



UC MASTER GARDENER PROGRAM

The Calaveras Master Gardener Program maintained the Calaveras Demonstration Garden open weekly, offering individual garden instruction, six workshops, and two major events: "Kid's Day in the Garden" and the "Autumn Festival," drawing 480 participants. Instruction focused on sustainable gardening, with clients benefiting from free produce and seeds.

Surveys showed significant behavioral changes, such as increased green waste activities (14%-43%), pollinator-friendly practices (100%), expansion of edible plant varieties (20%-40%), and more outdoor time (60%). Master Gardeners also educate at local elementary schools and provide gardening resources in Calaveras County libraries, while managing a help line and social media presence to support community gardening inquiries and events.



Melons and Zucchini harvested from the Master Gardener Demonstration Garden. Photo by Debbie Powell.

FORESTRY & NATURAL RESOURCES

In addition to the Forest Stewardship Workshop series, the program offers additional webinars and field days to expand participant knowledge around forestry related subject and improve the management of their forestland. One participant who attended the workshop series in 2020, has gone on to attend two additional webinars.

Protecting natural resources and promoting economic prosperity are interlinked, and UCCE is actively pursuing these goals through collaboration with stakeholders in the biomass and forest products sectors. By partnering with local industry, like Yosemite Clean Energy and Heartwood Biomass, and engaging community leaders, UCCE supports the development of locally sourced, value-added forest and biomass products. They also liaise with policymakers to ensure community voices are heard and regional initiatives receive state support. UCCE Woody Biomass and Forest Products Advisor Cindy Chen is involved in research projects exploring local biomass opportunities, with one CalFIRE-funded project due in 2026 that will guide the establishment of wood utilization campuses in California, benefiting the Central Sierra communities.

Innovative biomass utilization is pivotal for enhancing community resilience against wildfires in a changing climate. UCCE promotes public awareness of alternative biomass treatments through outreach efforts like publications, presentations, and workshops. Chen's surveys revealed a strong community interest in woody biomass utilization, funding opportunities, and wildfire prevention via fuel reduction. In response, Chen is collaborating with Resource Conservation Districts to launch a program in Spring 2025, featuring speakers from various sectors.

Research underscores the importance of educational programs in raising community awareness, dispelling misconceptions, and fostering stakeholder engagement, thereby delivering economic and environmental benefits. For instance, Monroe and Oxart (2011) demonstrated that participants in a wood-to-energy outreach program were more likely to utilize the knowledge and networks gained. Similarly, UCCE's education programs equip communities to support biomass and forest product utilization, enhancing resilience, preparedness against extreme weather, and local economic growth.

COMMUNITY HEALTH & NUTRITION

In FFY24, CFHL UCCE educators in Calaveras County delivered nutrition lessons to 1,844 participants through 451 sessions, totaling 455 hours of direct education. Beyond these lessons, they reached over 20,000 community members with indirect resources like newsletters, videos, tasting events, and items like cooking tools. Notably, 86% of direct education was conducted in schools or after-school programs, incorporating cooking and gardening to teach healthy eating, food groups, and physical activity. The cooking component helps students create positive experiences with whole foods, enhancing their ability to prepare healthy meals. Additionally, CFHL partnered with the Resource Connection's Head Start program, conducting 108 sessions over 91 hours, reaching 249 young students and their families. They provided education, resources, and increased physical activity. Throughout the year, CFHL UCCE facilitated 3,964 tastings, with 65% of students trying new foods. After tastings, 92% were willing to try the food again, and 85% wanted to request it at home, highlighting the program's impact on fostering healthy eating habits.

In FFY24, six sites in Calaveras County collaborated with the CFHL, UCCE program to implement Policy, System, and Environmental (PSE) changes to promote healthy living. Calaveras High School and Valley Springs Elementary School, among four sites, focused on enhancing or establishing gardens to provide over 1,300 individuals with access to positive natural spaces. The Tri-county Wellness Coalition, co-chaired by a CFHL UCCE CES and the CFHL Supervisor, held bi-monthly meetings to unite leaders from Amador, Calaveras, and Tuolumne Counties, improving coordination for food distribution, education, and wellness initiatives. A Community Health Needs Assessment conducted by the CNH advisor identified resources, barriers, and priorities in Calaveras County. From 31 survey respondents, five were from Calaveras. The assessment highlighted five high-impact program areas for future focus: Youth Engagement, "Food is Medicine," culturally competent nutrition education, expansion of Food Hubs, and mixed-use pathways for safe physical activity.

4-H YOUTH DEVELOPMENT PROGRAM

In 2024, Calaveras County 4-H hosted key events such as a County Home Arts, Creed Competition, and Presentations event, as well as annual officer training.

The County Council awarded a high school scholarship to a 4-H member and sent youth to the 4-H Ignite Conference in Washington D.C. The Livestock Leaders Project also did a radio spot during the Calaveras County Fair. Additionally, the program launched its first Project Leader Kickoff, offering both in-person and virtual youth development training for volunteers. The Pollinator Habitat Ambassador Program continued, with teen teachers presenting at Ag Awareness Day.

Youth developed public speaking skills and increased confidence through presentations, while those in Home Arts gained valuable project knowledge. The scholarship program supported high school seniors pursuing post-graduation education. Ignite Conference attendees expanded their knowledge through workshops.

