

UCCE Mariposa County 2022 Annual Report

Issued March 2023

Across California, the University of California's 64 Cooperative Extension offices are local problem-solving centers. We are the bridge between local issues and the power of UC research. Our county-based staff is part of the community – we live and work in the areas we serve.

More than 300 campus-based specialists and county-based farm, home and youth advisors work as teams to bring practical, unbiased, science-based answers to solve problems across California.

As part of the agricultural community, we help farmers develop more-efficient growing methods, solve pest management problems and develop crop and irrigation methods that use less water.

As stewards of the land, we help develop smart water-use strategies, develop wildfire education and help preserve natural areas and farmland.

As advocates for healthy communities, we promote healthy diets and exercise for better health, and help shape the citizens of tomorrow through the 4-H Youth Development Program.

And thousands of volunteers extend the reach of our work through the Master Gardener, Master Food Preserver Programs, as well as the California 4-H Youth Development Program.

We work in full partnership with federal, state, county and private resources.

We are stewards, problem-solvers, catalysts, collaborators and educators.

We are UC Cooperative Extension.



Our funding is from "cooperative sources". The University of California, Mariposa County, and the USDA.

UCCE Mariposa County Office

5009 Fairgrounds Road
Mariposa, California 95338
209-966-2417 Phone

Visit our Website:

<http://cemariposa.ucanr.edu>

Introducing our New Fire Advisor, Alison Deak—We are very excited to introduce the New Fire Advisor Alison Deak. Alison joined the University of California Cooperative Extension as a Fire Advisor based in Mariposa, and also covering Madera and Fresno counties. Alison graduated from the University of Oregon with Master's degrees in Nonprofit Management and Geography. Her thesis research focused on modeling the long-term effects of prescribed fire on forests in the Siskiyou Mountains of Oregon and California. Throughout graduate school, she worked as a research assistant at the Ecosystem Workforce Program, a natural resources-based social science institute at the University of Oregon, where she researched how organizations are working across boundaries to mitigate wildfire risk, the impacts of wildfire smoke on communities, and socioeconomic monitoring of landscape restoration projects. Prior to graduate school, Alison worked as a wildland firefighter with the US Forest Service and Bureau of Land Management.



Alison is passionate about restoring fire-adapted ecosystems and empowering people through learning how to live with wildfire. She is focused on developing programming aimed at wildfire recovery on private lands, expanding the use of prescribed fire, and creating safer communities through defensible space and cost-effective home hardening techniques.

We also welcomed Cindy Chen as Woody Biomass and Wood Products Advisor—for Central Sierra, Alpine, and Mariposa Counties. After receiving her bachelor's in Social Ecology and master's in Demography from the University of California - Irvine, Chen completed her PhD in Environmental and Forest Sciences from the University of Washington, specializing in wood products processing and marketing. Chen has worked and lived in all three West Coast states over the past 20 years and she is familiar with the natural environment in the western U.S. Her multi-disciplinary expertise allows her to work on a wide range of projects covering topics such as population forecasting, environmental assessment, woody biomass transportation logistics, the end-of-life treatment of wood products, and mass timber production optimization.



Chen has worked with non-profit organizations, government agencies, research scientists, and local stakeholders to investigate the environmental and economic benefits of wood utilization in the construction and energy industries. Her work in evaluating the environmental impacts of Cross Laminated Timber (CLT) production helped prepare for the opening of North America's largest mass timber manufacturing facility in the State of Washington. In addition to her work in the U.S., Chen has also collaborated extensively with international partners in research projects that explored the global market potential for wood products and bioenergy. About this position, Chen says "As the Woody Biomass and Forest Products Advisor at UCANR, my goal is to work with the Central Sierra communities in exploring innovative ways to better utilize California's forest resources and biomass, developing biomass processing programs that are appropriate for the region, and contributing to local economic development."

Livestock and Natural Resources Advisor, Fadzayi Mashiri

In 2022 I worked on several research projects, mostly focused on improving rangeland sustainability climate resilience, evaluating Payment for Ecosystem Services, Animal health and reducing fire risk through grazing and prescribed fire.

