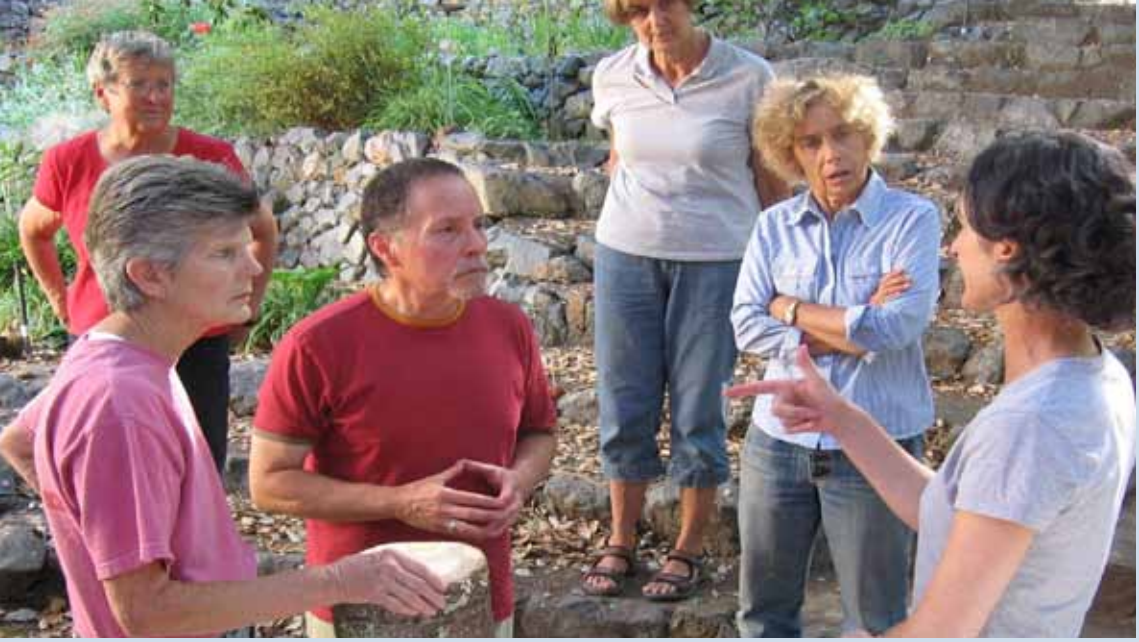
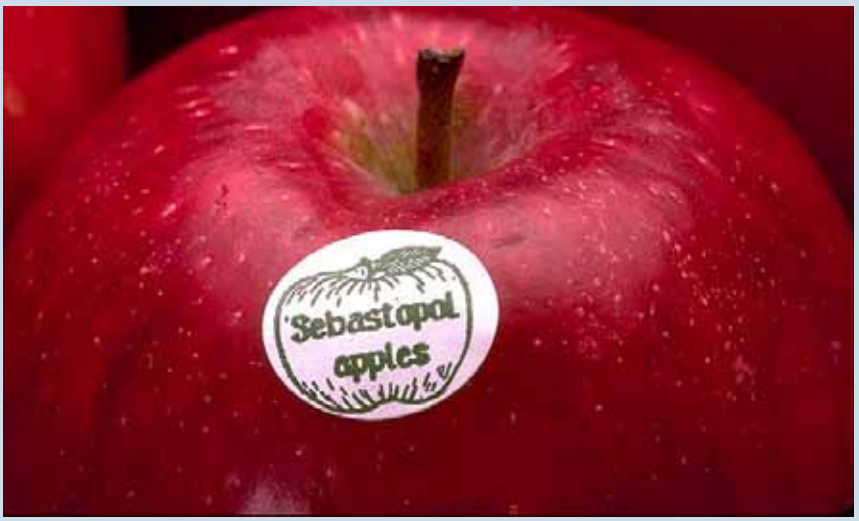
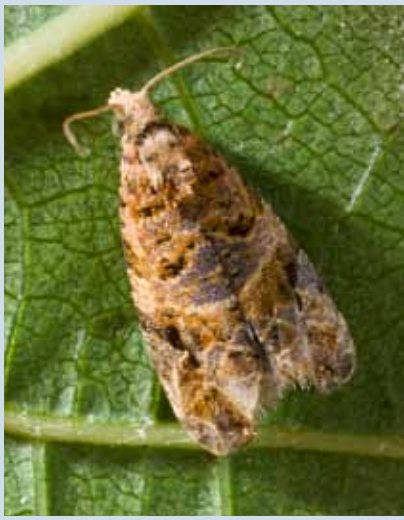