Adult volunteers gained professional experience and leadership skills, benefiting their personal and professional growth. These efforts empower youth to take leadership roles, with skills like money management contributing to economic prosperity. The Pollinator Program helps youth understand ecological impacts, while volunteer training helps create a qualified workforce.



AGRICULTURE

Small-scale farmers in the Central Sierra face challenges due to limited access to reliable information on plant production and pest management. The absence of local agronomy and pest control advisory services has increased demand for scientifically accurate guidance from the University of California Cooperative Extension (UCCE). In response, the UCCE Local Food Systems advisor conducted 29 one-on-one consultations with farmers, both new and existing. These sessions addressed various topics, including pest management, new farm initiation, crop selection, irrigation scheduling, frost protection, and permaculture. As a result, nineteen growers expressed their intent to adopt the recommended practices, while others reported enhanced understanding and changes in their decision-making processes, particularly regarding orchard establishment and pest control in grapes and olives.

Additionally, the UCCE advisor presented at the Calaveras Wine Grape Alliance Growers meeting on managing grapevine powdery mildew. The presentation was well-received, with 87% of attendees gaining new insights and 57% planning to implement the knowledge acquired. Attendees praised the presentation for its clarity and informativeness, highlighting the usefulness of tools like the Powdery Mildew Risk Assessment Index. One attendee said that they have been coming to these meetings from couple of years but this one was the most informative. By offering research-based education, the UCCE advisor is significantly contributing to California's economic prosperity by enhancing agricultural efficiency and profitability.

The UCCE Integrated Pest Management (IPM) Advisor in Central Sierra provided over 30 consultations to local growers. The clients helped were from a variety of crops, such as Christmas trees, grapes, stone fruits, and vegetables. The IPM Advisor delivered a hybrid presentation to 20 members of the Calaveras Grape Growers Association on "Grape Diseases and Pests." By engaging with the community, the advisor increased agricultural efficacy and sustainability in the region.

LIVESTOCK & RANGELAND

University of California researchers are exploring virtual fence (VF) technology to enhance livestock grazing management on California's range and forest lands. Traditional fencing can be costly and inflexible, but VF provides a dynamic alternative using audio cues and mild electrical pulses to guide livestock without physical barriers. This technology allows precise animal placement and includes real-time tracking. In 2023, UC Cooperative Extension received nearly \$300,000 to test VF's efficacy. Studies revealed VF's potential to control medusahead grass, an invasive species that reduces grazing capacity by up to 80%, with cattle staying within VF boundaries 99% of the time and reducing viable seed by 96%.

Additionally, VF is used to create fuel breaks in wildland-urban interfaces, decreasing wildfire risk. In Sutter Creek, CA, cattle with VF collars reduced forage by 81%, demonstrating effective fuel management. In forestlands, VF concentrated grazing on high-density deer brush areas, reducing brush more effectively than non-collared cattle, thus mitigating wildfire risk. VF technology offers several benefits, including environmental conservation by minimizing habitat disruption, improved livestock management, wildlife protection, cost-effectiveness, scalability, enhanced security, and animal welfare. Researchers Scott Oneto, Brian Allen, Dan Macon, Leslie Roche, Jeff Stackhouse, and Kristina Horback highlight VF's innovative potential in livestock and land management, offering a game-changing solution for various ecological and security applications.



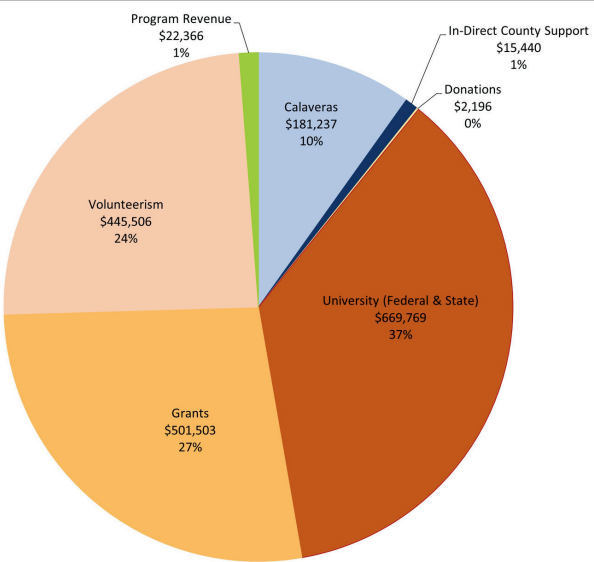
Picture taken by UCCE Farm Advisor from a vineyard affected by grasshopper damage in Calaveras County on September 11th, 2024.



Cattle wearing Gallagher eShepherd VF collars. One of several companies we are currently testing as part of the research. Photo: August 2024, Oneto

UC
CE

Central Sierra
Annual Snapshot | 2024
Calaveras County



UCCE Funding

\$2,305,006
University
\$861,881
County
\$1,352,748
Advisor-Generated
Gifts and Grants



14
activities
bringing
research
to policy



174
volunteers
donated
11,821
hours public
service –
estimated
value of
\$441,141



2,680
total
educational
interactions
with the
public



24
peer-
reviewed/
audience-
requested
publications



47
academic-led
workshops, field
days, and
classes with
577
participants



9
news
media
programs/
mentions



377
residents
reached by UC
Master Gardener
volunteers



11
new certified
Environmental
Stewards



327
youth in
UC 4-H Youth
Development
Program