

2022 ANNUAL REPORT



UC Cooperative Extension
Glenn County

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

■ UC Cooperative Extension

A YEAR IN REVIEW



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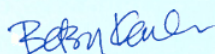
Message from Director

As we reflect on 2022, we are grateful for the growth of our local team and our increased capacity to address challenges in our community. Drought and the associated impacts on agricultural systems certainly topped the list of challenges, and we responded with research and educational opportunities to help address the widespread negative impacts. Our climate smart agriculture program helped agriculture producers implement production practices that will continue to mitigate similar challenges for years to come. Youth in our community benefit from our exceptional 4-H and nutrition programs as we deliver unique formal and informal educational opportunities throughout the county. Our farm advisors continue to pursue cutting edge applied research to advance production practices for our vital agriculture industry and our Master Gardener volunteers bring a wealth of knowledge to address home horticulture and landscape challenges in our community.

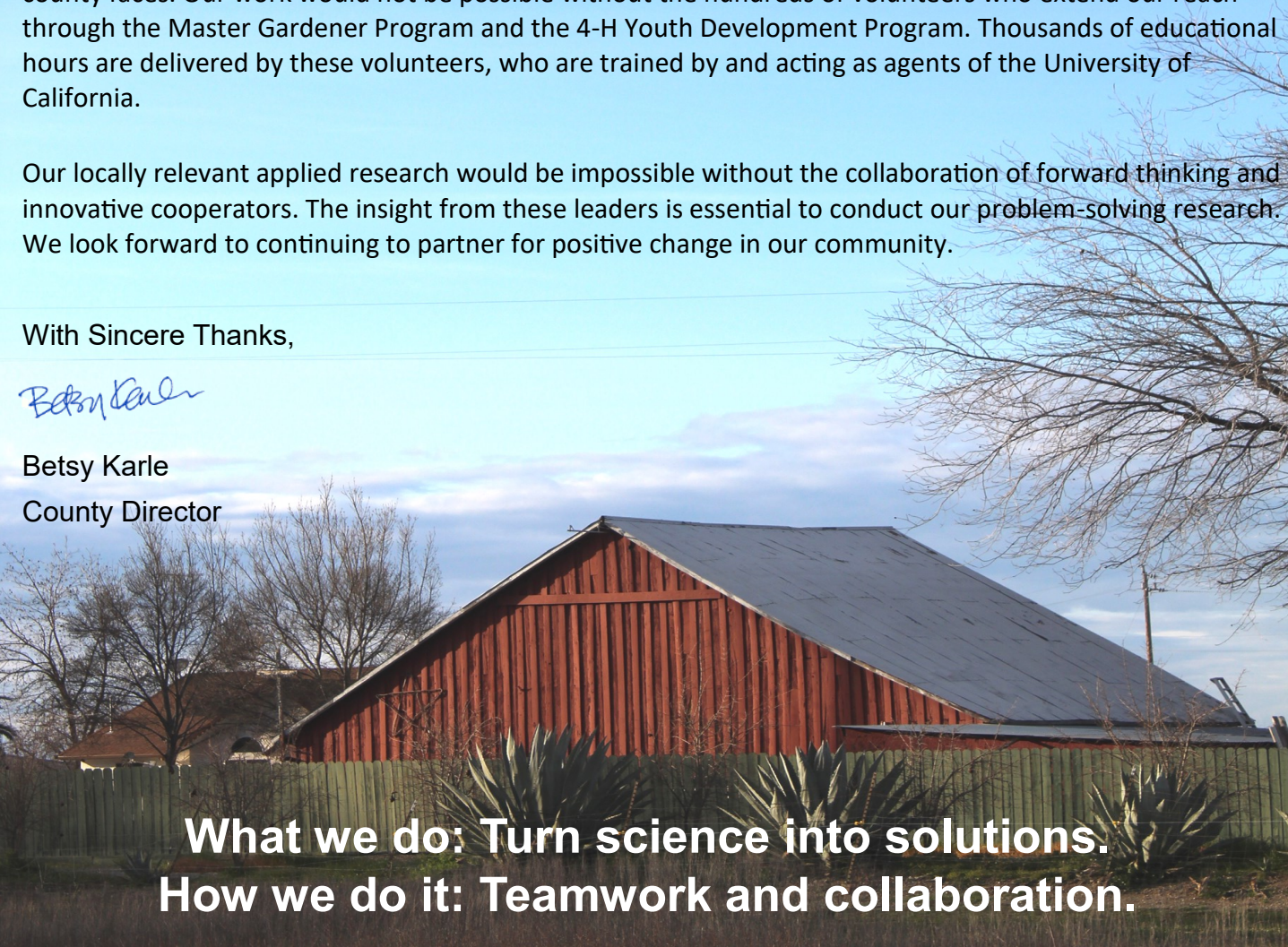
These impacts rely on a vast network of UC researchers and educators, working in collaboration with farmers, ranchers, youth, volunteers, and local organizations. We bring the power of UC research to our community with support from Glenn County to deliver our programs. Our scientists and educators live and work in the communities they serve, gaining an intricate understanding of the local challenges that our county faces. Our work would not be possible without the hundreds of volunteers who extend our reach through the Master Gardener Program and the 4-H Youth Development Program. Thousands of educational hours are delivered by these volunteers, who are trained by and acting as agents of the University of California.

