

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.

About the Cover Photos, clockwise from top left:

1. Arnold family standing in front of the giant Gravenstein apple tree at the Arnold Ranch, 1929. Courtesy of the Western Sonoma County Historical Society.
2. 4-H member, Donna Winkler Koch, and her show calf, 1947. Courtesy of Diana Stornetta.
3. Arthur Purvine standing with his Jersey herd at his Two Rock ranch, 1930. Courtesy of the Sonoma County Library.
4. W.W. Monroe orchard and vineyard with grape pickers at work, 1911. Courtesy of the Western Sonoma County Historical Society.



Dear Supervisors David Rabbitt, Chair, Efren Carrillo, Susan Gorin, Mike McGuire and Shirlee Zane:

This year, 2014, marks the Centennial of University of California Cooperative Extension (UCCE), the research and outreach arm of the University of California. Cooperative Extension is a nationwide system of community-based education, established by passage of the Smith-Lever act in 1914 as part of each state's land-grant university.

Valuing public/private partnerships, the Smith-Lever Act required each county government that wanted to participate in the Cooperative Extension partnership, to allocate funding to support extension work in their community. Additionally, it required that a group of farmers in participating counties organize into a "farm bureau" to help guide the farm advisor on the issues of local agriculture.

In its first years, Cooperative Extension played a critical role on the home front during World War I, helping farmers to grow enough wheat and other crops to meet wartime needs. Cooperative Extension officials also understood the importance of introducing new technologies to a younger generation. They formed clubs in which youth could experiment with new agricultural methods and share these successes with their parents. Eventually the clubs took the name 4-H, representing head, heart, hands and health.

After World War II, as the nation urbanized, many Cooperative Extension efforts were developed to meet the needs of non-rural audiences, including nutrition education and the creation of the Master Gardener Program, offering workshops and advice to home makers and gardeners.

Today, UCCE advisors in Sonoma County are critical partners with local farmers and ranchers, providing scientific-based information on techniques to increase production and economic stability, while addressing environmental concerns. Our programs address viticulture and integrated pest management, livestock and range management, specialty crops, sudden oak death, value added agriculture, beginning farmers and ranchers, Coho monitoring, agritourism and ecosystem services. We have Master Gardener volunteers who provide education and outreach to Sonoma County residents concerning water conservation, home food production and pesticide reduction. We also have one of the largest 4-H youth programs in California, focusing on leadership, science and technology. Investment in agricultural research is important for the economy, the environment, and the health of our communities. Economists have shown that \$1 invested in agricultural research returns \$21 to California residents.

UCCE has provided expertise in agriculture production and natural resource management for over 100 years. I thank you, as the leaders of Sonoma County, for your continued support of the UCCE, and with your help, we envision a thriving Sonoma County where healthy food systems, environments, and communities are strengthened by a close partnership between Sonoma County and the UC Cooperative Extension for the next 100 years.

Sincerely,
Stephanie Larson

UC Academic Advisors

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

David Lewis
Watershed Management

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

Rhonda Smith
Viticulture

Steven Swain
Environmental Horticulture

Lucia Varela, Ph.D.
Integrated Pest Management

Julia Van Soelen Kim
North Bay Food Systems

Paul Vossen
Specialty Crops

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Bonnie Stritzel
4-H Secretary, Office Assistant

"Every Californian should fathom the wisdom and intent of the UC in establishing 'Real Education' in the form of the Cooperative Extension. Protecting our land, animals and the future of Agriculture is a paramount to their continuing endeavor. Education in America could learn much from this time proven model. Happy 100th, for all you do!"

-Dan Benedetti,
Board Chairman
Clover Stornetta

ESTABLISHED 1918
UCCE SONOMA COUNTY, PAST

1000 HOP PICKERS WANTED
245 ACRES OF HOPS
TO PICK IN THE YARDS OF **WOHLER RANCH** ON THE RUSSIAN RIVER
Butcher Shop, Grocery Store, Ice Cream Stand, Lunch Room at the Camp **FREE TENTS, WOOD AND WATER**
CHISHOLM FARMS CO.
Phones: Santa Rosa 2F15 Windsor 6F24 ROUTE 1, BOX 109 Healdsburg, California

