



2018-2019 Annual Report

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

Cooperative Extension, Capitol Corridor
Serving Sacramento, Solano, and Yolo counties



UC Cooperative Extension, Capitol Corridor 2018-2019 Annual Report

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Yearly Summary and Funding Sources

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.



Having fun inspecting compost critters with help from a UCCE Master Gardener

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



1592

volunteers donated

123,775

hours public service

— estimated value of

\$3,707,061



47,729

total educational interactions with the public



56

peer-reviewed and audience-requested publications



6

activities bringing research to policy



85

academic-led workshops, field days, and classes with

1,678

participants



19

news media programs/mentions



12,466

youth in UC 4-H Youth Development Program



UC Master Gardener volunteers reached

23,419

residents



2,116

youth & adults participating in nutrition education (EFNEP)



730

people reached by healthy food and/or physical activity changes (CFHL, UC)

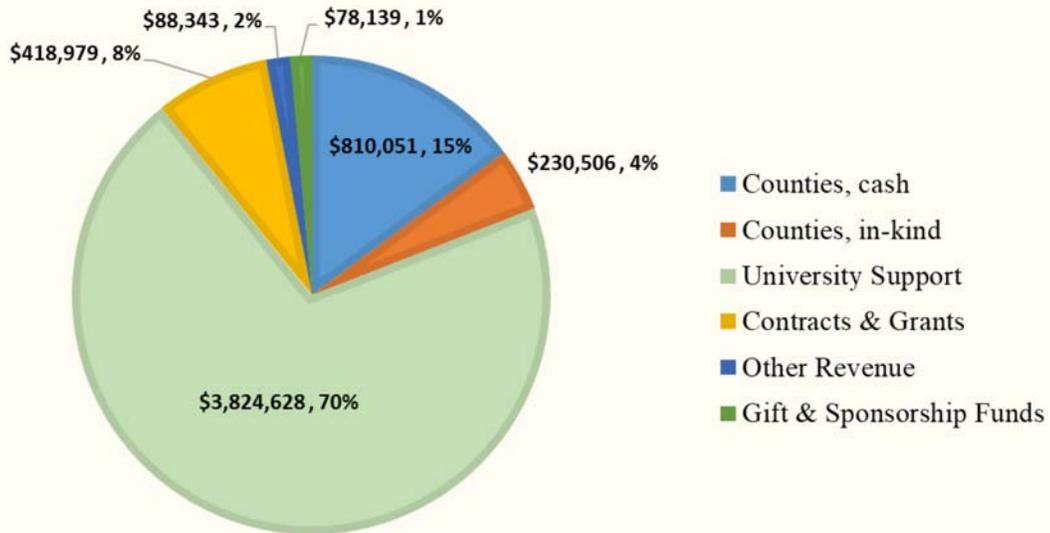


106

new certified California Naturalists stewarding the environment

2018-2019 Annual Report

Yearly Summary and Funding Sources



We appreciate the strong support afforded to UCCE Capitol Corridor by Sacramento, Solano, and Yolo counties. The partnership between the counties and the University of California has enabled UCCE to provide high-quality programs in our communities for over 100 years and will for generations to come.

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)



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2018-2019 Annual Report Meet the Staff

UC Academic Advisors



Morgan Doran, Director
Livestock & Natural Resources
Sacramento, Solano, & Yolo Counties



Margaret Lloyd
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Sacramento, Solano, & Yolo Counties



Marianne Bird
4-H Youth Development
Sacramento County



Rachael Long
Pest Management
Sacramento, Solano, & Yolo Counties



Marcel Horowitz
Healthy Youth, Families, & Communities
Yolo County



Konrad Mathesius
Agronomy
Sacramento, Solano, & Yolo Counties



Katherine Jarvis-Shean
Orchard Systems
Sacramento, Solano, & Yolo Counties



Karey Windbiel-Rojas
Urban Integrated Pest Management
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UC Academic Cross-County & Emeritus Advisors

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Michelle Leinfelder-Miles
Delta Crops
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Eugene Miyao, Emeritus
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2018-2019 Annual Report Meet the Staff

UC Program Staff



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Master Gardener Program Coordinator
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2018-2019 Annual Report Agronomy

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As an Agronomy Advisor, my role is to support local growers in issues related to a handful of commodity crops. I have developed most of my programs with the aim of sustaining local agriculture economically and environmentally. While most of these projects are designed to address agronomic issues and concerns, some of them contain elements of public outreach in order to improve public knowledge of the supply chain from the field to the consumer. Below is a summary of my 2018-2019 projects that, long term, will help answer important local and regional questions regarding sustainability issues facing the Sacramento Valley.