Our locally relevant applied research would be impossible without the collaboration of forward thinking and innovative cooperators. The insight from these leaders is essential to conduct our problem-solving research. We look forward to continuing to partner for positive change in our community.

With Sincere Thanks,



Betsy Karle
County Director



**What we do: Turn science into solutions.
How we do it: Teamwork and collaboration.**

Current UCCE Glenn County Staff



**Curt
Pierce**

Irrigation &
Water
Resources
Advisor



**Lizzeth
Mendoza**

Climate Smart
Agriculture
Community
Education
Specialist



**Lea
Eddy**

Office
Manager/
Administrative
Assistant



**Becky
Wheeler-
Dykes**

Orchard
Systems &
Weed Ecology
Advisor



**Joanna
Aguilar**

Nutrition
Community
Education
Specialist



**Jamie
Marron**

4-H
Office
Technician



**Christine
Kampmann**

4-H YDP
Community
Education
Specialist



**Gail
Harris**

Office
Assistant



**Michal
Mendoza**

Volunteer
Master
Gardener
Coordinator



Betsy Karle

Dairy Advisor &
County Director

Cross County Staff

Josh Davy

Livestock, Range, and Natural Resources Advisor

Luis Espino

Rice Farming Systems Advisor

Sudan Gyawaly

Integrated Pest Management Advisor

Nicole Marshall-Wheeler

4-H Youth Development Program Advisor

Luke Milliron

Orchard Systems Advisor

Jaime Ott

Orchard Crops Advisor

Veronica Van Cleave-Hunt

Community Nutrition, Health and Food Security Advisor

Ryan Hill

Agronomy and Weed Sciences Advisor

Emeritus Advisors

William Krueger

Orchard Farm Advisor - Emeritus

Pam Geisel

Environmental Horticulture Advisor - Emeritus

Allan Fulton

Cross County Irrigation and Water Resources
Advisor - Emeritus

UC Cooperative Extension - Glenn County

Current 2023 Board of Supervisors



Grant Carmon, District 1
Monica Rossman, District 2
Tom Arnold, District 3
Jim Yoder, District 4
Vacant, District 5

UC Cooperative Extension offices serve every county in California.

Academic advisors work with farmers to implement more-efficient growing methods, solve pest management problems and develop smart water-use strategies.

Natural resources advisors conduct wildfire education and research natural resources conservation.

Nutrition educators promote nutritious eating habits and exercise for better health. Through the California 4-H Youth Development Program we engage youth to become the citizens of tomorrow.

Thousands of volunteers extend our reach through the Master Gardener, Master Food Preserver, California Naturalist, and the California 4-H Youth Development Programs.