University of California Cooperative Extension

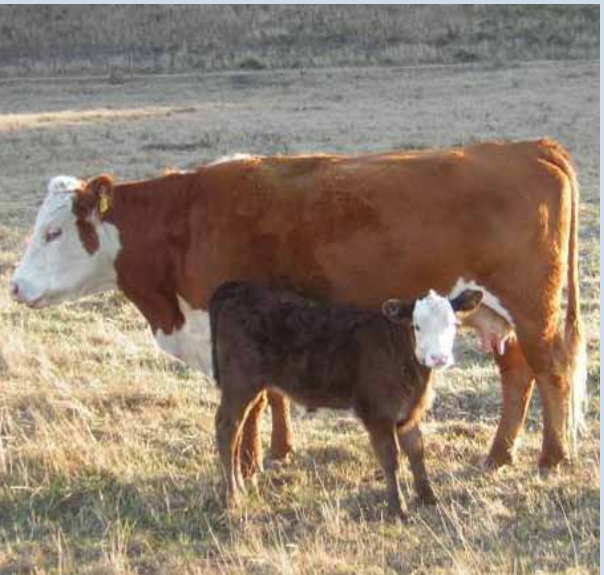
Sonoma County

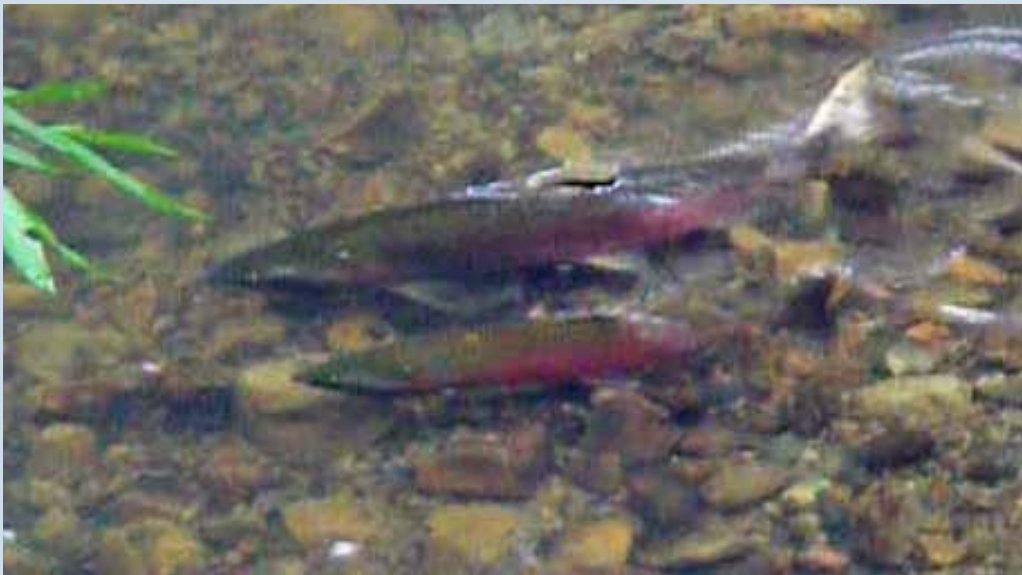




Programs, People, and Progress

Annual Report 2010





UC Academic Advisors

Stephanie Larson, Ph.D.
County Director
Livestock & Range Management

Evelyn Conklin-Ginop
4-H Youth Development

David Lewis
Watershed Management

Paul Olin, Ph.D.
Sea Grant Extension Program
Marine Sciences

Rhonda Smith
Viticulture

Steven Swain
Env. Horticulture Advisor

Lucia Varela, Ph.D.
Integrated Pest Management

Paul Vossen
Specialty Crops

UC Program Staff

Ranch Planning and Conservation Monitoring Coordinator
Michael Lennox

Coho Salmon Monitoring Coordinator
Mariska Obedzinski

Coho Salmon Monitoring Field Staff
Nick Bauer
Henning Fett
Sarah Nossaman-Pierce

Sonoma County Staff

Master Gardener Program Coordinator
Deborah Curle

Sudden Oak Death Program Coordinator
Lisa Bell

4-H Program Assistant
Judy Ludovise

Office Manager
Allie Stabler

Senior Office Assistant
Kathy Perry

Field Assistant
Julie Davis

Americorps Volunteers

Jennifer Hoey
Taylor Spaulding

University of California Agriculture and Natural Resources
Cooperative Extension Sonoma County

