



University of California Cooperative Extension
SONOMA COUNTY
WORKING TOGETHER TO
ACHIEVE OUR COMMON GOALS
2012 ANNUAL REPORT



*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 and youth
development.*



Dear Supervisors David Rabbitt, chair, Efren Carrillo, Susan Gorin, Mike McGuire, and Shirlee Zane, this past year, 2012, has been one of program partnership development with Sonoma County. The University of California Cooperative Extension, (UCCE), has worked to increase our overall services to the community while "breaking down silos" between other County departments.

The UCCE agriculture and natural resources programs assist clientele throughout Sonoma County. The Viticulture and Integrated Pest Management (IPM) programs worked with the agricultural industry in the research and implementation of alternative pest control methods,

in order to decrease the use of pesticides. The current emphasis in the North Coast is on pest management systems for wine grapes and apples. Through their efforts, UCCE advisors worked with County Agricultural Commissioner's office, CDFA and USDA-APHIS to address the movement and spread of invasive insect pests, including the European Grapevine Moth. The Marine science program worked with the Water Agency, to optimize the use, management and conservation of agriculture and natural resources in the Russian River system, documenting the increased coho populations.

The Livestock and Range Management Program worked with local ranchers to address animal health and welfare, marketing and management of rangelands. These efforts included documenting the ecosystem services provided by using grazing animals, and using good stewardship techniques which will complement efforts being done by the Agricultural Preservation and Open Space District and Regional Parks. Rangeland water quality management planning short courses provided technical assistance to local livestock and dairy producers to address water quality throughout the County. Master Gardeners provided expertise to local residents on multiple issues, from growing and preserving local food to Sudden Oak Death (SOD). Working with local County lands (Regional Parks) science based information was provided to landowners, park staff and arborists to help prevent the spread of the disease.

With our goal to help make Sonoma County the healthiest California County by 2020, we developed programs to increase access to local agricultural products. We created the position, Agricultural Ombudsman, to help agricultural producers increase their economic return, either through diversification, vertical integration of products or agritourism activities. This pilot project helped farmers and ranchers increase economic opportunities which in turn helped preserve the agricultural way of life while promoting local producers. UCCE staff created Agritourism meetings, working with Farm Trails and Sonoma County Tourism, to bring together agricultural producers and tourism industry members to collaborate and cross-market to enhance agritourism in Sonoma County. Ag producers who told their "stories" while "speed-dating" generated opportunities to exchange business information, leading to increased economic viability to both agricultural and tourism industries. The Beginning Farmer and Rancher Program taught agriculture and business skills to increase economic viability for local agricultural production. Working with the Santa Rosa Junior College and Latino Service Providers, the program reached 25% of underserved populations (minorities, women, low income) to increase the number of local food producers in Sonoma County. Specialty crop development, through educational and research efforts, will also help increase local food access and economic opportunities for aspiring agriculturists.

The Sonoma County 4-H program continued to meet the needs of youth through leadership and educational opportunities for all youth from 5 to 19 years of age. The UCCE will work with the Department of Health Service's "Cradle to Career" program, to further enhance the educational opportunities for the youth of Sonoma County.

The UCCE will continue to provide viticulture, IPM, livestock and range management, marine science, horticulture, sudden oak death, 4-H and Master Gardener's expertise to preserve agriculture, strengthen economic development and promote the leadership of our local youth.

Sincerely,
Stephanie Larson, Ph.D.

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LOCAL FOOD SYSTEMS

As a component of Sonoma County's strategic plan, UCCE led the County Lands for Food Program (CLFP) effort, supporting local agriculture and healthy communities. The UCCE documented publicly owned land that can be used for food production in the form of community gardens, farms and ranches. Dr. Stephanie Larson, along with several County departments, provided Sonoma County an opportunity to support the viability of local agriculture and increase access to healthy food, by documenting the land available for community gardens, farming and ranching.

North Coast Regional Food System

Network. The UCCE office, working with Dr. Glenda Humiston, USDA, CA Rural Development Director, created a north coast regional food system network in Sonoma, Marin, Napa, Mendocino and Lake Counties. Stephanie Larson led the project, developing collaborative tools to provide increased communication about local food systems on a larger regional scale. Consultants developed Agriculture Value Chains and Economic Impacts: Dairy, Grass Fed Beef and Grains in the North Bay (<http://cesonoma.ucanr.edu/files/158882.pdf>) to validate economic impacts provided by other agricultural industries, and documenting the importance of each for the five participating counties.