About Us

The University of California Extension was first introduced to Glenn County in 1915. UCCE Glenn County provides programs tailored to meet the needs of county residents. Extension services include exceptional 4-H and Master Gardener programs, as well as expert advice for farmers and growers.



510

Glenn County Youth in UC 4-H Youth Development Program



98

Glenn County Adult Volunteers in UC 4-H Youth Development Program



UC Master Gardener Volunteers Reached
29 Residents



10

Glenn County Master Gardener Volunteers Serving the Community



1,020

People reached by Healthy Food and/or Physical Activity Changes



9,129

Youth & Adults Participating in Nutrition Education (EFNEP)



72

Peer-Reviewed and Audience-Requested Publications and Educational Materials



13

Activities Bringing Research to Policy



33

Academic-led Workshops, Field Days, and Classes with
1,313 Participants



24

News Media Program Mentions



101

Volunteers Donated
9,025 Hours Public Service — Estimated



3,757

Total Educational Interactions with the Public

\$320,929

Agriculture Information
821 E. South Street—Orland

(530) 865-1107
<http://ceglenn.ucanr.edu>

100
UC Cooperative Extension

University of California
Agriculture and Natural Resources
Glenn County



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. UC Cooperative Extension Glenn County is fortunate to work with many partners in our community.

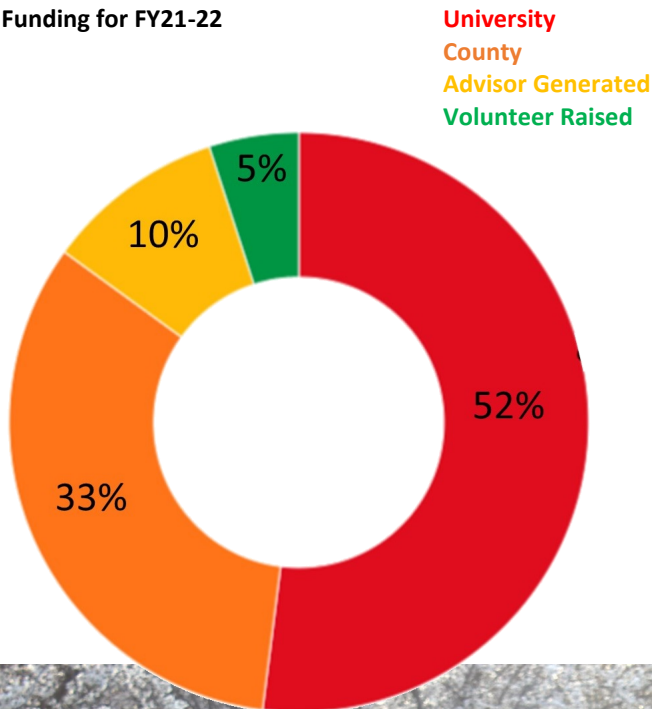
Almond Board of California
American Farmland Trust
Barceloux-Tibbesart Foundation
California Climate and Agriculture Network
California Climate Investments
California Department of Food and Agriculture
California Department of Water Resources
California Milk Advisory Board
California Olive Ranch
California Pistachio Research Board
California Prune Board
California Ripe Olives
California Walnut Board
Capay Elementary
Capay Farms
CAPEX
Chico State Center for Regenerative Agriculture
Chico State University
Chico State University Research Farm
Community Alliance with Family Farmers
Country Pumpkins
County of Glenn
Crain Farms
Glenn & Tehama County Resource Conservation Districts
Glenn County Agriculture Department
Glenn County Fairgrounds
Glenn County Farm Bureau
Glenn County Office of Education
Honeybee Discovery Center & Museum
Lake Elementary
Lindauer River Ranch
Mill Street Elementary
Murdock Elementary School
Natural Resource Conservation Service
Olive Oil Commission of California
Organic Fertilizer Association of California
Orland Free Library
Orland High School
Princeton Elementary School
Princeton Jr./Sr. High School
Tehama County Mobile Irrigation Lab
Willows Intermediate School
Willows Public Library
Willows Tractor Supply



UCCE Funding

UCCE Glenn County Funding for Fiscal Year 2021-2022

Funding for FY21-22



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)

Expanded Food and
Nutrition Education Program
(EFNEP) graduates reported
an average of

\$58.10

monthly food cost savings.