"Our mission is to sustain a vital agriculture, environment and community in Sonoma County by providing University of California research-based information in agriculture, natural resource management, nutrition and youth development."

To: County of Sonoma Board of Supervisors – Efren Carrillo, Chair, Valerie Brown, Mike McGuire, David Rabbit and Shirlee Zane

The University of California Cooperative Extension (UCCE) is proud of our partnership with the County of Sonoma. UCCE's innovative programs address critical issues that maintain and increase the sustainability of agriculture and natural resources in Sonoma County. The UCCE provides core services which focus on three areas outlined in the County's strategic plan: Safe, Healthy and Caring Communities, Economic and Environmental Stewardship, and Invest in the Future.

UCCE created a local food system, partnering with county and private agencies to improve local food access to residents. Through our efforts, access to locally grown foods continues to be explored by building partnerships with other county departments, local growers and producers and Sonoma County consumers.

The UCCE Master Gardener Program continues to teach back yard composting to thousands of home gardeners and reduce inputs of waste organic material into landfills. UCCE Master Gardeners reach out with educational programs that teach home gardeners how to reduce or eliminate the use of pesticides in home gardens and landscaping.

UCCE is at the forefront of research on key agriculture pest management issues to prevent crop loss from invasive insect pests that threaten our vineyards and farms. Advisors educate growers, vineyard managers, pest control advisers and field workers on the biology and management of key pests such as the European grapevine moth, light brown apple moth, vine mealybug, and olive fruit fly. The UCCE Viticulture program is a leader in researching the effectiveness of rootstocks against soil borne pests and the diseases they vector in field trials with grower cooperators. The Integrated Pest Management (IPM) Advisor and Viticulture Advisor work closely together to provide research based information to the Sonoma County wine grape industry. The IPM Advisor was recently selected by the Board of the Sonoma County Winegrape Commission to receive the Viticulture Award of Excellence for 2011 for her research and extension activities in invasive insect pests that threaten the local grape industry as well her commitment to the planning and delivery of educational programs for the Commission's Employee Development Program.

Global warming from greenhouse gas accumulation could be tackled in part by improved understanding of pasture management and the potential for significant carbon sequestration on rangelands. UCCE will continue to conduct research to devise means whereby ranchers and dairies may improve their bottom line by using management practices that maximize ecosystem services.

Thousands of acres of forest and landscape are being decimated by Sudden Oak Death (SOD) disease. UCCE continues to provide educational resources and SOD disease management guidance to the citizens of the County by cooperating with UC researchers, other resource agencies and experts in neighboring counties.

The UCCE 4-H program provides youth with opportunities to learn responsibility, resolve conflicts, master skills and practice making choices that will impact their future in positive ways.

The University of California Cooperative Extension looks forward to the continued partnership with Sonoma County and its many residents.

Stephanie Larson, Ph.D.
County Director

University of California Cooperative Extension, Sonoma County
133 Aviation Blvd Ste 109 Santa Rosa, CA 95403
Tel: 707.565.2621 Fax: 707.565.2623
http://cesonoma.ucdavis.edu

UCCE Sonoma County ~ 10 ways we are working for you

Protecting Our Oaks. The Sudden Oak Death Blitz was held April 17, 2010. Fifty-five Sonoma County residents attended Blitz meetings held in Healdsburg and Santa Rosa to learn to recognize SOD symptoms. They then dispersed throughout the county to find and collect symptomatic leaves of California bay laurel trees. In total, this group collected leaves from 264 bay trees—bay trees are an important host plant for *Phytophthora ramorum*. The leaves were tested for *P. ramorum* at a UC Berkeley plant pathology lab. Results revealed 2 new infestations in residential areas and confirmed many already known areas of infestation. The 2011 Blitz will be held June 4.

