

UC Cooperative Extension Mariposa County



2023 Annual Report

UC Cooperative Extension Mariposa

2023

University of California Agriculture and Natural Resources (UC ANR) brings the power of UC research in agriculture, natural resources, nutrition, and youth development to local communities to improve the lives of all Californians.

Our Cooperative Extension (UCCE) county-based advisors, community educators, and campus-based academics work as teams to bring practical, trusted, science-based solutions to our state. We are problem solvers, catalysts, collaborators, educators, and stewards of the land, living in the communities we serve.



Figure 1 Master Food Preserver Volunteers prepping tomatoes for canning



143

volunteers donated
7,075
hours public service
— estimated value
of
\$ 264,039



6,811

total educational
interactions with the
public



3

peer-reviewed and
audience-requested
publications and
educational
materials



14

activities bringing
research to policy



127

academic-led
workshops, field
days, and classes
with
1,038
participants



3

news media
programs/
mentions



745

youth in
UC 4-H Youth
Development
Program



UC Master
Gardener
volunteers reached
3,723
residents



5

certified
Environmental
Stewards providing
service



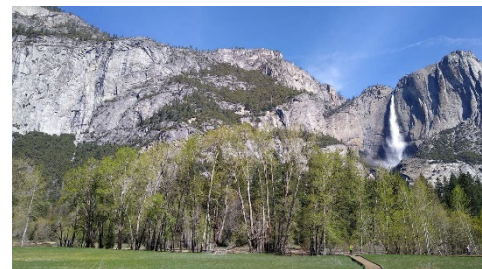
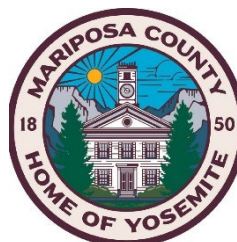
67

Master Food
Preserver
volunteers trained



UCCE Mariposa

Fadzayi Mashiri
5009 Fairgrounds Rd.
Mariposa, CA. 95338
Phone: (209) 966-2417
cemariposa.ucanr.edu



Partnering for Change

UC ANR builds partnerships based on deep and long-lasting relationships with local, state and federal governments, community-based organizations, schools, nonprofits and private industry.

- University of California Merced
- Mariposa County Public Health
- Mariposa County Health and Human Services
- Happy Goat Inc
- Manna House
- Heritage House
- Mariposa County Livestock Auction Committee
- Mariposa County Unified School District
- Mountain Home School
- Mariposa County Fairgrounds
- CASA of Mariposa County
- First 5 of Mariposa County
- Mariposa Safe Families
- ICES Mariposa
- KRYZ Community Radio
- Mariposa Certified Farmer's Market
- Mariposa County Fire Safe Council
- Mariposa History Center
- Mariposa Visitor Center
- Habitat for Humanity
- Yosemite Gateway Prescribed Burn Cooperative
- Mariposa County Farm Bureau
- Mariposa Friends of the Fairgrounds Foundation
- Mariposa Lions Club
- Sierra Foothill Conservancy
- Mariposa County Agriculture Dept
- Mariposa County Libraries
- Mariposa County Parks and Recreation
- Raw Roots CSA
- Farm at Worman Mill
- WuMati Healing Center
- Mountain Crisis Services
- Mariposa Senior Center
- The Alliance for Community Transitions
- Connections Emergency Shelter
- Mariposa Family Resource Center
- Ethos
- Set Free
- Mount Bullion Conservation Camp
- Idle Wheels Senior Mobile Homes
- Coulter Café
- House of Greens
- Shasky Farms
- Sorrento Farm
- Burroughs Family Farms

UCCE Funding



\$740,113
University



\$288,292
County



\$42,743
Advisor generated
(grants, gifts, other,
etc.)



Volunteers raised
\$9,578.29
to support local
programs

It is estimated that for every

\$1

invested in agricultural
research and extension
there is a return of

\$20

to the community.

Alston, Anderson et al (2010)

Leveraging the Power of the UC System



University of California
Cooperative Extension
**Master
Food
Preserver**



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UCCE Mariposa

Promoting Economic Prosperity in California

UC ANR partners with public, nonprofit, and private groups to create and extend new knowledge about agricultural and natural resource management. Participants change practices that result in increased yield and efficiency as well as reduced inputs, thus increasing economic return. UC ANR also conducts research and education leading to improvements in individual and household financial management practices. These changes improve individual and business financial stability, increasing the viability of California's economy and maintaining our role as a global leader.