- Mechanical and chemical control of herbicide-resistant Italian ryegrass in rainfed wheat. Impacts: clarified the relative impact of mechanical tillage and chemical control in wheat and informed 150+ growers and Ag industry representatives informed on alternative methods of control and the importance of diversifying control methods to reduce the spread of resistance genes.
- Roller-crimper timing for oat-pea cover crop termination. Impact: correlated physiological indicators in oat seed development with efficacy in termination by rolling.
- Biosolids as a source of fertility. Impact: improved understanding of the rate requirements for biosolids to match productivity of conventional fertilizers.
- Coordinating with UC Small Grains Advisor on data collection, outreach, and education in nitrogen-use-efficiency projects. Impact: developed materials for in-field testing of soil nitrate levels as a tool for fertility decision-making.
- Evaluation of grower barriers and motivations related to healthy soils practices. Impacts: conducted grower interviews to evaluate barriers and motivations related to California Dept. of Food and Ag's healthy soils program and ranking of grower barriers and motivations through a grower/industry survey.



Mowing vs. crimping at different seed maturities



Barley grown for malting and brewing trials

- Analyzing brewing performance and consumer preference for different varieties of barley to clarify grower strategies in approaching the alternative market of malting barley. Impacts: quantified consumer capacity to identify beer made with different varieties of barley and improved consumer understanding of barley's role in beer and agriculture's contribution to beer.

2018-2019 Annual Report Climate Smart Agriculture

This year, through a partnership between the California Department of Food and Agriculture (CDFA) and University of California Agriculture and Natural Resources (UC ANR), I was hired as a part of a new statewide Climate Smart Agriculture program working to increase adoption of climate smart farming and ranching practices in California. My main goal is to assist farmers and ranchers in Yolo, Solano, and Sacramento counties in completing applications to CDFA's Climate Smart Agriculture incentive programs: The Healthy Soils Program (HSP), the State Water Efficiency and Enhancement Program (SWEEP), and the Alternative Manure Management Program (AMMP). These programs incentivize growers to adopt practices that reduce greenhouse gases emissions, improve soil health, increase irrigation efficiency, and help growers adapt to climate change impacts.

In my position I have the opportunity to support Yolo, Solano, and Sacramento county growers by hosting workshops and one-on-one consultations in regards to their applications to these programs. Additionally, once their projects have been awarded, I help growers navigate the invoicing and reporting requirements. In partnership with my 9 counterparts, located throughout the state, and the supportive network of UC Cooperative Extension farm advisors, my efforts also assist farmers and ranchers in successfully implementing these practices.

My position also affords me the opportunity to collaborate with other UCCE programs. During this past year I've been able to assist the farm advisors with their research and education activities that relate to climate smart agriculture. I participated on a project to gauge



Growers gathered around a No-Till Drill at an OCCSN

the nitrogen contribution from various types of cover crops with Dr. Margaret Lloyd, UCCE Small Farms Advisor. Under the guidance of Rachael Long, UCCE Forage Crops, Integrated Pest Management, Water Quality and Dry Beans Advisor, I assisted a graduate student researcher on a project aimed at understanding the regional potential of our soils to sequester carbon by comparing organic matter content of soils under hedgerows to those in cultivated fields. Together with Dr. Kat Jarvis-Shean, UCCE Orchard System Advisor, we partnered with a host of local agency partners to established the "Orchard Cover Crop Support Network (OCCSN)": a group that works to facilitate the farmer-to-farmer exchange of knowledge around cover cropping in orchard systems.



Rangeland soil sampling to measure effects of compost application

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2018-2019 Annual Report Field Pest Management

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My research program focuses on developing integrated pest management (IPM) practices that help farmers control weeds, insects, and diseases in field crops production. Crops worked on are those of importance to the Sacramento Valley, including alfalfa and other forages, dry beans (limas and garbanzos), and seed crops, including sunflower, onions, and carrots for hybrid seed production.

Impacts of my program include developing crop varieties that are resistant to diseases, identifying new pesticides that are safer for farmworkers and our environment, including air and water quality protection, improved timing for pest control resulting in economic savings and better pest control for farmers, increasing biocontrol of pests by natural enemies through planting floral resources on farms, and carbon sequestration by habitat plantings on farm edges.



