborn Disease in Citrus had 1603 hits in this quarter alone.

Applied research that will benefit subtropical producers in Santa Barbara County includes projects examining the following:

- Performance of 'Hass' avocado on 6 different rootstocks
- Water requirements of raspberries grown in tunnels
- Ongoing projects with local grower cooperators, including
 - Girdling effect on lemon production
 - Lemon rootstock effect on lemon production
 - Strawberry establishment with reduced water applications
 - Pitahaya variety evaluation and cultural practices



Five fruit specialists from Spain visited for five days, touring various orchards to comment on avocado, cherimoya and other fruit production. Ideas on avocado pruning, nutrient management, irrigation and hand pollination of cherimoya were shared. They also visited two organic orchards and had useful comments on how to improve production.

Public Value

Healthy people and communities, healthy food systems, and healthy environments are strengthened by a close partnership between the University of California and its research and extension programs and the people of Santa Barbara County.

- The Soils/Water/Subtropical Program provides innovation in applied research and education that supports:
- Sustainable, safe, nutritious food production through the delivery of information on soil and water management
- Economic success in a global economy through production of high quality fruit
- A sustainable, healthy, productive environment through improved water and nutrient management
- Science literacy within the agricultural community promoted by rapid access to evidence based information

Small Farms and Specialty Crops

Advisor Mark Gaskell

The Challenge

Small-scale fruit and vegetable growers rely on relatively higher value, lower volume specialty crops to remain economically competitive. UCCE field trials and educational programs are focused on developing new crop alternatives and alternative cultural practices to make small-scale agriculture more viable and competitive in Santa Barbara County.

Field trials are conducted often and the results of these trials, associated greenhouse or laboratory studies, and the experiences of other specialists are then assembled into educational outreach programs to educate and guide growers and industry representatives on the best current science-based information.

Addressing the Challenge

Commercial coffee plantings have continued to expand in Santa Barbara County and other counties along the coast. Success of California grown coffee had depended among other things on producing highly valued specialty coffees. Certified cuppers (coffee tasters) completed formal cupping analyses in September of coffee grown in Goleta at Goodland Organics. These results clearly show that California grown coffees can cup among the best specialty coffees in the market place.

Table 1. Results of coffee cupping evaluations by certified cuppers of coffee grown in Santa Barbara, CA during the 2013/14 harvest seasons.

| Good Land Organics - Cupping Sessions Sept 12, 2014 and Sept 11, 2014 | | | | | |
|---|--|--|--|----------|------------------------------|
| Sample | Aroma | Flavor Profile | Additional Attributes | Score | Comments |
| La Mula VAB | Berry, floral (rose), fruity | Rose, jasmín, aliaceous | Roasted nuts, sweet chocolate | No score | I can't score my own coffee! |
| G-2: Geisha 4/2014 | Jasmin background notes, berry, floral | Rose, jasmín, classic sweet geisha flavor, honey | Honey, rose | 88.5 | |
| G-5: Caturra 7/2014 | Floral, lemon, grapefruit, rose | Watermelon, quiet rose infused flavor | Delicate acidity, slight watery mouthfeel, slight drying | 87 | |
| G-3: Geisha 7/2014 | Peanut shells (under-developed roast) | Light exotic, sweet floral aftertaste (rose water) | Delicate acidity, watery, oily | 84 | |
| G-1: Geisha 8/2013 | Floral (rose), mild lavender, subtle forest flower | Sweet, floral | Roasted nuts, chocolate, slight rose and jasmín aftertaste | 87 | |
| G-4: Caturra 8/2013 | Hazelnut, earthy, toast | Pungent, bitter, nutty | YEK | 78 | Overfermented flavors |
| Marco Porseva (Esmeralda) | Jasmin, rose | Sweet, exotic, rose, floral, jasmín | Nippy acidity, buttery, watery | 87.5 | |
| | | | | | |
| V1 Cuicateca | Brazil nut, cherry, pepper | Red fruit, chocolate, sweet, fruity | Piquant acidity, sweet, drying (like tannins), cherry, pomegranate | 86 | |
| V2 Mundo Novo | Berry, floral, rose, red currants | Sweet chocolate, floral | Phosphoric acidity, red fruit, creamy | 87.5 | |
| V3 Tekisic | Berry, cherry | Sweet, fruity | Orange cherry, leather, buttery | 83 | |
| V4 Puerto Rico | Floral, red fruit, orange | Sweet, floral, fruity | Piquant, sweet, red grapefruit, peach | 88 | |
| V5 Red Catuai | Berry, fruity, chocolate | Sweet, chocolate | Cherry, chocolate, leather, drying | 82.5 | |
| V6 Caturra | Rose, red fruit | Chocolate | Short, sweet, dry (like in tamarind) | 83 | |
| V7 Leroy | Dark chocolate, slight earthy, slight malty | Sweet and red fruit while cooling | Flabby acidity, grape juice, cherry | 84.5 | |