In one year California EFNEP families collectively
saved over

\$1.5M

On food costs.

EFNEP (2020)



\$615,513
University



\$390,346
County



\$124,727
Advisor
Generated
(grants, gifts,
etc.)



Volunteers raised
\$60,157
to support local
programs

4-H Youth Development Program UCCE Glenn County

Serving Glenn
County



Christine Kampmann

4-H Community Education Specialist - Email ckampmann@ucanr.edu

Nicole Marshall-Wheeler

4-H Youth Development Advisor - Email nmarshall@ucanr.edu

Program Delivery

In 2022, Glenn County 4-H was filled with many community service opportunities, such as Fair Clean-up Days, the Corn Maze Clean-up, making Christmas a little brighter for seven children through the Adopt-a-Family program, and keeping our community warm with more than 75 coats donated for the Coats-for Kids program.

With nearly 100 approved Adult Volunteers, our program was able to reach youth with various interests and provide them with hands-on educational experiences. Providing opportunities for Civic Engagement, Leadership, Healthy Living, and STEM (Science, Technology, Engineering, and Math).

While creating impactful experiences, Glenn County 4-H also teaches life skills through various opportunities such as, Presentation Day, Job Interview Contest, 4-H Summer Camp, and various scholarships throughout the year.

Although we use evaluations and levels of measure to determine successful outcomes, the lasting impact 4-H has on oneself, is immeasurable and beyond valuable. Glenn County 4-H is always fulfilling the 4-H Motto "To Make the Best Better."

Website https://ceglenn.ucanr.edu/Glenn_County_4-H_Program_286/ Facebook <https://www.facebook.com/GlennCounty4H/> Newsletters https://ceglenn.ucanr.edu/Glenn_County_4-H_Program_286/Newsletters_839/

Master Gardener Program UCCE Glenn County

Serving Glenn
County



Glenn County Master Gardener Volunteer Program

Email anrmgglenn@ucanr.edu

Program Delivery

In 2022, the Glenn County Master Gardener Program continued to provide both virtual and in person plant clinic advice. The program has responded to 29 public contacts through the plant clinic, providing research based information on vegetable gardening, tree health, tree pruning, insects, pest, weed identification, landscaping resources, and suitability to the climate and the drought. Master Gardeners also provided information to approximately 60 attendees at public events. During the year, Master Gardeners attended four major events in Glenn County. They were the Hobby Day and Honey Bee Festival, the Olive Festival, Tomato Days at Ace Hardware Store and the National Night Out event.

Master Gardeners continue to develop their Monarch butterfly and pollinator garden located at the County building in Orland. The program hopes to expand activities in the coming year by developing community classes and increasing the number of volunteers.

In the Fall of 2023, the Master Gardener program will be recruiting for its 2024 training. The program will be seeking individuals to participate in the UCANR research based training to provide public education and services to the Glenn County community. Look for applications on the website in the Fall of 2023!

Website <https://ucanr.edu/sites/glennmg/> Facebook <https://www.facebook.com/ucceglenn>

Nutrition Education Program UCCE Glenn County

Serving Glenn, Butte,
Colusa & Sutter-Yuba
Counties



Joanna Aguilar

Nutrition Community Education Specialist - Email joaaguilar@ucanr.edu

Veronica Van Cleave-Hunt

Community Nutrition, Health and Food Security Advisor - Email vvanceleavehunt@ucanr.edu

Program Delivery

The CalFresh Healthy Living, UCCE program of Butte, Colusa, Glenn, Sutter, and Yuba Counties utilize multiple delivery methods and intervention strategies to reach low-income elementary school students, their parents, school administrators, school educators, and community members. Glenn County students were able to participate in CalFresh Healthy Living activities, programming, and education. The school-based programming extends from the classroom to improving access and quality of physical activity through community events, school gardens, and school wellness committee work.