Agricultural worker ad, 1940s

Over the last century agriculture has dramatically changed in Sonoma County. In the late 1800's and early 1900's Sonoma County was the bread basket of California primarily because we could grow many crops here without irrigation due to the lower water demand in our cool coastal climate and deep soils that were annually filled from plenty of winter rainfall. Production included many fruit, vegetable and seed crops that were transported down to Petaluma and taken into San Francisco by boat. Agriculture was booming in 1950 when the top ten crops were 18,338 acres of prunes; 15,849 acres of wine grapes; 10,874 acres of apples; 2,796 acres of hops; 2,072 acres of pears; 1,093 acres of walnuts; 732 acres of vegetables (279 acres were potatoes); 670 acres of berries; 636 acres of cherries; and 475 acres of walnuts.

Now, based on 2012 data, we have only 2,195 acres of apples left and all the other tree crops have almost completely disappeared down to 185 acres combined.



Sonoma County prune harvest circa 1966

production and olives, away from other tree crops. The decline of the prune, apple, hops, and other tree crops industries can be primarily attributed to inadequate water

that has increased is olives, which has increased to about 700 acres. Meanwhile the wine grape acreage has increased to 59,219 acres and vegetable acreage is about the same, though many fewer acres are planted to potatoes. Over the last 25 years the value (not adjusted for inflation) of apples declined by about 50% (\$5.3 million) while the value of wine grapes increased by factor of eight, up to almost \$600 million. Clearly there has been a shift towards wine grape

resources placing Sonoma County producers at a competitive disadvantage. Production for those crops has moved to other states or the Central Valley of California where yields are higher, production costs are lower, and product price is more competitive with large volume world markets.

Farm Advisors over the decades have addressed agriculture and home economic issues in a variety of ways. Several farm field days, as seen in this picture circa 1965, were spent discussing a new grass variety and how it would increase weight gain in cattle. Home economics advisors taught how to can fruit and make drapes.

The farm and home advisors were focal points to deliver innovative information on the latest research from universities. Depending on the needs of the “farmers” or the “home makers”, the UC Cooperative Extension was present to assist with the issues at hand. For example in 1965, there were approximately 300 dairies in Sonoma County, focused on increasing milk production through better feeding and management. Advisors helped dairy producers upgrade their milking equipment, moving them from Grade B to Grade A dairies. Unfortunately,



Farm Advisors, Mose Lusk and George Bath, giving field course, circa 1965

increasing population coupled with the mid-seventies drought, resulted in dairies having to address environmental issues, such as water quality and quantity. Farm advisors changed too, leading the way by forming a water hauling program and supporting better manure management systems.

When Farm Advisor Stephanie Larson started in the mid-eighties, her focus was on increasing forage production and addressing the loss of sheep to predation. County sheep numbers were dropping from an all-time high of 150,000 head and effective methods to reduce predation losses were critically needed. Larson worked with local sheep producers and wildlife specialists from all over the US, to help ranchers implement techniques to protect their animals. As other environmental issues came to the forefront, her program focus shifted to address water quality issues as they related to nutrients, pathogens and sediments in waterways.

As they say, the more things change, the more they stay the same. The UC Cooperative Extension advisors have supported local agriculture and home issues for 100 years; here’s to the next 100.

I will watch my grandchildren show their lambs, continuing a proud tradition of livestock husbandry that has defined our family for more than 70 years in Sonoma County.

Agriculture is the strongest link we have with Sonoma County's past and our own family heritage as ranchers living on the land."

-Diana Stornetta, Sonoma County Rancher and 4-H Volunteer

UCCE SONOMA COUNTY, PRESENT

4-H PROGRAM

4-H was founded to inspire rural children to teach their parents better farming techniques—these days members do everything from raising rabbits to building robots. Over the past century, 4-H has been at the forefront of experimental education, linking the program's positive identity to today's basic educational philosophy: *Learn by Doing*.

Over 1000 youth spend time learning leadership, citizenship and life skills. 4-H youth cultivate important life skills that build character and assist them in making positive life and career choices. Youth learn science, math, social skills, and much more through hands-on projects and activities. 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.