Saving Water And Soil. Farm advisors teach farm owners and their irrigators ways to improve irrigation efficiency and to use less water. Techniques developed by the farm advisor keep tons of soil in place, preventing erosion and saving valuable topsoil.

Supporting Agriculture & Creating Jobs. Strong agricultural companies create new jobs and business opportunities. This $600 million industry relies on UC research and extension to remain strong and globally competitive. The research grants that UCCE brings into the county create jobs and an entry for young scholars into the business world.

Promoting Home Grown Foods. Food Gardening Specialists, a group of 35 Master Gardeners, received advanced training and are partnering with the County's iGrow effort. The goal is to go into neighborhoods where there is interest in home vegetable gardening and conduct workshops that are tailored to the interests and needs of the neighborhood. The first workshop was conducted last October, with several more planned for the spring.

Protectng Endangered Species. The Russian River Coho Salmon Broodstock Program began in 2001, when returning adult coho salmon averaged less than four per year. After the sixth year of releasing juvenile coho, biologists estimate that more than 190 adult coho may have returned to the Russian River system to spawn. Spring monitoring has just begun and already 63 wild coho young of the year have been seen, a clear sign of successful spawning this season and a milestone for the return of coho to the Russian River.

Channeling UC Expertise Since 1918. Since opening its doors, Cooperative Extension Sonoma County has brought university research to the community. UCCE collaborates with many UC specialisits to help solve current environmental, agricultural or quality of life issues affecting Sonoma County residents.

SpurringEconomic Development. UC research helps one of Sonoma County's top economic drivers – agriculture – be competitive and productive.

Controlling European Grapevine Moth. Native to Europe, EGVM is considered the most important insect pest of grapevines throughout Europe and the Middle East. Through research trials, UCCE obtained information on the most effective, best timed and least disruptive control strategies. The use of low-impact insecticides was adopted, avoiding the secondary pest outbreaks witnessed in Chile thus enabling growers to manage European grapevine moth in an environmentally sound manner. Information generated from our trials and observations were incorporated by the California Department of Food and Agriculture and USDA-APHIS into European grapevine moth regulations and policies.

Volunteering Community Service. Youth in 4-H, along with their parents, donated 61,200 hours to creative local community service in 2010. Master Gardeners donated over 25,000 hours of their time beautifying public places and educating the community about wise water use, organic pest control, and food gardening. The volunteer hours combined is a California dollar equivalent of $2,713,000!

Teaching Sustainability. We develop and share various approaches to achieve a healthier environment, a thriving agricultural business cluster, and a community driven by engaged youth and adults.

Russian River Coho Salmon Broodstock Program

Coho salmon recovery from near extinction

Some still remember watching bright red salmon each year splashing around in small Russian River tributary creeks between Thanksgiving and early February. This may occur in the future if current trends persist as a result of the Coho Salmon Captive Broodstock Recovery Program. Since the launch of the recovery program in 2001, returning adult coho salmon averaged less than four per year. This year, biologists estimate that more than 190 adult coho may have returned to the Russian River system, beginning with early storms in October and peaking in December. Promisingly, a few coho are being sighted in un-stocked creeks, utilizing habitat beyond those tributaries in which coho are released.

Once numbering in the thousands, today coho salmon in the Russian River and its tributaries are on the verge of localized extinction. To prevent this from happening, in 2001, an agency team from the California Department of Fish and Game (DFG), NOAA Fisheries, the Army Corp of Engineers, the Sonoma County Water Agency, Sonoma County UC Cooperative Extension and Sea Grant created the Russian River Coho Salmon Captive Broodstock Program. Under this program, juvenile coho were collected from streams within the Russian River watershed by DFG, and subsequently raised to maturity and spawned at Don Clausen Warm Springs Hatchery at Lake Sonoma. In 2004, DFG began releasing the offspring of these captive-bred wild fish into Russian River tributaries that historically held runs of coho salmon and these fish are closely monitored by UC Cooperative Extension and Sea Grant to document the program's accomplishments. The goal of this program is to restore self-sustaining runs of coho salmon to multiple tributaries of the Russian River, and in doing so, create a balance where the river's water can sustain both the coho salmon and the residential and agricultural uses that rely on it.