Rangeland Conversion on Ecosystem Health: I continued work on measuring the effects of rangeland conversion on ecosystem health and farm profitability. In this \$350K Western Sustainable

Agriculture Research and Extension (WSARE) funded project, I lead 9 colleagues who carried out interdisciplinary research to evaluate the changes in multiple ecosystem function variables across rangelands sites adjacent to conventional almond orchards and regenerative organic almond orchards. Regenerative almond management included cover using sheep crops, no herbicide, and grazing and fire for weeds control (i.e., integrated crop/livestock system). We collected soil physical and chemical properties, plant diversity, insect diversity, and hydrology. We also conducted a cost-benefits analysis and drivers of rangeland conversion decisions



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Payments for Ecosystem Services: We completed this project which was an investigation of the role of payments for ecosystem services in improving productivity of working rangelands. The ranchers interviewed felt that Payment for Ecosystem Services would create additional income for ranchers that can be spent on conservation investments like wildlife-friendly fencing, water development and improve the profit margin and reduce rangeland conversion. Implementing this program (inter) nationally, will increase rangelands carbon sequestration, contributing towards climate resilience. We published the work as a peer reviewed journal article.

Fadzayi Mashiri

Mariposa County Director

Livestock & Natural Resources Advisor

Madera, Mariposa, & Merced Counties

209-966-2417

fmashiri@ucanr.edu

Anaplasmosis Strains in Beef Cows: Collaborated in a study where we are seeking to determine the prevalence of Anaplasmosis strains in beef cows across California and to summarize practices producers are using for prevention in their beef herds. This information will help us develop more targeted messaging to beef producers on best strategies to minimize exposure, reduce disease incidents and increase productivity. This work can also help develop effective vaccine, which will help with improving herd immunity.

Remote Sensing to Measure Plant Production: I am also collaborating on a project where we are assessing the potential of using remote sensing to measure plant product on diverse rangelands. Results from this study can generate more accurate forage more production evenly over space and time. With this data, ranchers can quickly adjust to match available resources, especially during droughts. This tool can also help with determining forage loss for the Farm Service Agency (FSA) Drought Recovery Assistance Programs.

California Rangeland Sustainability Assessment: In the California Rangeland Sustainability Assessment (CRSA) project, we are developing a self-assessment survey for ranchers and managers. The areas of assessment are (1) Forage Management; (2) Soil Health; (3) Drought; (4) Wildlife; and (5) Generational Succession.

Encouraging the Use of Prescribed Fire: We also continued our work on encouraging the use of prescribed fire in the region that we started in 2019. We have held educational workshops, webinars sharing the benefits of prescribed fire for fire risk reduction and vegetation management, with some of the information shared on our YouTube and other social media channels. We also held prescribed fire and in collaboration with Ron Goode, cultural burn demonstrations. We continued to coordinate efforts to formalize a Prescribed Burn Association (PBA) to build capacity within the communities, so they can build skills and numbers to lead burns in the future. This effort is ramping up now with the hiring of our Fire Advisor, Alison Deak.





2022 4-H Youth Development Program

School Enrichment Program: “Ag in the Classroom” is a 4-H program coordinated with school personnel with use of selected 4-H learning materials as well as some California Ag in the Classroom materials as part of the school curriculum during school hours. In 2022, over 600+ students were able to have a 'hands-on' learning experience with projects such as butterfly pavilions, ladybug land, embryology and more. This program has been sponsored by Mariposa County Farm Bureau and Mariposa County since 2001.

MS Bike-a-Thon: The Mariposa County 4-H Citizenship project held their 11th Annual Multiple Sclerosis Bike-a-Thon on Saturday May 7, 2022. This event is open to the public, and all ages are invited to



participate. Again this year, we included Runners and Walkers. The course starts at Indian Gulch Road and HWY 140 in Catheys Valley. The ride, walk, run begins at 10:00 am and travels down Indian Gulch Road to the finish at Hornitos Park, with a BBQ and Awards ceremony. All proceeds are going to the Multiple Sclerosis Society.