The opportunity to be of service to one's community has always been important for youth. Service to the community helps young people learn compassion, leadership, and citizenship. This past year 4-H'ers were out in the community:

- Organizing canned food drives
- Mentoring younger kids at camp
- Organizing book drives
- Tutoring fellow students
- Making crafts bags for hospital patients
- Sending care packages to the troops
- Putting together Easter baskets for kids in need
- Making and sending thank you cards to service members overseas
- Adopting a family for the holidays and giving food and gifts
- Bringing animals to a homeless shelter for visits



4-H youth and adult volunteers scrub the fairgrounds annually.

One Idea Turned into 100 Blankets. This past year, the 100 Blankets Project helped to open eyes to what the Family Justice Center has to offer and how we as a group and individually can help it be successful by volunteering in small and big ways.

4-H leader, Bonnie Van Anda, decided she had to do something to help families in crisis coming to the Center so she applied for and received a \$1000.00 grant from the California Youth Development Program. She organized a team of 4-H teens, parents, and project leaders, and together they made 100 winter blankets for the families in crises. By making these blankets, Bonnie and the 4-H community hope that those who receive know that other people care. Family Justice Center Sonoma County Executive Director Gloria Eurotas said, "We



4-H youth with the blankets they made as gifts to the Family Justice Center

"My family's 4-H history spans four generations.

The 4-H program is second to none when it comes to community service, leadership, respect and responsibility. Our volunteer leaders spend more time supporting our program and youth than they do working. Why? Because they truly want to affect the next generation of youth, the leaders of tomorrow."

-Cheryl Mohrman

are overwhelmed by the generosity of Bonnie, her team, and the 4-H Community. They are a perfect symbol of the wrap-around care that our community has come together to offer these individuals in need."

Amazing Volunteers. Youth-Adult partnerships in 4-H provide an opportunity for youth and adults to share responsibility and ideas and to develop leadership skills together. 4-H youth today often become our 4-H volunteers of tomorrow. Each year the Sonoma County 4-H program trains 100-200 new adult volunteers, who work hard to create our leaders of tomorrow. Adult volunteers truly are the "heart of 4-H!"

MASTER GARDENERS

The UCCE Master Gardener program, led by Mimi Enright, 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 Gardener (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. The Garden Sense program is a new partnership with the Sonoma County Water Agency; MGs will make a free visit to a client's home to consult on water conservation practices. 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 22,289 contacts and devoted 19,677 hours of service on 20 different projects. Our website also reached 227,508 hits.

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 with the Sonoma County Waste

Management Agency for years, to teach backyard composting, thereby reducing landfill inputs; and to teach home pesticide use reduction in a program called IPM (Integrated Pest Management). Those two projects reached people through approximately 390 events: community gatherings, workshops, farmers' markets, library series talks, and the resource desks. MGs also reached 587 children with school composting presenta-



"Gardening with Less Water" community talk by Master Gardeners

“Rhonda Smith is universally admired and respected by Sonoma County growers for her scientific know-how in advancing the County’s wine grape production. [...] Rhonda is regularly called upon to advise grower organizations and government agencies about sustainable and organic production practices, natural resources and conservation.

*-Tim Tesconi,
Executive Director,
Sonoma County Farm
Bureau*

UCCE SONOMA COUNTY, PRESENT

tions. Based on these efforts, an estimated 17,282 tons of organic material (kitchen scraps and yard waste) were diverted from the landfill in 2013.

To increase the diversity of our membership and leaders within the Sonoma County Master Gardener and 4-H programs, UCCE Sonoma County initiated an outreach program into traditionally underserved populations. The first outreach effort brought together UCCE, 4-H leaders and 4-H members, along with non 4-H community leaders to develop program strategies to increase participation in the UCCE 4-H program. This effort resulted in the 4-H program increasing the enrollment of Latinos, with the first charter school club of Latino youth and leaders. Similar outreach efforts have recently begun to increase program diversity within the Master Gardener program.

VITICULTURE & INTEGRATED PEST MANAGEMENT

Viticulture. Viticulture farm advisor Rhonda Smith investigated the effects of a recently discovered grapevine virus on fruit ripening and yield by conducting and coordinating field trials in Sonoma and Napa counties respectively in collaboration with USDA, UC and UCCE researchers. Through this effort, we characterized foliar symptoms of red blotch disease in three grape varieties and evaluated the impact on fruit quality. The disease is named for the leaf color it causes on red grape varieties, however, the same name applies to infected white grapevine varieties as well. Rhonda tracked the foliar symptoms in Chardonnay grapevines which are easily mistaken for nutrient problems. This research has allowed growers to make informed decisions regarding virus testing and plant material.