UC biologists also monitor outmigration of smolts in the spring as they make their way to the ocean. This year, 63 wild coho young of the year were observed on the first day of checking the Mill Creek downstream migrant trap; a clear sign of successful spawning this season. This is more wild fish caught in one day than have been caught in any previous year since 2006.

Returning adult male and female coho salmon in Mill Creek on their nest, called a redd.

Agriculture and Natur

Advancing Agriculture while Protectin

Viticulture and Integrated Pest Management

Protecting vineyards from the latest exotic pest

European grapevine moth adult
Photo by Jack K. Clark

In September 2009, European grapevine moth (EGVM) was detected for the first time in North America in Napa Valley, prompting a statewide delimitation survey. In 2010 a total of 59 moths were trapped in Sonoma County, triggering a quarantine of 663 square miles that included 52,000 acres of vineyards. Native to Europe, EGVM is considered the most important insect pest of grapevines throughout Europe and the Middle East. The larvae feed on berries which allow fungi to infect fruit resulting in bunch rot which is the main cause of crop loss. Growers needed to control this pest yet they had no knowledge of the biology, life cycle, how to monitor, most effective materials and application timing. It was critical that insecticides be chosen that would not disrupt the natural control of native insect pests.

Dr. Lucia Varela, the Integrated Pest Management Advisor and Viticulture Advisor Rhonda Smith quickly obtained information from European researchers and literature as well as colleagues in Chile and wrote articles describing the EGVM life cycle and management in those areas of the world. As local information was obtained from field trials, additional articles were written with other UC colleagues and published in trade journals targeting growers, vineyard managers and Pest Control Advisers. Finally last year, a fourth article was written to aid pest management practitioners who must distinguish this pest's larva from other worm pests of grape clusters.

These advisors developed 2 English-language brochures, a Spanish-language pest note, a bilingual poster and a narrated Spanish presentation. Lucia Varela gave 9 hands-on workshops in Spanish to vineyard workers and 51 talks tailored to individual audiences including growers, haulers and winemakers as well as home winemakers, providing updated information learned from field observations and UC trials.

Through research trials UCCE obtained information on the most effective, best timed and least disruptive control strategies for European grapevine moth in local vineyards. The use of low-impact insecticides was adopted, avoiding the secondary pest outbreaks witnessed in Chile thus enabling growers to manage EGVM in an environmentally sound manner. Information generated from trials conducted by UCCE advisors and their field observations of this exotic pest were incorporated by the California Department of Food and Agriculture and USDA-APHIS into European grapevine moth regulations and policies.

Damage caused by European grapevine moth larvae feeding on berries.
Photo by Jack K. Clark

Rangeland Conservation

Sustainable Farming and Food Systems

Maintaining Viable Dairy and Livestock Operations. Dr. Stephanie Larson continues to provide current research based information on production and marketing to increase the economic vitality of the dairy and livestock industries. University of California Cooperative Extension efforts have assisted dairy and livestock operation compliance with new organic pasture rules, humane branding methods and environmental stewardship. Stephanie is currently working to develop a "cheese terrior", combining the artisan cheese movement with season grazing of rangelands.

Ecosystem Services on Rangelands. Ecosystem Services are potential markets to increase agricultural sustainability by focusing on both the economic and ecological aspects of landscape management, in particular rangelands. Through UC collaborative efforts, Stephanie Larson developed information on which livestock grazing practices can provide ecosystem services to the public, such as carbon sequestration, improving water quantity and quality, biodiversity and fire suppression. There is great potential for certified ecosystem services in Sonoma County, an area comprised of 50% open rangelands..

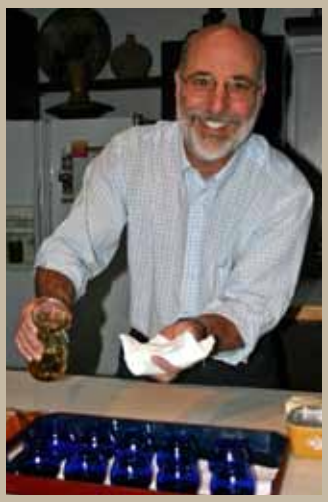
Local Food Systems. Sonoma County has a wealth of unique, niche markets and many "new farmers". Stephanie worked with several County departments to help them gain a better understanding of local food systems, from production to consumption. As a result, we are focusing on new market opportunities to meet the needs of County residents. These opportunities will enable the niche farmer to create and sell a variety of local and unique agricultural products while increasing access of consumers to healthy, locally produced food. The creation of sustainable food systems that address production practices, marketing and distribution, consumer education, and policies will help make farming in Sonoma County economically viable, environmentally sound, and socially responsible.