Table 2. Coffee cupping quality ratings according to the US Specialty Coffee Assn.

(<http://www.scaa.org/?page=resources&d=cupping-protocols>)

| Total Score | Quality Classification | |
|-------------|-------------------------|---------------|
| 90-100 | Outstanding | Specialty |
| 85-89.99 | Excellent | |
| 80-84.99 | Very good | |
| >80.0 | Below specialty Quality | Not Specialty |

The following projects are currently underway to assist growers with blueberries, blackberries, and coffee to more efficiently and profitably produce these crops. Field trials during the reporting period include:

- Blackberry varieties, mowing, and pruning practices for the most profitable production season.
- Blueberry varieties that extend the market season or produce during the most profitable part of the market season.
- Cultural practices for successful coffee production and evaluation of cropping systems to interplant coffee in established avocado orchards.

Public Value

Small-scale agricultural producers need reliable and current information on the most promising crop alternatives and the most efficient cultural practices if they are to remain economically viable. Recent research and educational outreach programs have included:

- Development of alternative small fruit – berry crop varieties and cultural practices contributing to establishment of blueberries, blackberries, and raspberries as profitable new crops in Santa Barbara County.
- Development of new information and practices to guide organic strawberry and other long season organic fruit growers for efficient management of nitrogen and water.
- Providing the research and educational base for establishment of coffee and tea as new crops in Santa Barbara County.

Master Gardeners

Advisor Mary Bianchi and Program Representative Fiona Brennan

The Challenge

Communities beyond the reach of the land grant campuses of the University of California present special challenges for outreach and extension of research in new horticulture practices to home gardeners.

Research based information about home horticulture, pest management; sustainable landscape practices and other environmental and natural resource issues support informed decisions by home gardeners promoting healthy, safe and prosperous communities in Santa Barbara County

Local Master Gardener volunteers, trained by the University of California, provide information and problem solving opportunities.



Master Gardener presenting drought tolerant herbs. Photo courtesy of Fiona Brennan.

Addressing the Challenge

Master Gardeners delivered two public workshops that reached 188 community members:

- **Fabulous Drought Tolerant Herbs** workshop displayed an array of drought tolerant herbs and explained which ones grew best in our Mediterranean climate and how to care for them.
- **Luscious Lawn Alternatives and Cash for your Grass workshop** provided methods in removing a thirsty lawn, water-wise lawn choices, maintenance of a new water-wise lawn and landscape rebate programs to help you reduce water needs and save money. The workshop was in collaboration with City of Santa Barbara Water Conservation Coordinator Madeline Ward.

Bilingual Master Gardener volunteers provided instructions on growing food for home gardens for the Santa Barbara Food Bank – “Grow Your Own Way” project, reaching 30 largely Spanish-speaking community members.

Information tables at Santa Barbara Farmers’ Market reached 100 home gardeners with information on Asian Citrus Psyllid (ACP), converting lawns to drought tolerant gardens and pests. Collaborating with community partners at Alice Keck Park Memorial Gardens and Huerta Garden at the Mission, Master Gardeners reached 126 community members and helped raise awareness of butterfly gardens, and sustainable methods of planting, care, and soil management.

The launch of our ACP task force reached 119 members and showed members how to monitor citrus trees. Our 3rd year at the Sol Food Festival included 4 demonstration talks on ACP, Irrigation, Strawberry Towers and Water-wise plants and reached 156 members. Our table at SB Horticultural Society Home & Garden expo reached 30 members.

Master Gardeners volunteered 752 hours to community education representing \$16,668 in educational activity on ACP, water conservation and integrated pest management.