To assist growers in reducing their water use for frost protection, the Sonoma County viticulture advisor collaborates with the San Luis Obispo advisor to provide temperature inversion data in spring that will inform growers on the relative effectiveness of wind machines to protect their vineyards from frost damage. By reducing the reliance on water for frost protection where possible, the project improves the sustainability of agriculture in the face of limited water resources.



Grapevine red blotch disease symptoms on Cabernet Sauvignon



Grapevine red blotch disease symptoms on Chardonnay



UCCE tower records temperature inversion conditions

Integrated Pest Management. To assist growers in their efforts to farm sustainably and pursue their commitment to environmental stewardship and their community, the Integrated Pest Management Advisor Dr. Lucia Varela, in collaboration with the Viticulture Advisor provides research and outreach programs addressing exotic pests. As a result of their efforts and in partnership with other University researchers and regulatory personnel European grapevine moth was declared eradicated from Sonoma County in 2012 increasing the economic viability of agriculture. Work is presently focused on a new invasive pest Virginia creeper leafhopper, *Erythro-neura ziczac*, recently detected in neighboring northern counties. Given that the brown marmorated stink bug, *Halymorpha halys* has been detected in Sacramento, efforts are underway to monitor for this pest because early detection and prevention is critical for successful management.

UCCE advisors are monitoring three tortricid species year round with pheromone traps in three Sonoma County appellations. Male moth trap catch data will be meshed with the timing of the appearance of moth larvae over the growing season. Their research will allow them to build accurate insect development models specific to our climate and enable growers to improve their monitoring and identification skills for these pests.



European Grapevine Moth damage on grapes

SPECIALTY CROPS

The specialty crops focus in Sonoma County now is with small-scale producers who are growing high value crops primarily for direct sales at stores with premium quality produce departments, farmers markets, restaurants, farm stands, and to subscription customers. Innovative producers are growing specialty varieties of heirloom tomatoes, berries, colored bell peppers, oil olives, antique apples, Meyer lemons, and Asian pears. Most of those crops are being grown organically but lately their “grown locally” status has become even more important. There is also a resurgence in the interest for growing hard cider apples and fresh hops for the rapidly growing brewing industries. The primary areas of focus for Paul Vossen, the Specialty Crops Advisor has been to help beginning and existing farmers evaluate the productive capacity of their land, select appropriate crops, and to irrigate



Whitney crab cider apples

them efficiently in the face of a drought. He helped get much needed information out to farmers about dry-land farming and managing irrigation to maximize production and to minimize plant water stress. His work continues on characterizing the culinary flavors of locally produced olive oils in order to help producers market their specialty oils. He also worked extensively with Master Gardeners to develop two training documents for volunteers and a document for gardeners so they could best manage their urban gardens with less water.

WATERSHED MANAGEMENT PROGRAM

The UCCE increased the capacity of its partners to learn from past stewardship projects. This provided greater management options for future conservation planning that improves ranch/farm productivity, water quality, wildlife habitat, Carbon sequestration and groundwater infiltration. In 2013, the Watershed Program:

- Increased land managers' understanding of numerous practical alternatives for riparian areas. The UCCE combined local and national research results with an in-depth compilation by UC Davis, *A Scientific Assessment of the Effectiveness of Riparian Management Practices*, to inform General Plan policies and educate partners with one-on-one meetings and newspaper articles.
- Assisted Sonoma County Agricultural Preservation and Open Space District with a plan for improvements on a family-operated dairy farm in the Petaluma River Watershed.
- Educated land managers so they could complete Ranch Water Quality Plans, covering over 7,000 acres, to be in compliance with the Conditional Waiver in Sonoma Creek Watershed.
- Provided resources to help landowners with stock ponds to comply with new water use regulations and manage aquatic weeds in collaboration with County departments and other partners.
- Educated vineyard managers about the proposed draft Conditional Waiver requirements with newsletter article co-authored by Viticulture Advisor Rhonda Smith that followed public meetings organized in collaboration with partnering agencies.