Hedgerow field work

In early 2019, I was recipient of the Bradford Rominger Agricultural Sustainability Leadership Award. Below is a summary of my work.

Rachael Long was hired as a Pest Management, Low Input Systems Advisor for Yolo, Solano and Sacramento Counties in 1992. This was one of the first Sustainable Agriculture Advisor positions with UC ANR, with a focus on developing programs to manage pests in field crops with minimal impacts to the environment.

At the time she started her projects over 25 years ago, her ideas were way outside the box and on the fringe. Now her work is mainstream with the UC IPM guidelines incorporating the values of habitat planting for enhancing natural enemies and pollinators on farms for better pollination and biocontrol of crop pests. The California Healthy Soils Initiative and Natural Resource Conservation Service have cost share funding from hedgerow establishment on farms, for pest management and carbon sequestration. She continues to do research on hedgerows but more importantly, she strives to be a leader by teaching others about agriculture and the need to have co-existence between farming, food production, and wildlife conservation for a better world for all.



Public education talk -
Using Elderberries in a
Hedgerow to Attract
Beneficial Insects

2018-2019 Annual Report Livestock and Natural Resources

My Livestock & Natural Resources program is focused on livestock production and management, primarily beef cattle and sheep, and the rangeland and pasture resources that sustain the livestock industry in the four-county area of Napa, Solano, Yolo and Sacramento counties. Current issues I am addressing include ranch water quality, rangeland improvement, wildland fire impacts and fuel reduction, and livestock production practices.

In addition to being the director of the UCCE Capitol Corridor office, which occupies most of my time, I still maintain an active Livestock & Natural Resources program. In this capacity I handle inquiries regarding livestock and pasture management and the sustainable management of natural resources that support many ecosystem services.

Water quality on grazing lands has been an important natural resource issue in California for more than two decades. To address this issue, I and another UCCE colleague are updating the UCCE Ranch Water Quality Planning curriculum into an electronic package of lesson plans and presentations addressing the science and application of management practices that enhance water quality on grazing lands and instruct ranchers how to complete a ranch water quality plan and help them comply with state water quality regulations. We recently completed 28 educational and instructional videos on various water quality-related topics and intend to have the final package ready to deploy by mid-2020.

The use of electronic identification of individual sheep for improving production management and genetic selection is the focus of a research project that I and several UCCE colleagues initiated this year. This project will help demonstrate the value of relatively new technological tools that have the potential to provide production efficiencies for sheep producers. This is the first year of a two-year project.

The important roles of soil and water on local agriculture was the focus of an Ag Tour that I co-organized for the Solano County Board of Supervisors in April 2019. As an ex-officio member of the Solano County Ag Advisory Committee, I helped organize the tour to inform policy makers of how farmers manage soil and water resources and the impact of policies on viability of their operations.



Solano County Ag Tour—
Rancher provides insights into
soil and water management
practices

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2018-2019 Annual Report Orchard Systems

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Orchard Cover Crop
Support Network Meeting

My Orchard Systems research and extension program supports almonds, pistachios, prunes and walnuts, which cover more than 100,000 acres in Sacramento, Solano, and Yolo counties, and in 2018 produced more than \$210 million of crop. My program focuses on helping establish young orchards to encourage long-term success, sustainably manage fertilizer and water, and plan for and adapt to changing climate conditions, while keeping an eye on the economic sustainability these systems.

Water use has been a large focus this year. I coordinated a series of five “Orchard Cover Crop Support Network” grower-to-grower meet-ups on cover cropping in nut orchards, in collaboration with nine other Yolo and Solano County conservation agencies and non-profits. Cover cropping has the potential to capture and store more rain water for future orchard use, lowering the overall water footprint of orchards in our regional ecosystems. Cover crops may also capture and store greenhouse gases from the atmosphere, a win for the planet. This year, I helped launch a new research project to examine whether cover cropping and other similar “healthy soils” inputs lead to healthier trees and increased profit for growers. On the water front, my program continues to help growers irrigate based on the needs of their trees, through weekly Soil Moisture Loss reports and training irrigators to measure tree water stress.

Boron toxicity is a concern in a large swath of otherwise prime farming ground in Yolo County. Five years of research and extension into boron tolerant almond rootstocks has contributed to a significant shift in behavior by growers. Sales of rootstock that were found to tolerate boron have doubled over the last few years, which will lead to increased yields and longer orchard life. We also launched a research project this year to help growers with almond and walnut trees already in the ground leach boron out of their tree root zones with irrigation and rainwater.