Beginning Farmer & Rancher Development Program (BFRDP). To increase local food production, the BFRDP provided an educational opportunity to increase the number of potential farmers and ranchers in Sonoma County. The "Agropreneurship" program, led by Dr. Stephanie Larson and Linda Peterson, partnered with the Santa Rosa Junior College, Small Business Development Center, and the Latino Service Providers in three year USDA grant to provide training and a full range of supportive tools and resources for beginning farmers and ranchers in Sonoma County. The web site, <http://ucanr.org/sites/BFRSOCO/>, and the Facebook page <https://www.facebook.com/AGROpreneurship> provided additional program outreach. The first year graduated 23 farmers and ranchers, of which 25% were Latino. This program provides opportunities for underrepresented "agropreneurs" to learn sustainable animal and crop science, along with business planning.



Beginning farmers and ranchers learn mechanised transplanting from SRJC's Shone Farm Manager, Leonard Diggs.



Cheese aging room

Agritourism. Dr. Stephanie Larson developed the Sonoma County Agritourism program, collaborating with Sonoma County Farm Trails and Sonoma County Tourism. Two workshops introduced the concept of Agritourism, and the second brought agricultural producers, for example farmers and ranchers, together with the tourism industry and adventure companies, to cross market or “speed date” in order to increase opportunities for agritourism in Sonoma County. The web site, <http://cesonoma.ucanr.edu/Agritourism/> provides information to agriculture producers that want to increase the economic viability of their operations through agritourism activities.

Ag Ombudsman. The Agriculture Ombudsman works with farmers and ranchers to preserve the agricultural way of life and promote local products in Sonoma County. The Agriculture Ombudsman, Karen Giovannini, assists local agricultural producers by helping them navigate the permit process and facilitates meetings between different county, state and federal agencies.

The Agriculture Ombudsman assisted and advised on at least 33 different projects ranging from road side produce stands, meat sales, and cheese creameries. A website was created to inform interested parties about regulatory requirements for sale of eggs, sale of meat at farmers markets, selling by the pound and the new Cottage Food Law, <http://ucanr.edu/sites/CESonomaAgOmbuds/>.

SPECIALTY CROP PRODUCTION

UCCE strives to improve the economic viability of Sonoma County agriculture by providing local farmers with research-based information on new crops, innovative cultural practices, organic pest control methods, and production cost studies. Interest in farming rose considerably last year, with many existing and new farmers wanting information on how to grow, process, and market higher value crops. This is important because it is comparatively more expensive to grow crops in Sonoma County. North Coast farmers are at a competitive disadvantage due to elevated land values, smaller scales of operation, a focus on organic production, and higher labor costs. This requires farmers to produce unique gourmet products and to use upscale marketing strategies. Innovative pest prevention methods are also important to stop crop losses and to produce sustainably or organically with minimum impact on our local environment.

Paul Vossen, UCCE Horticulture Advisor, coordinates several on-farm demonstration sites for various specialty crops such as: strawberry, blueberry, raspberry, chestnut, citrus, apple, and oil olives. UCCE also works closely with the SRJC Shone farm to establish plantings of figs, mulberry, persimmon, pomegranate, and some specialty vegetable varieties. Demonstration
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Specialty Crops Advisor Paul Vossen pours olive oil for a sensory evaluation.

(Specialty Crop Production cont.)

sites are used to teach pruning, irrigation, and fertilization practices as well as to show producers how the crops grow and if there are differences between varieties. Farmers are also reached through short courses, commodity meetings, pest control seminars, pruning demonstrations, one-on-one contact, and via the Specialty Crops website (<http://cesonoma.ucan.edu/SpecialtyCrops/>). Information provided on olive oil production, processing, and sensory evaluation, for example, assisted the 160 small-scale olive oil producers in Sonoma County. This program strives to help local growers make the highest quality oils possible and to identify and market the specific characteristics of their oils that could lead to greater quality, and higher pricing.

MASTER GARDENERS

The UCCE Master Gardener program, led by Deborah Curle, continued to make our community healthy and safe by helping home gardeners reduce pesticide use, recycle garden waste, conserve water, and grow their own food. Currently 320 active Master Gardeners (MG) volunteers assist non-commercial horticultural clientele. The Master Gardener Food Specialists train home gardeners about growing their own food through presentations at various events throughout the county. This led to the establishment of demonstration gardens at homes and community garden sites. The MG Program with its broad-based network of community projects and a reputation for providing high quality, practical, science-based information via multiple in-person contacts, made over 93,652 contacts and devoted 21,786

VOLUNTEERING TO
CREATE A HEALTHY
COMMUNITY

hours of service on 20 different projects. Our website also reached 81,673 hits (<http://www.sonomamastergardeners.org>).