Camp Keola w/Madera County 4-H: Camp Keola is a summer camp destination for our 4-H youth, which is on the shores of Huntington Lake in the Sierra National Forest of California. The camp is hosted over 5 days and



4 nights in July each year. Some notable activities are: Hiking, Outdoor Cooking, Fishing, Swimming, Canoeing, Arts and Crafts, Skits, Campfires, Songs, and much much more

Barn Clean-up: Mariposa County 4-H members and leaders took on the challenge of cleaning the barns prior to the fair. This annual activity is held the weekend before our County Fair and gives members and leaders an opportunity to help with preparation efforts and become familiar with sites and each other.

Mariposa County Fair: This year, many people participated in the livestock auction, which is annually one of the highlights of the fair.

The students are in the local 4-H program and use the money for various reasons, including saving for college as well as preparing for next year’s auction.



Ironstone Concours d'Elegance: Ironstone Foundation is a 4-H fundraiser where 4-Hers from the five foothill counties; Amador, Calaveras, El Dorado, Mariposa, Tuolumne, and also San Joaquin County did presentations, impromptu speeches, had project displays, and handed out awards to the car winners. Mariposa County 4-H has been involved with this fabulous car show for over 18 years.

Field of Service: Mariposa County’s 8th Annual Field of Service was proudly coordinated by the 4-H Citizenship



Project. Hornitos 4-H, and Hornitos Patrons Clubs also helped with the coordination of this event. This event honors all those who’ve served, and all those we love-paying tribute to all military, law enforcement, fire personnel, first responders, and special people in our lives.

2nd Annual Mariposa Wreaths Across America: Was held December 7, 2022 in Hornitos by the 4-H Citizenship Junior



Leader, Lainy Trujillo. Each December on National Wreaths Across America Day, our mission to Remember, Honor and Teach is carried out by coordinating wreath-laying ceremonies at Arlington National Cemetery, as well as at more than 3,700 additional locations in all 50 U.S. states, at sea and abroad.

Ira Jones
4-H Youth Development Coordinator
209-966-2417 phone
irajones@ucanr.edu

Visit our Website:

http://cemariposa.ucanr.edu/4-H_Program/

Find detailed information on the programs that we offer and upcoming events, as well as other resources.



UC Master Food Preserver Program

The Master Food Preserver Program enhances access and consumption of locally grown produce by promoting safe food preparation and preservation knowledge. This program extends science-based preparation, storage and preservation practices, building a network of volunteer educators to help disseminate innovative research, recipes, and safe preparation and preservation methods to promote increased access and consumption of specialty crops. With input from the University of California small farm advisor and collaboration with local food distribution programs and small-scale producers, the project team will introduce new specialty crops, demonstrate proper preservation techniques, and distribute



educational materials to underserved populations in Mariposa and surrounding counties.

The Master Food Preserver Program was initiated with a USDA Specialty Crop Block Grant for \$216,399 at the end of 2021. From January to May of 2022, we trained our first training class of 17 volunteers, who offered 1,348 hours in 7 months. Near the end of the year, the Master Food Preserver program attracted and signed on 30 new trainees for 2023



Master Food Preservers offered one demonstration and two hands-on workshops, teaching 47 adults more about safe home food preservation. Youth events via day camps and field days for school children at Happy Goat Farm taught 153 local youth about food safety and healthy lifestyles. At the fair, our Master Food Preservers assisted with fair entries, judging, and visited with 622 community members. They joined community events such as Health and Wellness Fairs, the Farm and Ranch Tour, Farmer's Markets and other events to reach 487 community members about safe home food preservation. Master Food Preservers joined with the Master Gardener Plant-a-Row program to reach 71 local residents as well as take in 1,126 pounds of produce which was



donated to the Senior Center, Alliance, Manna House, and Heritage House.