Our Community Education Specialist enrolled a new participating school in Glenn County and worked on an outdoor playground stenciling project that inspires students to be active. Monthly direct education lessons have been delivered to promote nutritional messages and support the Coordinated Approach to Child Health (CATCH) curriculum objectives.

Mill Street Elementary got to plant seeds in their school gardens in late November and have harvested some amazing radishes. Students love the experience of planting and learning about sustaining their plants in a fun way!

Website https://cebutte.ucanr.edu/Youth_FSNEP/ Facebook https://www.facebook.com/CFHL_UCCE_ButteCo

Climate Smart Agriculture Program UCCE Glenn County

Serving Glenn, Butte
& Tehama Counties



Lizzeth Mendoza

Climate Smart Agriculture Community Education Specialist - Email lthmendoza@ucanr.edu

Program Delivery

Farmers and ranchers in Glenn County are implementing new practices to improve soil health and sequestering large amounts of carbon through programs like the Healthy Soils Program (HSP), State Water Efficiency and Enhancement Program (SWEEP), and Alternative Manure Management Program (AMMP).

UCCE advisors and educators assisted with the verification and implementation of these programs in 2022. Our Climate Smart Agriculture educators have assisted grantees who were awarded a combined \$4.6 million in CDFA Healthy Soils Program grants beginning in 2017. The funds allocated for Glenn County farmers and ranchers has decreased GHG emissions by 17,155.2 MTCO₂e, the equivalence of eliminating 3,696 cars. In addition to decreasing GHG emissions, the SWEEP program has saved 13,226-acre inches of water; the equivalent to 543 Olympic sized pools in Glenn County alone.

The Climate Smart Agriculture team conducted a case study for 2017 HSP awardees. The awardees were asked to participate in the study by completing a survey to provide feedback on their continuing practices, practice implementation, challenges they faced and how they overcame those challenges. For those who participated, a soil sample of their fields was taken to evaluate the changes in their soil and test for increased levels of organic matter. The case study will continue into the new year.

Website https://ceglenn.ucanr.edu/Climate_Smart_Agriculture/ CDFA Grant Website <https://www.cdfa.ca.gov/oefi/>

Dairy Program UCCE Glenn County

Serving Glenn, Butte,
Tehama, Shasta &
Sutter-Yuba Counties



Betsy Karle

Dairy Advisor - Email bmkarle@ucanr.edu

Program Delivery

Research

Research activities include building communities of practice on dairies, improving on-farm milk quality, managing arthropod pests, adoption of manure management practices, and decreasing antibiotic resistance.

Extension & Education

Research results were shared in multiple venues, including World Ag Expo, Golden State Dairy Management Conference, and International scientific meetings. Outcomes of research were further extended in a variety of print publications throughout the year and quarterly in the Golden State Dairy Management newsletter.

Contributions to scholarly literature:

Research results are published in peer-reviewed scientific journals, amplifying our local efforts. Papers published in 2022 addressed:

- Effects of antibiotic treatment on cow's microbiota
- Impact of implementation of antibiotic use legislation
- Antibiotic resistance associated with fresh cow diseases
- Effectiveness of treatments and cow health
- Organic dairy disease management

Website <https://ceglenn.ucanr.edu/Dairy/> Facebook <https://www.facebook.com/uccedairy>

Newsletters https://ceglenn.ucanr.edu/news_408/Dairy_Newsletter/

Irrigation and Water Resources Program UCCE Glenn County

Serving Glenn,
Tehama, Shasta &
Colusa Counties



Curt Pierce

Area Irrigation and Water Resources Advisor - Email calpierce@ucanr.edu

Program Delivery

Research

In 2022 we began collaborating on several critical irrigation studies in almond, walnut, and olive. Each of these studies explore ways in which producers can maximize the benefits of their irrigation applications on production, tree health, and input use efficiency. We also joined another exciting project looking at how rootstock propagation methods affect root architecture and eventual water utilization in almond.