I continue to research prune and walnut rootstocks for increased yield, decreased labor and tolerance to persistent soil diseases, soil treatments to allow health new orchards to be planted when old orchards are removed and tools to help growers predict for bloom and harvest timing to adjust their management plans accordingly. I continue to extend information locally and throughout the state on amount and timing of nitrogen fertilizer needs for orchards to optimize nitrogen movement into plants, minimize nitrogen movement into drinking water, and keep orchard yields profitable.



Prune rootstock
trial harvest

2018-2019 Annual Report Small Farms and Organic Farms

Serving Yolo, Solano and Sacramento counties, I focus on organic mixed fruit vegetable growers, including beginning farmers and immigrant farmers. In addition to the research and extension activities described below, I regularly visit on-farm, chat over the phone and email, and meet with growers.

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Research

- Along with UC Davis researchers, received funding to conduct field trials using 3 organic pesticide treatments in melons production to look at control of Cucumber beetles.
- A current project investigates root stock selection and irrigation management as potential solutions to increase availability of nutrients from organic inputs.
- Initiated the development of a 'pictorial guide' showing cover crop growth with its associated nitrogen and biomass information to help growers estimate nitrogen from a cover crop to help develop a nitrogen budget.
- In collaboration UC Berkeley, started a project to couple farm-scale soil health indicators with farmer knowledge.
- Continuing work on a study evaluating rootstocks to mitigate soilborne diseases and improve vigor in fresh market, heirloom tomato production.



Harvesting tomatoes at the field trial

Outreach to SE Asian Farmers, Organic Farmers and Beginning Farmers

- Held the 'Farmer-Researcher Spotlight Series 1' coupling a local farmer with a USDA researcher to have a joint discussion on cover cropping.
- Organized my annual 'Organic Extension Meeting.' The topic for 2019 was Organic Pest Management.
- Held two educational and social meetings to support 'Second Career Farmers.'
- Organized the annual 'lu Mien Strawberry Growers Extension Meeting' in Sacramento.
- Organized and presented at my meeting, 'Frontiers in Sacramento Valley Farmer' exploring new potential crops for our region.
- Presented at the Ecological Farming Conference and Small Farms Conference on Organic Nitrogen Management.



lu Mien Strawberry Farmer meeting

2018-2019 Annual Report Vegetable Crops

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The focus of the vegetable crops program has been information-driven coupled with an applied field research component in close cooperation with local growers to solve crop production issues. Our goal is to improve crop output, quality and profitability in a sustainable manner. While retired in July 2018, I was temporarily rehired part time to complete a few projects.

Broomrape, a parasitic weed was found in 8 local tomato fields since 2014. Yield reductions of over 50% are reported. Discoveries resulted in regulatory crop-destruct 'quarantines'. I have worked closely with Calif. Dept of Food and Agriculture and the California tomato industry associations. Yolo-area fields have not been fumigated as grower-expense exceeds economic recovery at \$4K per acre. I've assisted industry lobbying effort for USDA federal crop insurance support. Growers were alerted on restrictions and steps to limit movement of these weed seeds especially on equipment. I assisted Solano Ag Commissioner and am in the process of writing a document on broomrape mitigation at the request of the Yolo County Ag Commissioner.



Grafting was evaluated as a potential yield and fruit quality enhancer for processing tomatoes as part of a multi-year, USDA-funded national research team project. Yield increases were measured between 8 to 29% in commercial field trials. The costly grafting input needs a yield boost level of ~100% to be economical. I attended an international vegetable grafting conference in Charlotte, N. Carolina, to report on local results of grafting as well as listen to national and international grafting experts. I also presented grafting results at an international processing tomato symposium in Greece and a Tomato Disease Workshop in Virginia.



Education: Our annual, Woodland-located classroom-style meeting in early January continues to be the mostly widely attended tomato production meeting in the state (~175 with >50 growers). I spoke on broomrape management at: UC Cooperative Extension grower meetings in Woodland, Fresno and Modesto; a Calif League of Food Processor meeting in Merced; and at an annual California Tomato Conference in Napa. I presented a paper on benefits of potassium nutrient applications for processing tomato production at the California Plant and Soils Conference in Fresno.

2018-2019 Annual Report Integrated Pest Management (IPM) for Urban and Community

The more than 2 million residents of Sacramento, Solano, and Yolo counties can experience pest problems anytime in their homes, gardens, landscapes, and other areas. Pesticide use in residential areas can contribute to environmental contamination, through improper application, overuse, or pesticide runoff into creeks and streams. To address this, as the Area Urban IPM Advisor, I engage with various community audiences to support their pest management needs.