Master Food Preservers started a Facebook page which has reached over 535 views and 61 followers in the last 3 months of 2022. They debuted a KRYZ radio program which reached approximately 1,000 listeners. Community outreach articles and events are sent out to 6 local



Sheri Mace

Master Food Preserver Program Manager

Phone: 209-966-2417

smace@ucanr.edu

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media outlets as well as our 51-person listserv and 597-person Master Gardener listserv.

Goals for 2023

Continue to organize and lead hands-on workshops and demonstrations to teach healthy and safe home food preservation to local community members.

Increasingly develop relevant educational programs and digital resources and recipes for the public.

Expand our digital and social media presence with instructional videos on safe home food preservation.



UC Master Gardener Program

UC Master Gardeners are trained and certified University of California (UC) volunteers whose mission is to provide high quality, science-based information to home gardeners. The UC Master Gardener Program of Mariposa County has been extending sustainable home gardening and technical assistance since 1995. The Master Gardeners trained 27 new Master Gardener volunteers in 2022.

Plant-a-Row: Our Plant-a-Row for the Hungry program led to 71 direct contacts as well as collection of 1,126 pounds of fresh produce from home gardeners and local agricultural farms and donated to the Senior Center, Alliance, Manna House, and Heritage House.



Community Gardens: Master Gardeners have designed a series of fire-wise, drought-tolerant demonstration gardens in Mariposa County, including Cal-Fire MMU, the Mariposa History Center, and the future Mariposa Creek Parkway Expansion and 11th Street Parkway. These gardens display good choices for foothill gardens based on a variety of themes. Master Gardeners have directly reached 48 community members through our community garden projects.

School Gardens: Master Gardeners work with local schools as well as the local 4-H program to provide garden and horticulture education to students in Kindergarten to 12th grade. As our program expands, more and more schools are piloting a school garden program. Currently, Wasuma Elementary, Mariposa Elementary, Mariposa Alternative School and Woodland Elementary have active programs with new programs being piloted at El Portal and Wawona. Master Gardeners have also teamed up with Happy Goat Farm to pilot a farm to school program for three local schools to provide field days on the farm. Master Gardeners directly reached 2,573 local K-12 students.

Demonstration Gardens: The Master Gardeners operate and maintain a native plant demonstration garden along Mariposa Creek. This year, the garden was



featured as a tour site during Mariposa Trails Day and native plant tours were conducted along the creek. Master Gardeners directly reached 58 community members at our local demonstration garden. The garden is not fenced and open to the public along the Creek Parkway at all times.

Educational Outreach: Master Gardeners attended community outreach events, reaching 1,073 community members at the Butterfly Festival, Earth Day Festival, Heritage Rose Tours, Pow Wow, Mariposa Trails Day, Coyote Fest, and the Mariposa Farm and Ranch Tour. They received floral and horticulture entries for the fair and ran the fair building, talking with 1,281 members of the community. Their educational videos for both youth and adults on gardening topics, from tomatoes to oak tree care, totaled 64,513 views. .

Farmer's Market: During the summer months, Master Gardeners attend a weekly Farmer's Market. They answered 358 gardening and landscaping questions and provided handouts on local gardening information.

Helpline: Master Gardeners staff a helpline desk at the UCCE office to respond to phone calls, emails and walk-in requests for horticultural information. We answered 107 questions, identify plants and pests, offer integrated pest management advice and refer clients to other university sources of information based on their needs.

Plant Sale and Propagation: Our propagation team uses stem, seed and division propagation to offer over 3,000 plants per year for sale at our two annual plant sales. Our annual plant sales sold locally propagated plants to 444 members of the community.



These plants are available to the community at a reduced cost to promote gardening and provide access to varieties that do well in foothill gardens.

Publicity: Master Gardeners continue to provide a weekly radio show on KRYZ Mariposa with an average listening audience of nearly 1200 listeners/month on the radio and online. Two educational articles are produced each month and disseminated to the public via local media and online outlets as well as to our 597-person email listserv. Our very active Master Gardener Facebook page garnered 5,832 view and 616 followers this year.