Local Food Systems research will enable the niche farmer to create and sell a variety of local and unique agricultural products while increasing access to healthy, locally produced food.

AL RESOURCES PROGRAMS
G SONOMA COUNTY'S NATURAL RESOURCES

Specialty Crops

Sustainable and Organic Horticulture



Specialty Crops Advisor Paul Vossen pours olive oil for a sensory evaluation.

Paul Vossen is the local Sonoma County Farm Advisor working to help farmers produce specialty crops profitably. He has 30 years of experience in Sonoma County conducting research and educational programs on the production of organic apple, vegetable, and olive oil – completing three UC production manuals on those crops. He serves as a valuable resource to growers interested in growing new crops or solving production and marketing problems. His expertise in olive oil sensory evaluation is recognized statewide, nationally, and internationally.

Education. In 2010 he taught four full day seminars: two on olive oil production (site selection, water needs, production systems, varieties, spacing, pruning, harvest and marketing); one on processing (washing, crushing, separation, cleaning, storage, and bottling); and he instructed in oil sensory evaluation (defects, positive characteristics, producing the best possible oil, and quality standards). He also recently taught four other seminars geared specifically toward land evaluation, selecting specialty crops for profit, growing berries (strawberries, raspberries, blackberries, and blueberries), and extending the growing season for tomatoes, peppers, and eggplant with tunnels, hoophouses, and greenhouses.

He conducts numerous one-on-one farm calls every month and to assist farmers with their individual needs. A consistent request from producers is how to effectively market their products. His expertise in this arena is highly regarded; he is a founder and active participant in the Sonoma County Ag Marketing Program, California Olive Oil Council, and Sebastopol Apple Promotion Committee. He presented the keynote address as an overview of Sonoma County's production at the Food Forum in February 2010. He is actively working with the iGrow program, Food Security Network, and Slow Food Movement to promote the Gravenstein apple industry and help direct efforts to building a secure local food system.

Research. Paul spent a three month sabbatical in Europe looking for new specialty crops, and studying fruit handling procedures and marketing methods to bring back to our local Sonoma County farmers. He is currently in Australia during their fall harvest period researching new techniques in olive oil quality enhancement and exploring potential crops that might be grown here profitably. In Sonoma County, he maintains several demonstration orchards of chestnuts, filberts, mandarins, raspberries, blueberries and specialty apples to provide growers information on the viability of these crops and varieties under local conditions. He participated in a statewide program to develop monitoring and control procedures for olive fruit fly, an introduced pest that has devastated olive orchards. His work has helped growers lower their pest control costs while using organically certified products that do not harm the environment.

Our Specialty Crops Advisor works with growers to lower the costs of controlling Olive Fruit Fly, while still using organic products. An Olive Fruit Fly seen here emerging from an olive.

4-H Youth Development Program
Inspiring Sonoma County's Youth

The 4-H Program uses a learn-by doing approach to enable youth to develop the knowledge, attitude, and skills they need to become competent, caring and contributing citizens of the world. This goal is reached by using the knowledge and resources of the land grant university system. Sonoma County 4-H is also supported by the County Board of Supervisors and the 4-H Foundation of Sonoma County.

Victoria Hamilton, of Green Valley 4-H, received the esteemed Daily Point of Light Award from the Chairman and CEO of the Points of Light Foundation.

4-H Community Service. Through its pledge of "hands to larger service," 4-H has historically given back to the community by encouraging young people and adults to volunteer. As the Youth Development advisor, Evelyn Conklin-Ginop has lead this effort for the past ten years. Service to the community –determining community needs and helping solve community problems – helps young people learn caring, leadership and citizenship. Each year, Program Assistant Judy Ludovise, trains over 100 new adult volunteers. 4-H youth and adults can be found in Sonoma County improving the lives of our citizens.