The estimated annual Expanded Food and Nutrition Education Program (EFNEP) graduates reported an average of **\$63.95** monthly food cost savings. (EFNEP 2023)
In one year California EFNEP families collectively saved over **\$1.5M** on food costs. (EFNEP 2020)

The value of adoption of the UC Integrated Pest Management Program recommendations is **\$323-500M** to California agriculture
Giannini Foundation of Agricultural Economics (2016)

Increased agricultural and forestry efficiency and profitability

As part of the needs assessment evaluating knowledge gaps in the region, Woody Biomass and Forest Products Advisor, Cindy Chen, conducted online surveys on biomass utilization for Mariposa and the broader Central Sierra communities. Results showed that most respondents are interested in learning about woody biomass utilization and opportunities related to funding and public involvement, as well as wildfire prevention strategies through fuel reduction. Based on these results, Chen is working with local Resource Conservation Districts (RCD) to develop programs that target these needs. Through these educational programs, communities and business owners can learn about resources and opportunities that are appropriate for their needs.



Figure 2 Jar of biochar made as a byproduct from bioenergy production.

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Safeguarding Sufficient, Safe, and Healthy Food for all Californians

UC ANR's research creates practical solutions leading to improvements in food production and processing practices. Given one out of every eight Californians does not know where their next meal will come from, UC ANR educational programs enable individuals and households to improve their food budgets and food management practices. As a result, Californians have increased access to abundant, affordable, safe, and healthy food.

Enhancing food assistance programs such as school food programs, food banks, and CalFresh acceptance at farmers markets increases access to fruits and vegetables.
County Health Rankings (2020)

54%
of UC Master Gardener event participants across the state applied gardening practices that reduced food loss
UC Master Gardener Program (2022)

Improved food security

Mariposa County Master Gardeners collaborate with six local CSAs (Community Supported Agriculture Farms) to collect and distribute fresh produce to underserved populations. This year, 3,900 pounds of produce was distributed to twelve

local programs throughout the county that serve food banks, homeless and abuse shelters, crisis centers, seniors, preschool and school-aged programs, local tribal centers, and incarceration programs. Due to high levels of food insecurity and excessive travel required in a large, rural county, this program has made an incredible difference to local citizens, who regularly comment about their inability to access fresh fruits and vegetables and their dependency on our Plant-a-Row program.



Figure 4 Fresh vegetables donated by Plant A Row



Figure 3 Pictured: Ferol Conklin, Lindy Kauffman, Lauren Gilken, Jeanne Ann Pine

Improved food safety



Figure 5 Pictured: Sharon Carlson, Frank Johnson

Initiated in 2022, the **Mariposa Master Food Preserver Program** trained 67 Master Food Preservers from five counties (Mariposa, Fresno, Merced, Madera and Tuolumne). Giving over 4,000 hours of their time, Master Food Preservers reached over 800 and over 4,000 adults at community outreach events and workshops. Programs included food safety and hands-on training in research-based home food preservation. Partnering with local and federally funded programs such as CalFresh, EFNEP, 4-H and Happy Goat Farms of Mariposa, deepened the organization's reach within the community and provided exposure to home preservation for a younger audience also. The Master Food Preserver program has developed a strong

presence in the region inviting young and old to explore the wide world of home food preservation and to have a greater understanding of research-based practices in food safety for the home. From this great beginning a wonderful foundation has been built. It will be exciting to see where the program can go from here!



Figure 6 Jars of canned foods

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Protecting California's Natural Resources

UC ANR translates research into actionable management strategies to protect our farming, ranching, forestry, and urban environments. Through outreach and education, participants learn to adopt recommended practices, such as grazing and rangeland management, sustainable use of forest and wildland resources, protection against fire, and water conservation. These measures contribute to improving air, soil, and water quality while also protecting wildlife and plant habitat. Increased ecological sustainability of agriculture, forestry, and urban landscapes helps California realize the many benefits of the state's rich and diverse natural resources.

Adoption of California Irrigation Management Information Systems (CIMIS) weather station data can save California nearly **147 billion** gallons of water annually
Zilberman, et al. (2019)

UC Master Gardener participants improved **4 million** square feet pollinator habitat statewide
UC Master Gardener Program (2020)

Improved management and use of land

As part of a collaboration with the Mariposa Visitor's Center and Americorps, **Mariposa Master Gardeners** designed and supervised the construction of a waterwise landscaping demonstration in front of the Mariposa Visitor's Center. Americorps volunteers were guided in the construction of berms and swales to slow and spread rainwater to prevent flooding. They also learned to sheet mulch and plant drought tolerant California natives to withstand the hot, dry foothill summer. The project was completed in three weeks, effectively preventing rainwater from flowing downhill into the Mariposa Visitor's Center.



Figure 7 Berms and swales to slow and spread water, reducing flooding.

Increased ecological sustainability of agriculture, landscapes, and forestry

Woody Biomass and Forest Products

The Mariposa Bioenergy Project, a non-profit project aimed to develop a community-scale (~2.4 MW) bioenergy plant, started around 2015 after receiving a \$5 million grant from the California Energy Commission. The project is now in partnership with West Biofuels, a biomass technology development company, to implement innovative biomass treatment equipment and technology to the project. Woody Biomass and Forest Products Advisor, Cindy Chen, has followed the project since 2023 and partnered with the project lead in helping to move it forward. In early 2024, a letter outlining the positive impacts of the project provided by Chen was presented to the County Planning Commission to support the establishment of groundwork. In June, the project received approval from the Planning Commission to proceed with groundwork, which marked a significant step in turning local bioenergy production into reality. ANR will continue to work with the Mariposa Bioenergy Project to help raise public awareness and acceptance toward community-scale bioenergy facilities through research and outreach activities. Having a successful bioenergy project will provide additional biomass treatment options for local landowners and support healthier forests in the region.