Extension & Education

In addition to regular farm calls and newsletter articles, presentations were made at a wide range of events in 2022, addressing topics such as irrigating for pesticide efficiency, irrigation scheduling options, and best practices for soil health. We also began the process of developing a Master Irrigator Program for the State of California, which will offer participants a comprehensive educational series covering basic to advanced irrigation strategies and best practices, in addition to sections on soil and plant water relations, nutrient management, system design and maintenance, and much more.

Website https://ceglenn.ucanr.edu/Irrigation_and_Water_Resources/ Facebook <https://www.facebook.com/ucceglenn/>
Newsletters https://ceglenn.ucanr.edu/news_408/Orchard_Facts/

Orchard Systems Program UCCE Cross County

Serving Glenn, Butte
& Tehama Counties



Luke Miliron

Cross County Orchard Systems Advisor - located in Butte County - Email lkmilliron@ucanr.edu

Program Delivery

Research & Education

Orchard research and education efforts in the Northern Sacramento Valley continued to grow in 2022 thanks to the teamwork of Orchard Staff Research Associate, Clarissa Reyes, Irrigation Advisor Curt Pierce, and IPM Advisor Sudan Gyawaly. In 2022 key vacant positions supporting orchard research and education in the North Sacramento Valley began to be filled.

In 2022, in Glenn County alone this team hosted the North Valley Nut Conference, as well as a walnut field meeting focusing on rootstock selection and irrigation management. In Butte County two field meetings were held at the Almond Variety Trial at the CSU, Chico Farm, and a video was produced summarizing the study for growers at <https://www.youtube.com/watch?v=pN3Mz5ISzGU>. Orchard educational offerings remain robust with the Growing the Valley podcast at <https://www.growingthevalleypodcast.com/> and Sacramento Valley Orchard quarterly newsletters as well as the sacvalleyorchards.com website.

Website www.sacvalleyorchards.com Twitter <https://twitter.com/MillironLuke> Podcast <https://www.growingthevalleypodcast.com/> Newsletters http://ceglenn.ucanr.edu/news_408/Orchard_Facts/

Rice Farming Systems Program UCCE Cross County

Serving Glenn &
Butte Counties



Luis Espino

Cross County Orchard Systems Advisor - located in Butte County - Email laespino@ucanr.edu

Program Delivery

Research & Education

The drought drastically reduced rice acreage in 2022. Statewide, only half the rice acreage was planted. The west side of the Sacramento Valley was where most of the cuts were made. Glenn County only planted 20% of the acres, while Butte County fared a little better with an estimate 75% planted.

Overall, 2022 was a year of extremes. A cold spell experienced early in the season slowed down rice and resulted in some challenges with weed management and a slight delay in harvest. Later, we experienced a hot spell during grain fill which resulted in lower grain quality. The rice program continued research projects on variety testing, management of pests and diseases, weedy rice, and planting after field fallowing.

Website <http://rice.ucanr.edu/> Facebook <https://www.facebook.com/ucrice>

Newsletters <https://cebutte.ucanr.edu/news> 154/Agriculture Natural Resources/Rice Leaf/

Livestock, Range, and Natural Resources Program UCCE Cross County

Serving Glenn,
Colusa & Tehama
Counties



Josh Davy

Cross County Livestock, Range, and Pasture Advisor - located in Tehama County -
Email jsdavy@ucanr.edu

Program Delivery

Research & Education

Livestock research is focused primarily on cattle health and production. Examples of topics in animal health include pink eye prevention and treatment, anaplasmosis prevention, efficacy of dewormer strategies for parasite control, and mineral supplementation. Production project topics include effectively feeding ionophores for weight gain in mineral, range improvement economics based on weight gain, and low-cost supplementation strategies. Range and pasture research includes weed control and improving rangeland quality and productive capacity.

All projects have an economic approach with an attempt to make implementation profitable. Rigorous research backs management recommendations because the tight margins of the livestock industry require it. Research and extension also covers aspects of natural resource management in range and pasture with the intent in preserving natural resources for future generations of land managers. Research based Information is conveyed through newsletters, websites, timely workshops, publications, and farm visits.