Sheri Mace
Master Gardener Coordinator
Phone: 209-966-2417
Fax: 209-966-5321
smace@ucanr.edu

Master Gardener's Helpline:
209-966-7078

Visit our Website:
http://cemariposa.ucanr.edu/Master_Gardener

Find detailed information on the programs that we offer and upcoming events, as well as technical resources.

Viticulture Advisor, Karl Lund—I continue my outreach within the county on pest control and small-scale grape production. I’m also working to restart the VitTips Newsletter. This outreach newsletter puts out 3 editions a year focused on extending information of a wide variety of grape industry topics. In addition, I’m working with other UCCE Viticulture Advisors and UC Davis specialist to put together and run the small vineyard management series through UC Davis Continuing Education.



My research continues on rootstocks. I’m now involved in two separate rootstock trials. The first is looking at nematode resistant rootstocks, while the second is looking at salt tolerant rootstocks.

I’m also continuing work on vineyard mechanization. This research has looked at the effects of mechanical leaf removal and mechanical shoot thinning. My current work is looking at the mechanical effects of mid-season canopy management practices.

In addition, projects looking at the use of water within vineyards, along with the health, IPM, and nutritional effect of using vineyards for groundwater recharge are planned to be undertaken. I am located out of the UC Cooperative Extension office in Madera.

4-H Youth Development Program Advisor, Russell Hill—During the 2021-2022 program year Mariposa County 4-H reignited its efforts in the Club program and Ag in the Classroom school enrichment programs after a near 2 year challenge to provide support due to COVID-19 related restrictions. 130 young people were individually enrolled to participate in 4-H programs, through their clubs, where they created a sense of belonging, developed leadership skills, improved mastery in their projects, and increased their ability to independently achieve success by following their sparks of interest. To support these youth, 17 trained, caring adult volunteers created opportunities and provided programming throughout Mariposa County.



With over 715 school-age youth, 27 teachers and 9 schools participated in short term projects including embryology, entomology (e.g. butterflies, honeybees, praying mantis) and gardening projects. 4-H projects, events and activities are developed to help explore and improve skills in citizenship, leadership, science literacy and healthy living. Our 4-H youth are learning leadership and goal-setting skills and how to become community-minded adults through youth / adult partnerships.

Mariposa County 4-H youth participated in service-learning opportunities, including a Veteran’s Day tribute called the Field of 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. Service to the community – through food drives, raking the yard of an elderly neighbor, adopt-a-highway programs, teens teaching younger youth, teens mentoring children or youth determining community needs and helping solve community problems – helps young people learn caring, leadership and citizenship.

Mariposa County 4-H is, as our motto states, striving “To Make the Best, Better”. While challenged with the COVID-19 related restrictions, 4-H in Mariposa county worked hard to continue to serve this community.

UCCE Mariposa Staff:

Fadzayi Mashiri
Mariposa County Director / Livestock & Natural Resources Advisor for Mariposa, & Merced Counties
209-966-2417
fmashiri@ucanr.edu



Alison Deak
Fire Advisor for Mariposa, Madera, & Fresno Counties
559-675-7879 ext. 7205
aldeak@ucanr.edu



Cindy X. Chen
Woody Biomass and Forest Products Advisor for Central Sierra & Mariposa Counties
209-533-6989
cxnchen@ucanr.edu



Karl Lund
Viticulture Advisor for Madera, Mariposa, & Merced Counties
559-675-7879 ext. 7205
ktlund@ucanr.edu



Russell Hill
4-H Youth Development Program Advisor for Madera, Mariposa, & Merced Counties
209-385-7403
rdhill@ucanr.edu



Ira Jones
4-H Youth Development Program Coordinator
209-966-2417
Irajones@ucanr.edu



Sheri Mace
Master Gardener Program Coordinator & Master Food Preserver Program Manager
209-966-2417
smace@ucanr.edu



Mark Garrett
Community Education Specialist / Prescribed Fire Educator
209-966-2417
mdgarrett@ucanr.edu



Debbie Wass
Office Manager
209-966-2417
dswass@ucanr.edu



Julie Brown
Office & Master Food Preserver Assistant
209-966-2417
jewbrown@ucanr.edu