Microbial Pollution Resources. In 2013 the UCCE authored a research article, *Spatial and Temporal Dynamics of Fecal Coliform and Escherichia coli Associated with Suspended Solids and Water within Five Northern California Estuaries*. The study evaluated potential pathogens in three Sonoma County estuaries (Russian River, Salmon Creek and Estero Americano) and was published by the Journal of Environmental Quality. Practical resources were made available to environmental monitoring and watershed management of microbial pollution, such as the UC Microbial Water Quality Information Center.



UCCE's Ranch Planning Coordinator, Michael Lennox, follows a systematic process using maps to help land managers prioritize their site-specific stewardship efforts.

"The UCCE Watershed Program provided the District valuable expertise by evaluating an agricultural property the District was working to preserve. They performed a site visit, talked with the landowner and District about management practices, and made recommendations to improve water quality on the property and for downstream neighbors. This helped the District craft a conservation easement that will preserve the property for future agricultural use while insuring natural resource protection for future generations."

*-Stuart Martin,
Sonoma County
Agricultural Preservation
and Open Space District*

"The UCCE Watershed Program has been an important partner in our work at Tolay Creek Ranch and in the County. Bringing ideas, expertise and enthusiasm, they have helped us with our riparian enhancement work, especially around the thorny topic of monitoring. They seem to sit at the nexus between research and practice, trying to bring the two together, and that is just where we need them in our conservation land management work."

*-Bob Neale,
Sonoma Land Trust*

RUSSIAN RIVER COHO SALMON PROGRAM

Re-establishing Salmon in the Russian River. The Russian River watershed was once home to a world-renowned steelhead and salmon fishery. In recent decades, however, returns of adult coho dwindled to as low as 3-5 per year, landing Russian River coho on the State and Federal Endangered Species Lists. With coho on the brink of extirpation from the Russian River basin, a collaborative partnership was established with the objective of re-establishing a self-sustaining population of coho salmon in the basin--the Russian River Coho Salmon Captive Broodstock Program (RRCSCBP). This partnership includes the US Army Corps of Engineers, the National Oceanic and Atmospheric Administration Fisheries Service, the California Department of Fish & Wildlife, the Sonoma County Water Agency, and the University of California Cooperative Extension/California Sea Grant Extension Program.

Program partners breed coho salmon at the Warm Springs Hatchery from local genetic stock, then release juvenile coho into Russian River tributaries with known, historic coho runs.

Monitoring Salmon in the Russian River. UCCE and California Sea Grant's Russian River Coho Salmon Monitoring Program (RRCSSMP), led by Dr. Paul Olin, is the monitoring branch of the RRCSCBP. Program biologists monitor hatchery-bred and wild coho at all life stages throughout the southern portion of the Russian River watershed by conducting spawner surveys of returning adults in the winter, downstream migrant trapping of smolts in the spring, and snorkel surveys of juvenile salmonids in the summer. UC biologists have also installed dozens of PIT tag antennas throughout the watershed to track movement of PIT-tagged fish at all life stages.



In 2013 they embarked on what was possibly their largest feat to date--a cooperative effort with the Sonoma County Water Agency to install and operate 24 antennas that span the Russian River main stem in Duncan's

Mills. These antennas allow Program Supervisor Mariska Obedzinski to generate accurate estimates of returning broodstock program fish. During the winter of 2012-2013, she determined that over 460 hatchery coho returned as adults to spawn in Russian River tributaries. Biologists also documented the presence of an estimated 12,590 juvenile coho salmon the following summer. These are, by far, the highest recorded numbers of coho salmon in decades!



Coho Program staff member, Nick Bauer, measuring a coho redd on Green Valley Creek.

RRCSSMP biologists continued their study to correlate oversummer survival of juvenile coho with instream flow and habitat conditions on four streams, as part of their ongoing work with the Russian River Coho Water Resources Partnership. They are working to identify flow thresholds for coho to better inform efforts by program partners to

implement stream flow enhancement projects. In addition, in 2013, UC biologists conducted baseline data collection for a project to document the effectiveness of a high-flow side channel restoration project on Green Valley Creek.