At the beginning of the year, each of the 27 clubs forms a committee with the purpose of assessing local community needs. Youth gain experience as committee chairs and members as they partner with adults to research, plan and implement community service projects. Far beyond conducting a canned food drive, Sonoma County 4-H youth have assisted cancer patients, given presentations on global warming, developed enrichment programs for low income children, and supported our troops with cards and needed supplies. As an ongoing part of the process, youth frequently reflect on what they have learned about themselves, their community and the problems they are seeking to address. In this way, youth develop a sense of caring for others and a better understanding of their role as active citizens. Sonoma County youth have been recognized nationally for their service recently, as one of our youth, Victoria Hamilton of Green Valley 4-H, received the esteemed Daily Point of Light Award from Neil Bush, Chairman and CEO of Points of Light Foundation, for her extensive community service activities.

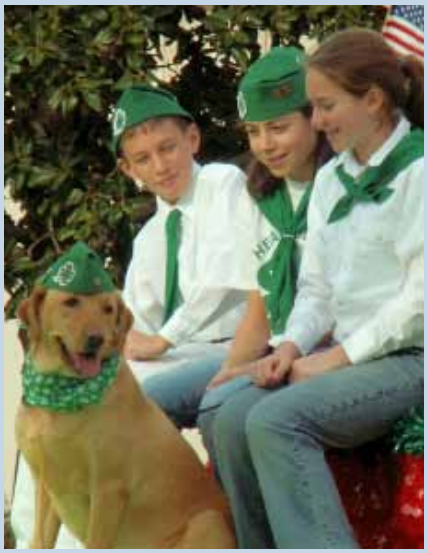
50 Years of Chickenque History. In 1961, 4-H supporters came together to establish the chicken barbecue as a fundraiser for the county's 4-H program. It became one of the biggest benefit barbecues in the country, serving up to 10,000 people some years. Al Grove was the driving force behind the 4-H Chickenque for more than 40 years, spending a week setting up for the barbecue and another week tearing down.

"I do it because 4-H is the greatest organization in the world for youth. It teaches kids about doing their best and learning to win and lose," Grove once said of his volunteer efforts on behalf of 4-H and the Chickenque.

This year, May 1st, marked the successful completion of the 50th Chickenque. Over 750 volunteers, youth and adults came together to prepare and serve approximately 6500 chicken lunches. The unprecedented support of the Sonoma County Fairgrounds over the last fifty years has contributed to the success of the event each and every year. We look forward to the next 50 years of Chickenque!

4-H Summer Camp. 4-H Summer Camp 4-Her's and their friends come together every summer to experience the wonders of summer camp in the beautiful wooded areas of Los Posadas State Forest. The camp culminates a year of planning by our teen 4-H leaders with the assistance of adult advisors. More than 80 teen staffers develop leadership skills as they plan and implement an exciting environmental educational curriculum. The teen leaders also direct the activities at both camp sessions. Campers are divided into groups with a teen leader, then meet every day to plan many activities, including skits, songs, sand painting, and fire building for the evening campfire. Participating in camp groups allows 4-Her's to meet and make new friends from all over Sonoma County. As many as 300 youth enroll as campers each year for this memorable experience. Sonoma County 4-H camp has been operating for decades. In the spirit of giving back, many of our youth return when they become adults and volunteer to continue this great tradition.

4-H Foundation of Sonoma County. The 4-H Foundation of Sonoma County, a non-profit, 501c(3) corporation, that was established in 1982 to support, promote and enhance the 4-H program in Sonoma County. Through the Foundation, 4-H clubs and county-wide projects can apply for grants to enhance and benefit their 4-H work. Scholarships are available for youth to attend education conferences throughout California and the United States. The Foundation is also proud to offer educational scholarships to promising young men and women to attend college and trade schools. In 1994, the 4-H Foundation built the Sonoma County 4-H Center. Located in Rohnert Park, the Center is used for 4-H county events and activities, training events for adult leaders, outreach activities and as a general 4-H meeting space. The Foundation is administered by a Board of Directors representing finance, education, business and agriculture.



University of California Master Gardeners fill a unique niche in the Sonoma County community. Master Gardeners are volunteers who receive approximately 180 hours of training from UC and local experts on a wide variety of horticulture topics, then donate their time to share their expertise with others.