Many landscape professionals, municipalities, and other urban applicators are concerned about using glyphosate for weed control. I am continuing research trials on the efficacy of organic herbicides and alternatives products to glyphosate in urban areas to address these needs.



Through funding from the California Pear Board, myself and colleagues are monitoring the population and damage of the brown marmorated stink bug (BMSB) in the Sacramento Delta region. This area has not experienced a BMSB infestation yet, but the presence of this damaging invasive insect could have dire consequences to this important pear growing region if it becomes established.



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2018-2019 Annual Report Sacramento 4-H Youth Development Program



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*"I have become more mature and more of a confident group leader and public speaker. I have become more comfortable with leading a group and meeting new people."
-4-H YES Teen Teacher*

Communities need active, involved citizens of all ages. Through service-learning projects, young people learn to appreciate the value and rewards of contributing to their communities, see themselves as leaders, and strengthen their skills for the workforce. The future of our workforce, and our communities, depends on a skilled, engaged citizenry.

Community engagement is a foundational piece of the 4-H Youth Development program and is imbedded in our 4-H clubs. Over the last several years, 4-H Country Centre and Badger Creek club members have explored homelessness and food insecurity, major issues in their neighborhoods. Then, partnering with agencies who serve the needy, like Elk Grove HART or Sierra Arden Church, they collected socks and blankets, packed food boxes, and mobilized to make a difference.

4-H relied exclusively on teenage volunteers to engage the 330 1st-3rd graders who participated last year in the 4-H Youth Experiences in Science (YES) Project. These teens met in teams to organize their time, supplies, and lesson for weekly science activities they delivered to younger youth in afterschool programs. Likewise, teen teachers serving in 4-H On the Wild Side (OTWS) worked for four months to plan and deliver two, weekend-long environmental education sessions at camp. The 140 4th-6th grade students from Rio Linda, Rancho Cordova, and south Sacramento who attended camp with their school classes showed significant gain in knowledge on pre- and post-tests, testimony to the excellence of the teens who teach.



YES Teen Teachers Desiree (left) & Halia (right) at Oak Park Community Center

For the 57 teenagers who served as teen teachers in YES and OTWS, 91% felt they had made an important or very important contribution to their community. They said they grew in several areas—being part of a team, speaking before a group, organizing themselves and their time—all critical skills in the workforce. Research shows that such civic engagement for teenagers is positively correlated with academic attainment and income. Through these authentic learning experiences, 4-H members develop a concern for others and a sense of empowerment that enables them to be effective leaders in their communities.



40+ teenagers led science programming at 4-H On the Wild Side at Camp Gold Hollow in Nevada City



2018-2019 Annual Report Solano 4-H Youth Development Program



"4-H Inspires Kids to Do"

Research indicates that youth who participate in 4-H as compared to other youth development programs are more likely to excel in school, participate and be interested in science, make more healthy choices, contribute to their communities, and thrive.

Community Engagement

Youth who participate in 4-H report better grades, higher levels of academic competence, & an elevated level of engagement at school. They are also nearly two times more likely to plan to go to college.

- Expanded 4-H Outreach attained parity in 4-H programming for Latino, Asian & Black Youth
- Eleven 4-H Clubs served 419 youth & 151 adult volunteers.
- Areas of emphasis: Agriculture, STEM (Science, Technology, Engineering, and Math), healthy living, civic engagement and leadership

4-H Military Partnership Program

Military families move frequently and experience difficulties surrounding reintegration. 4-H provides predictable programming for military connected children & youth. 4-H offers opportunities for military youth to explore new interests & gain skills in leadership, decision making, technology, science, environmental stewardship, & community service.

- 4-H programming on Travis AFB is delivered through the Youth Center and Teen Zone had 1,440 program hours reaching 1,060 military youth.

4-H STEM Program

Teens as Teachers program delivery prepares & engages teen volunteers to deliver curriculum to younger peers.

- Trained 21 teens volunteering 69 hours reaching 802 youth in underserved communities at after school sites with hands-on inquiry-based science.
- Expanded community collaborations with Genentech, My Leaven, school districts, Solano County Libraries & Solano County Office of Education.

Solano County Fair Youth Ag Day

Free event for all 3rd grade students, featuring hands-on rotational learning stations. 27 Adult and 52 4-H Youth Volunteers taught 3,029 third grade students about food & fiber production.