Public Value

The University of California Master Gardener Program in Santa Barbara County is focused on promoting extending research based information on sustainable landscape practices. This effort benefits Santa Barbara County through:

- Safe gardening practices that help to protect water and water quality, support healthy ecosystems and enhance wildlife and biodiversity.
- Sustainable local food systems that enhance food security for families, neighborhoods, and communities.
- Sustainable landscape practices that create efficient communities by conserving water and energy, and reducing and reusing green waste.
- Effective prevention, detection and management of invasive and endemic species through public outreach and education that helps to preserve a prosperous agricultural economy.
- Increasing science literacy of Master Gardeners and their clientele through quality education and outreach.

Fire Ecology & Management

Specialist Dr. Max A. Moritz

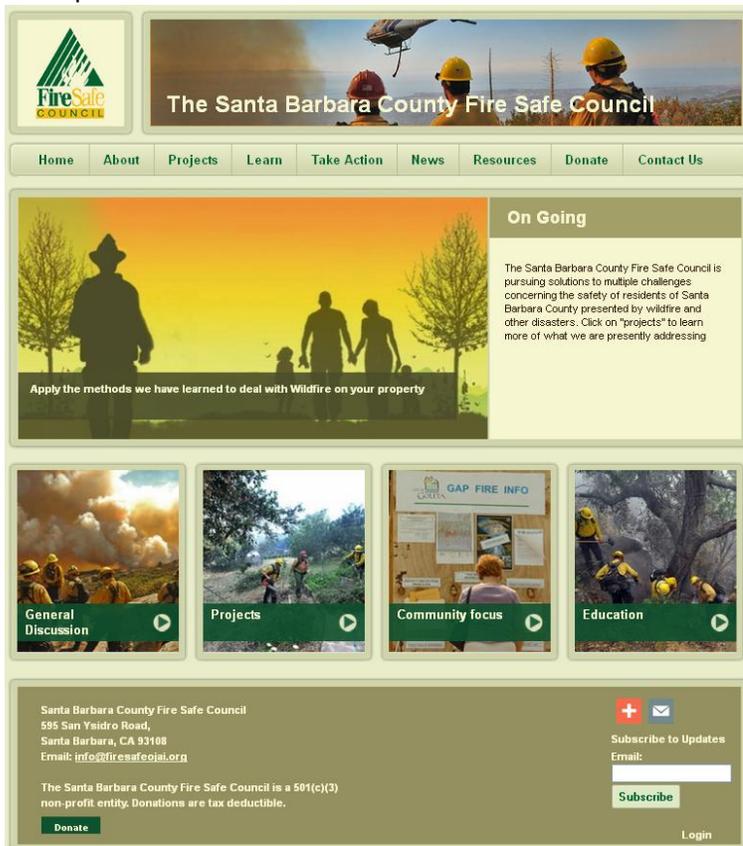
The Challenge

Understanding the nature of fire in California can help to save lives, minimize property damage, and protect the environment. Focusing broadly on fire ecology and management, this program brings UC research expertise to Santa Barbara County on the following topics:

- Quantifying the natural ranges of variation in fire regimes (including frequency, size, seasonality and intensity) within fire-adapted vegetation.
- Understanding where and when various fuel management techniques are likely to succeed and be sustainable.
- Mapping fire weather patterns, which historically have been associated with the greatest losses.
- Modeling linkages between fire activity and climate change.

Addressing the Challenge

During this quarter Specialist Max Moritz continued working with a new intern to help with local Live Fuel Moisture (LFM) data sampling and processing. The data collected feeds into regular updates and distribution through the Santa Barbara Botanic Garden website. Working with the Santa Barbara County Fire Safe Council, Moritz also helped get the first (draft) iteration of their website created, which should be online and made public in the near future.



Public Value

Fire is an important and natural process in almost every terrestrial ecosystem of California, yet it is one of the most persistent threats facing communities that live on fire-prone landscapes.

Communicating and implementing the latest scientific information about fire research is crucial for making communities safer, reducing property damage, saving lives, and protecting the environment.

UC Cooperative Extension helps Santa Barbara County create safer, healthier and more prosperous communities through efforts that emphasize the following:

- Education of homeowners about fire danger and preparedness steps.
- Communication with fire managers, policy makers, and planners about long-term fire-related decision making.

The image to the left is a shot of the new SB Fire Safe Council website... (this is a "DRAFT!", to emphasize that it is still under construction)