Outreach. The Master Gardeners staff an Information Desk (M-F 9am-4pm) at the UC Cooperative Extension office in Santa Rosa, and can be found at information tables at most Sonoma County Farmers' Markets and larger fairs and public events in the county. The very popular MG Library Series workshops are attended by hundreds of interested home gardeners at most Sonoma County Library branches. Topics include Kitchen Gardening, Grafting and Pruning, Vertebrate Pests, Drought-Tolerant Gardening, and Sudden Oak Death. The Sonoma County Master Gardeners' Home Compost Education Program has resulted in the diversion of over 20,000 tons of organic waste from our landfills in the last ten years. The Pesticide Use Reduction Education (PURE) Program has successfully changed the attitudes of thousands of local gardeners toward the elimination of the use of specific pesticides, which helps keep our waterways clean.

Food Gardening Specialists. Just one year after they developed the project, a group of 35 Master Gardeners organized as Food Gardening Specialists (FGS) have received advanced training, and are partnering with the County's iGrow effort. Teams of FGS's go into neighborhoods where there is interest in home vegetable gardening. Groups of neighbors come together at a backyard vegetable garden where the FGS team conducts a workshop that is tailored to their interests and needs. The first workshop was conducted in October 2010 where the homeowner and attendees were interested in replanting an existing raised bed with appropriate fall/winter vegetables. The workshop included demonstrations on amending and improving the soil, irrigation, and seed/seedling planting. Several more workshops are scheduled for the spring 2011, as interest in home vegetable gardening continues to grow.

Volunteers and Partners. Sonoma County Master Gardeners have an excellent reputation in the community for delivering practical science based information. The program provides multiple in-person contacts and in 2010 contributed more than 25,000 hours of service to a broad based network of community projects and partners such as: iGrow, Sonoma County Waste Management Agency, Sonoma County Jail Industries Nursery, Sonoma Ecology Center, Sonoma County Library, most Farmers' Markets in the county and several community gardens.

The George Zeleny Memorial Demo garden displayed at the Sonoma County Fair.

Master Gardener Program

Making Progress From The Ground Up

SOD Specialists measure a tanoak tree at Austin Creek SRA

Sonoma County Sudden Oak Death Program

Since 2007, this program has educated the public with advice on management strategies for sudden oak death infestations in the county. The Sonoma County Sudden Oak Death Strategic Response Plan, completed in 2007, outlined research and educational needs, and estimated the potential costs to implement mitigation strategies. In the last four years, we have delivered information to 11,286 people in our work with CA State Parks, Sonoma County Regional Parks, Santa Rosa Junior College, Native American tribes, Sonoma County arborists, tree services, and property owners.

Education. Our Sudden Oak Death (SOD) Program Coordinator, Lisa Bell, leverage UCCE expertise over the last two years by training the trainers, in this case, Master Gardeners (MGs) as SOD Specialists. The MG SOD Specialists enthusiastically attended lectures and field trips at meetings of the California Oak Mortality Task Force and met with local experts. This year, training included 45 hours of lecture, discussion and field trips about pathogen biology, new research, treatments and natural history.

Equipped with this training, MG SOD Specialists held meetings and workshops to educate Sonoma County residents about how to recognize symptoms of SOD and what can be done to slow the spread of disease and protect oak trees on their own properties. This year the MG SOD Specialists made fifteen educational presentations at public libraries, homeowner association and garden club meetings, and for a Santa Rosa Junior College course. They also worked at fairs and farmers' markets, providing one-on-one discussions and educational brochures.

Research. In April, the MG SOD Specialists hosted a research & educational event with 55 Sonoma County residents participating. The Sudden Oak Death Blitz was a citizen & scientist collaboration between the UC Berkeley plant pathology department and residents of Sonoma County. Results revealed two new infestations of the pathogen response for SOD, *Phytophthora ramorum*, in residential areas and confirmed several suspected cases in additional areas. The 2011 Blitz is June 4.

MG SOD Specialists also participated in a tanoak study led by Chris Lee, the SOD Program Coordinator at the UCCE office in Humboldt County. They recorded SOD leaf and branch infections on basal sprouts of tanoak trees killed by SOD. This three-year, three-county study investigates the role of tanoaks and tanoak sprouts in the lifecycle of *P. ramorum*.