Regenerative Agriculture

Our new regenerative agriculture advisor started this spring of 2024. Sara Rosenberg has been conducting her needs assessment to determine the regional challenges and opportunities for increasing agriculture sustainability and food system resilience. Supporting a growing sector for mixed livestock and vegetable production has been one preliminary finding of this work. This year she will be implementing cover crop variety trials with local farms to investigate suitable cover crop varieties for the region to support soil health and provide supplemental forage for livestock owners.

UCCE Mariposa

Building Climate-Resilient Communities and Ecosystems

UC ANR conducts research to understand and develop solutions to increase the resilience of agriculture, communities, and natural ecosystems to extreme weather and climate change. Our programs assist communities, farmers, and ranchers in implementing climate-smart soil and water management practices, reducing greenhouse gas emissions in forested and working landscapes, and expanding public awareness of climate risks and effective adaptation strategies. As a result, communities are better prepared and able to deal with the growing risk of fire, droughts, and flood hazards. Our work leads to a safer, more climate-resilient California.

**UC Climate Smart
Agriculture Educators
helped growers
statewide reduce
greenhouse gas
emissions equivalent
to removing
7,000
cars from the road**
*Based on CDFA calculators
(SWEEP and HSP 2021)*

**UC ANR contributed
to reduced fire risk
through prescribed
burns in over
6,800
acres
across the state
(2021)**

Increased preparedness and resilience to extreme weather and climate change

The UCCE Mariposa office coordinates the Yosemite Gateway Prescribed Burn Cooperative (YGPBC), a prescribed burn association (PBA) made up of landowners, residents, community organizations, and agency partners in Mariposa and Madera Counties working together to reduce the numerous barriers to implementing prescribed fire, facilitate greater local capacity and social acceptance of prescribed fire, and ultimately, create more firesafe landscapes and communities. Between December 2022 and December 2023, the Yosemite Gateway Prescribed Burn Cooperative assisted landowners with eight prescribed burns and piles burns



demonstrating the ecological and beneficial use of fire in Mariposa and Madera Counties, treating a total of 29 acres of private land. These events engaged a total of 75 landowners who contributed 1152 volunteer hours. In November 2023, YGPBC members also partnered with Mariposa County, Southern Sierra Miwuk Nation, and Sierra Foothills Conservancy to assist with a 5-acre broadcast burn on the Mariposa Creek Parkway.

In the spring of 2023, a steering committee was organized consisting of local professionals working for fire-related organizations, retired and active fire professionals, a UC fire researcher, and local landowners. A major accomplishment of the group was to adopt bylaws which are now in place. In December 2023, YGPBC's first learn-and-burn workshop was hosted covering topics including fire ecology, burn planning and permitting, and liability. The workshop included a field day where 24 participants received hands-on prescribed burning experience.

A \$812k grant through the CAL FIRE Wildfire Prevention Grant Program was secured funding the efforts of YGPBC through March 2029. This funding will allow UCCE Mariposa to continue to offer learn-and-burn workshops and community wildfire prevention workshops on an annual basis, fund training opportunities for YGPBC members, and purchase needed prescribed burning supplies, including a burn trailer that is planned to be used as a community resource, to continue expanding the impact of YGPBC.



UCCE Mariposa

Programs in Action

4-H Youth Development

4-H GROWS HERE

Empowering Futures: Mariposa County 4-H's Impactful Year

Mariposa County 4-H has continued to experience sustainable growth throughout the 2023/24 program year. Our efforts have reached youth members as well as adults throughout the county by way of individual enrollments, in-school programming, outreach events, and through civic engagement. 4-H has continued to partner with local stakeholders and organizations to create a meaningful and positive impact. We have worked together with groups such as: UC Master Gardeners, Future Farmers of America, Mariposa Unified School District, Mariposa Safe Families, Wreaths Across America, Mariposa Chamber of Commerce, Colonial Flag, Ironstone Vineyards, Lions Club, Independent Order of Oddfellows, VFW Post 6042, American Legion Post 567, National Multiple Sclerosis Society, and many others.

Most notable is the sheer volume and size of the events which are held in ratio to the number of members and volunteers. Per capita, I believe Mariposa County to be the most impressive youth organization in the State. Our participation in Community Events as well as 4-H events is unparalleled. Each year our curricula and programming reaches new audiences and each year we continue to thrive. This is undoubtedly due to the severe commitment and hard work of our membership and staff in relation to the support of the community.