SUDDEN OAK DEATH PROGRAM

The stewardship of our forests and urban landscapes is extremely important to Sonoma County residents. Sudden Oak Death (SOD) is an exotic disease that infests about 20% of Sonoma County forests. There are environmental impacts of losing our oaks, so the Sonoma County SOD Program, led by Lisa Bell, conducts outreach to help manage the disease near our homes and in our forests.

In 2013, 15 Master Gardener SOD specialists devoted 341 hours contacting 1,234 people at 50 events. Additionally, the SOD Coordinator made 2,800 direct contacts to homeowners, local government agencies, and tree care professionals to consult with them on SOD detection, prevention, and disease management. Activities in 2013 included a Citizen Science disease monitoring weekend; "SOD in Sonoma County" video production; a guide for homeowners to identify "Common Oak Species of Sonoma County"; "Education in the Parks" which brought SOD education to people biking and hiking in infested regional parks; and 25 field visits with homeowners and land managers to discuss SOD management.



Collecting samples in the forest to monitor for sudden oak death

LOCAL FOOD SYSTEMS AND SECURITY

I was able to make my concept a reality thanks to UCCE's Agropreneur Program, by creating a business plan. That allowed me to partner with Bucher Dairy for my vermi-composting operation. UCCE also connected me with a financial advisor--a mentor for the program who coached me on how to pitch my business idea to potential lenders including Kiva Zip, an online crowdfunding mechanism. I've been able to grow the business slowly.

*-Rick Kaye
2012 Graduate
BFR Program*

UCCE SONOMA COUNTY, PRESENT

UCCE continues to partner with a variety of entities on county initiatives. UCCE has been a stakeholder/member of the Sonoma County Food System Alliance (FSA) since its inception in 2009, and helped shape the Food Action Plan that will launch in 2014. In addition, UCCE sits on the FSA's Agriculture and Natural Resource committee, working to preserve our agricultural land, and keeping it in food production.

Regionally, through the North Coast Regional Food System Network, counties share marketing resources through Sonoma County's *Go Local* branding; UCCE also participates in an Annual Farmers Convergence to continue sharing ideas and resources.

Beginning Farmer and Rancher Development Program (BFRDP). UCCE works hand in hand with agricultural industries to provide farmers and ranchers with scientifically tested production techniques; enhance markets; and provide all Californians with increased food safety. The UCCE, through its 3-year USDA Beginning Farmer and Rancher Development Program (BFRDP), taught farmers and ranchers sustainable crop and animal practices relative to commercial agriculture, marketing skills, and business plan development. The BFRDP web site aids in program outreach and the Facebook page provides continual information. In the past two years, the program graduated 40 farmers and ranchers, of which 25% represent underserved groups. Providing opportunities to learn sustainable animal and crop science, along with business planning, will create a sustainable agricultural community in Sonoma County. It will increase food production, assist with economic stability in agriculture, and result in increased consumption of local healthy food. Successful outcomes in 2013 included:



Beginning Farmer and Rancher Class of 2012

- 85% of participants creating a business plan after meeting with lenders, business counselors, Master farmers & ranchers, marketers, and certifiers.
- Beginning Farmers have gone on to become: a cheese maker; a cheese maker/business owner; a farm manager at biodynamic farm and vineyard; a CSA farmer; a dry-farm tomato grower; an assistant farm manager at goat dairy farm; a hard cider producer; a poultry, rabbit, and hops producer.
- Four Beginning Farmers grew crops for Shone Farm's CSA and culinary program.

In 2014 we will train our last class of Beginning Farmers, turning out more "next generation" farmers & ranchers in Sonoma County.

Sonoma County Incubator Farm. The "County Land For Food Production" (CFLP) initiative, approved by the County Board of Supervisors, is moving forward with UCCE working with our County Department of Health Services and Sonoma County Agriculture Preservation and Open Space District to create an incubator farm on county land, and to offer opportunities on other suitable county land as well.

Lack of access to affordable land is often cited as one of the top barriers for aspiring farmers and ranchers who are beginning their enterprises. UCCE, Stephanie Larson and Linda Peterson worked with Sonoma County Departments, Agricultural Preservation and Open Space District (District) and Health Services to develop an “incubator farm” concept which will provide land temporarily; allowing farmers to hone their production and marketing of local agricultural (food) products. In addition to access to land, incubator farms may support new farmers and ranchers by offering mentoring, equipment, infrastructure, and below market rate leasing for a limited time, until farmers are confident they can be on their own, which means they have the ability to acquire or lease equipment and land elsewhere.