Website https://ceteahama.ucanr.edu/Livestock_and_Range_Management/

Newsletters https://ceteahama.ucanr.edu/Newsletters_510/

Integrated Pest Management Program UCCE Cross County

Serving Glenn, Butte,
Sutter-Yuba, Colusa &
Tehama Counties



Sudan Gyawaly

Cross County Integrated Pest Management Advisor - located in Butte County - Email sgyawaly@ucanr.edu

Program Delivery

Research & Education

In 2022, the integrated pest management (IPM) program continued providing IPM educational services through newsletter articles, one-on-one farm calls, and presentations at grower meetings or conferences throughout the Sacramento Valley. Also, in 2022, Sudan's program started monitoring the critical pests of almonds, walnuts, and peaches to track their development and provided the degree day information to his clientele. The IPM research efforts in 2022 involved surveying the web-spinning spider mites populations and evaluating the mating disruption of navel orangeworms in walnuts. Sudan intends to share the results of these studies in upcoming grower meetings.



IPM Website <https://ipm.ucanr.edu/>

Special Thanks to our Previous Donors

We are grateful for the 2021-2022 donors whose generosity made our work possible.

4M Ranch	Harold and Kathleen von Barga	Paul and Jill Martin
Arturo and Kathleen Barrera	Jack and Carolyn Pendergrass	Pete and Beth Camper
Barbara and Robert Jones	Jerry, Daniel and Irene Skala	Rachel Lohse
Barceloux Family Orchards	Jim and Diane Jones	Rancho Ascolano
Bonnema Ranch	John and Barbara McCracken	Ray and Darlene Odom
Brad and Kim Mc Geoghegan	John and Toni Erickson	Ray and Verda Belle Gollnick
Brint Foster	Johns Manville	Raygoza & Son Hay Inc.
Bruce Grivey	Ken and Donna Peterson	Richard Layman
Bruce King	Kennedy Ranch	Rick Beatty
Bucke's Feed & Grain	Kenneth Gilmore	Rick Massa
C.F. Koehnen & Sons, Inc.	Kyle and Lea Eddy	Ron and Doreen Mendes
Carl and Connie Funke	Lake Ranch Pistachio Investors	Sam Simson and Sheila Culp In
Carly Ranch	Larry and Theresa Thurman	Memory of Ron Simson
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Chris Johnson	Laura Sailsbery	Simson Land & Livestock
Cotati Large Animal Hospital	Leonard and Marsha Kaiser	Spence Trucking
CPR Farms Inc	Lohse Ranch	Stan and Ces Hawthorne
Craig Bailey	Lorna Krkich	Susan and Darryl Bernard
David and Nancy DeMello	Lynda Fitzgerald	The Big Harvest -Butte Ag
Dietmar and Patrecia Karle	Maben Farms	Foundation
Donald Bills	Margaret Ann Cole	Timothy and Tracy Sailsbery In
Douglas Bentz	Mark and Brenda Alderson	Memory of Bob Sailsbery
Elizabeth Dolezal	Mark Pierce	Tom and Ann Millar
Endres Family Farm	Martin Bros	Violich Farms
Ernest Pieper	Mary Ann Deeming	William Krueger
Fay Hendry Pierce	McCorkle Trucking	Zane Amaro Farms
Flynn's Welding & Machine Shop	Michael and Dee Davis	
Fred and Willynda Freitas	Michael and Laurie Murray	
Gene and Shirley Russell	Michal Ann Mendoza	
George and Joanne Overton	Mid-Valley Veterinary Hospital	
George Swaner	Mike and Pat Schager	
Greg Steel	Mills Street Farms	
Gruenwald Family	Nick and Gail Bertagna	
GSA Farms Inc.	Pat and Lorrie Sutton	
	Patricia Perez	

Plus, many donors wishing to remain anonymous

UC Cooperative Extension Glenn County

ANNUAL REPORT 2022

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.



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glenn@ucanr.edu