Additionally, our local government agencies sought to reduce the organic load in the landfill, to keep urban pesticides and fertilizers from contaminating our waterways, and to reduce their budgets for disposal of unused garden chemicals. The Sonoma County MG program has worked closely for years with the Sonoma County Waste Management Agency to teach backyard composting, thereby reducing landfill inputs, and to teach home pesticide use reduction in a program called PURE (Pesticide Use Reduction Education). Those two projects reached 20,033 people through approximately 362 events: community gatherings, workshops, farmers' markets,



Sonoma County Master Gardeners teaching at a summer garden camp at the Sonoma Garden Park

library series talks, and the resource desks. Four hundred-forty school children were also reached in school composting presentations. Based on these efforts, an estimated 1,951 tons of organic materials (kitchen scraps and yard waste) were diverted from the landfill this last year.

4H PROGRAM



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. The California 4-H Centennial marks 100 years as an innovative, research-based youth development program. The centennial offers us the opportunity to celebrate our past and create our future. For a hundred years, 4-H youth have brought information and innovative solutions to their families and communities that has served to strengthen agricultural technology and that tradition continues today. For the next hundred years, 4-H youth will be the ones to solve our most complex societal challenges such as obesity, poverty, depletion of natural resources, climate change, unemployment and food insecurity.

UCCE 4-H, led by Judy Ludovise, implemented several educational programs to impact our local youth. The Science, Engineering and Technology 4-H initiative, or SET initiative, provided children knowledge of and skills in science and engineering. This initiative is helping to address the critical need for more scientists and engineers in the workforce. The Every Child, Every Day Summer Hunger Initiative makes it possible for thousands of Sonoma County low-income children who rely on free and reduced-price school lunches for a major portion of their nutrition during the school year to have nutritious free lunches when school closes for summer vacation. For the last five years, 4-H has provided enrichment and arts and crafts activities for children in the Redwood Empire Food Bank Summer Lunch Program. They spend the afternoon developing social skills, fine motor skills and exploring their own creativity, in a positive environment. This past summer, approximately 1000 youth received services from 4-H. These programs provided by UCCE give local teens the opportunity to gain valuable leadership skills, and our participants are very happy to be engaged in fun, safe, summer activities.

ENGAGING
YOUTH IN THE
COMMUNITY



Children explore the Bay Area Science Festival and maybe their futures!

VITICULTURE AND INTEGRATED PEST MANAGEMENT

To ensure economic and environmental stewardship, the Integrated Pest Management Advisor, Dr. Lucia Varela, conducted research and outreach programs concerning the European grapevine moth (EGVM). As a result of her efforts and in partnership with other University researchers and regulatory personnel, EGVM was declared eradicated in 2012, therefore increasing the viability of Sonoma County agriculture. The Integrated Pest Management Advisor is also developing outreach materials on new invasive pests such as Virginia creeper leafhopper (VCLH), *Erythroneura ziczac*, and brown marmorated stink bug, *Halymorpha halys*. Early detection and prevention is crucial to the viability of agriculture.

Many grape growers in frost prone areas of Sonoma County would like to reduce their use of water for frost protection due to environmental concerns and are contemplating wind



Virginia creeper leafhopper (Erythroneura ziczac) nymph (left). Photo by Mike Poe, UC ANR. Brown marmorated stink bug (Halymorpha halys) (below). Photo by Stephen Ausmus, USDA ARS.



machines as a frost protection alternative. UCCE Viticulture Advisor Rhonda Smith, is a collaborator in a UC research project that recorded temperatures in February through May utilizing 35-foot towers at over 20 sites to determine the effectiveness of wind machines in Sonoma County. The availability of this information will allow growers to make calculated decisions regarding the benefits and potential return on investment of their expenditure on wind machines as compared to other frost protection methods.

Viticulture Advisor Rhonda Smith and IPM Advisor Lucia Varela were among a team of fifty recognized for their work on the recent EGVM eradication program in California. They received the USDA APHIS Administrator's Award in September 2012.