UCCE engaged with several Sonoma County departments (DHS, District, Regional Parks, Sonoma County Water Agency, Agricultural Commissioner, and General Services) to assess the feasibility of making county land available. The CLFP identified community gardens, and farming and ranching land that could be used to produce food locally, and now are leading a unique effort to support the viability of local agriculture and increased access to healthy food.

AGRICULTURE OMBUDSMAN

10% in 10 years. The Agriculture Ombudsman helps farm and ranch operations determine regulatory requirements for expanding their operations, and works directly with regulatory agencies to support UCCE and County initiatives.

Within the next year, agricultural operations will be able to set up small-scale agricultural processing and/or retail sales on agriculture-zoned land without a use permit. This will encourage growth in niche processing such as cheese making, fibers and more, saving the land owner thousands of dollars in use permit fees. The Sonoma County Permit & Resource Management Department worked with the Agriculture Ombudsman to reduce the barriers to change and expansion for agricultural businesses in Sonoma County.

As part of the Sonoma County Food System Alliance (FSA), the Agriculture Ombudsman is part of a movement to encourage people to grow and consume food locally. The FSA is made up of a diverse membership of individuals and organizations including Sonoma County Department of Health, Ag Innovations, and Community Alliance with Family Farmers. The Goal: To increase local food consumption by 10% in 10 years.



Sonoma County cheesemaking: cheese being put in molds

ECOSYSTEM SERVICES ON RANGELANDS

Ecosystem services are the functions performed by ecosystems that lead to desirable environmental outcomes. Sonoma County covers a land mass of over 1 million acres, almost 1,600 square miles. The largest land mass in Sonoma County outside of our urban areas are the rangelands, which account for more than half of our county's overall landmass.

Stephanie Larson, working with the Sonoma County Agricultural Preservation and Open Space District and the Economic Development Board, will assess the environmental services rangeland ecosystems will provide to landowners and residents of Sonoma County. These values include open viewsapes (open space), clean air, water and water quality, carbon sequestration in addition to livestock forage, wildlife habitat, and recreation. UCCE will provide additional research on the unseen benefits and services associated with carbon and nitrogen sequestration, water filtration, climate and disease regulation, genetic resources, pollination, nutrient cycling, and photosynthesis.

By developing these lands we begin to understand just how important rangeland is to the health and well-being of our Sonoma County ecosystems, and in turn, the health and well-being of our communities. The recognition of ecosystem service roles on Sonoma County rangelands and other incentive mechanisms help to define our "working landscapes." UCCE will continue to lead efforts to demonstrate the importance of recognizing sustained management of working landscapes in Sonoma County.

100

Despite its rural roots, as communities have changed so has UC Cooperative Extension, adapting and fine-tuning programs to meet the needs of a changing society. As our county urbanizes, we will continue to meet the needs of non-rural and rural audiences alike. Examples include: partnership among County Departments such as Health Services, Economic Development and Agriculture Preservation and Open Space District, and our on-going alliance with the Agricultural Commissioner. We are leaders on the ground, conducting research on invasive species, niche marketing, and natural resource management, while also providing advice to community and home gardeners and cultivating leadership skills in our youth. Regardless of the population served, UC Cooperative Extension activities are grounded in university research and developed in partnership with local communities.

Today, Cooperative Extension continues to serve communities throughout California as part of the University of California's Division of Agriculture and Natural Resources (UCANR) with 200 county-based Cooperative Extension advisors, 130 campus-based Cooperative Extension specialists, 57 county offices, and nine research and extension centers. Over a century of service, Cooperative Extension has continued to connect communities with the land grant campus, bringing practical, trusted, science-based solutions to Californians.



<http://ucanr.edu/sites/100years/>



Henning Fett, Deborah Curle, Lisa Bell, Mimi Enright, Paul Vossen, Stephanie Larson, Tiffany Melville, Judy Ludovise, Rhonda Smith, Linda Peterson, Paul Olin, Jeremy Cusimano, Karen Giovannini, Mike Lennox, Sarah Nossaman.

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