RUSSIAN RIVER COHO SALMON BROODSTOCK PROGRAM

UCCE and California Sea Grant personnel, led by Dr. Paul Olin, continued their comprehensive monitoring program to document the success of the Russian River Captive Broodstock Coho Salmon Recovery Program. Personnel currently monitor all life history stages documenting the successful migration of yearling salmon smolts to the ocean and their subsequent return approximately 18 months later to spawn in Russian River tributaries. The number of returning adult fish has increased steadily since 2009 and is up from 3-5 fish/year in the preceding decade to nearly 500 fish in 2012-2013. This monitoring program is part of a collaborative effort and contributes to the Department of Fish and Wildlife's statewide coho salmon recovery program and the Biological Opinion developed by the National Marine Fisheries

Service to guide recovery efforts.

UCCE and California Sea Grant biologists monitor fish released into Russian River tributaries and provide summary data to both resource managers and the public. Staff monitored juvenile coho survival in response to stream flow in order to develop flow targets and evaluate the long term effects of stream flow enhancement projects on coho survival. Of critical importance is to continue working with landowners to maintain and improve habitat and capitalize on the initial adult returns in order to establish strong wild salmon runs. Research to identify needed stream flows is ongoing and this will inform decision making regarding conflicting water demands, water availability and conservation.



Juvenile coho salmon

WATERSHED MANAGEMENT PROGRAM

The UCCE Watershed Management team, led by David Lewis, has pioneered a novel research project to further understand the indirect benefits from stream restoration - as vegetation matures over multiple decades, more carbon may be sequestered into soil and woody plants which reduces its availability in the atmosphere. UCCE documented the amount of carbon in streamside soil and vegetation so watershed restoration programs have evidence to provide market-based payments for ecosystem services and potential carbon or water quality credits. Sonoma County's conservation partnership, including its farmers and ranchers, are increasingly aware and appreciate the previous accomplishments that now offer greater options to improve long-term agriculture. For more details on the habitat available at restored streams,

see this 2011 article in Restoration Ecology: <http://cemendocino.ucanr.edu/files/97326.pdf>

UCCE Sonoma County continued technical and educational support for Sonoma landowners and land managers implementing Ranch Water Quality Plans, which evaluated existing conservation projects and prioritize future options based on cost effectiveness, existing science (e.g. source, transport, buffers) and agricultural goals. The ranch planning process has leveraged

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Thirty year old stream restoration site (above) and soil aggregate from the floodplain sample plot depicting annual deposition layers of leaf litter and sediment (left).

(Watershed Management Program cont.)

additional grant funds to implement new water quality improvements that landowners prioritized on their plans. Utilizing the working relationships within Sonoma's conservation partnership, UCCE developed a collaborative and science-based model of community education, responding to regulations, to find solutions for improving farm viability for generations to come. More resources on ranch planning and grazing waiver compliance in Sonoma and Napa counties is available at this UCCE website: http://cesolano.ucanr.edu/Livestock_and_Range_Management/Water_Quality_671/Napa_River_and_Sonoma_Creek_Watersheds_Grazing_Waiver/

ECOSYSTEM SERVICES ON RANGELANDS

Ecosystem services are the functions performed in systems that lead to desirable environmental outcomes in landscape habitats. In Sonoma County, local rangelands provide valuable ecosystem services, such as biodiversity, water quantity and quality and carbon sequestration. Dr. Stephanie Larson worked with landowners to document management practices which have been or could be implemented that would improve rangeland production while increasing ecosystem services in return. Through this effort, a process for payment for ecosystem services could be developed to benefit local agriculture while increasing ecosystem services provided to Sonoma County residents. The project resulted in the development of a web site: <http://ucanr.org/sites/RangelandES/>.

SUDDEN OAK DEATH PROGRAM



SOD Specialists measure a tan oak tree at Austin Creek SRA

The stewardship of our forests and urban landscapes is extremely important to Sonoma County residents. Sudden Oak Death (SOD) disease is a recent arrival in Sonoma County and now infests about 20% of our local forests and urban landscapes, killing an estimated 137,000 trees last year alone. To prevent the devastating environmental impacts of losing our susceptible oak tree species, the Sonoma County SOD Program, led by Lisa Bell, conducts outreach to help prevent the spread of this exotic disease. Educational efforts in 2012 included a monitoring program for disease detection throughout the county. Public outreach efforts included educational presentations to Sonoma Valley Realtors, the Sonoma County Forum, SRJC classes, library talks, and various seminars. Twenty-two Master Gardener SOD Specialists devoted 407 hours contacting 1,313 people at 50 events. Additionally, the SOD coordinator made 347 direct contacts to homeowners, local government agencies, and tree care professionals to consult on SOD detection, prevention, and disease management. The SOD web page is: http://cesonoma.ucanr.edu/Custom_Program193/.

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