4-H adult and youth volunteers ready for Youth Ag Day participants!

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2018-2019 Annual Report Yolo 4-H Youth Development Program



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For over 100 years, Yolo County 4-H has enriched the lives of local youth through agricultural, animal, and arts and science projects and events. The Yolo County 4-H Youth Development Program has 10 clubs, with 549 youth and 280 adult volunteers, who value their commitment to community service, promoting healthy lifestyles, and enriching the minds of local youth.

Community Engagement

Yolo County 4-H is unique in that it is the only 4-H program in California that has their own dedicated 4-H fair, known affectionately as “Spring Show.”

- Highlights the projects that 4-H members have been working on throughout the year.
- Provides an opportunity for the public to learn about 4-H in a fun and engaging way from watching animal judging shows to an archery competition, and to see homemade robots, woodworking, baking, arts and crafts, and so much more!
- Attended by over 7,500 children and adults each year.
- Farm Connection Day (in partnership with local businesses, schools, community groups, and the Yolo County Farm Bureau) occurs on the first day of Spring Show. Farm Connection Day brings over 3,000 preschool- and elementary-age students to Spring Show to learn about local agriculture and 4-H.



Crop trivia at Farm Connection Day

Outreach

- Yolo County 4-H worked in continued partnership with the Yoche Dehe Wintun Nation in Capay Valley. This allowed students who had never experienced 4-H to participate at their on-reservation schools.
- Yolo County is one of only a few counties to reach parity in 4-H programming for Latino, Asian & Black Youth.
- 4-H youth are 3.4 times more likely to actively contribute to their communities and are 2x more likely to have higher civic identity and engagement. The Yolo County 4-H All-Stars are working to push literacy in the community by holding read-a-thons monthly and reward participants who show improvement with books.
- 4-H youth are 2x more likely to report healthier living. Yolo County 4-H works alongside the UC CalFresh Nutrition Education Program of Yolo County to teach hands on cooking and nutrition lessons to 5th and 6th graders enrolled in after school programs. There are more than 353 students have participated in Cooking Academy.

2018-2019 Annual Report

Expanded Food and Nutrition Education Program of Sacramento County

The Expanded Food and Nutrition Education Program (EFNEP) is a federally funded program that offers researched-based nutrition education to limited resource parents and children. We work in collaboration with the county, community agencies and schools to provide these services. In Sacramento County, our small but mighty team of educators teach the Eating Smart, Being Active curriculum and offer nutrition classes in English, Spanish, Russian, and Hmong. We promote healthy lifestyles that includes physical activity for the whole family. 2019 marks EFNEP's 50th Anniversary. This year, Educators provided direct education to 389 families with an expanded reach of 1,543 individuals (children/other household members).

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Community Events

- 2nd Annual Dancing with the Doc Fundraiser at California North State University, Elk Grove, CA. (Benefiting Paradise Public Library, Butte Co.)
- Ag Day at Sacramento Farm Bureau (16 classes, ~500 youth)
- 2nd Annual Summer Meals Kickoff
- 4th Annual Brain Health Forum (140+ attendees)
- UCCE Master Gardeners' Harvest Day event (~1800 attendees, ~150 served with infused water)
- National Night Out at Van Buskirk Community Center, Stockton (~100 adult/youth, served distilled water)
- Oak Park presentation to Well Space Nurses (~20 Nurses)
- Presentation to Sacramento Native American Health Center (16 patients)
- Presentation to Patterson Elementary School, Solano County (29 5th graders)



Presentation to Well Space nurses



Booth at the Brain Health Forum

EFNEP Participant Outcomes
 97% showed improvement in diet quality
 87% showed improvement in physical activity
 87% showed improvement in food security
 89% showed improvement in food resource management
 EFNEP graduates reported an average of monthly food cost savings of \$89.70

2018-2019 Annual Report UC CalFresh Nutrition Education Program, Yolo County

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Yolo County consists of approximately 200,000 residents which 37% of those residents qualify for CalFresh. Yolo County has a 15% overall food insecurity rate; 22% for children. The University of California Nutrition Education Program in Yolo, funded by CalFresh Healthy Living, provides direct and indirect obesity prevention, malnutrition, and food security education along with policy, systems and environmental change efforts to improve the health of residents.

The program operates through a joint agreement among the U.S. Department of Agriculture/Food and Nutrition Service (USDA/FNS), the California Department of Social Services, and the University of California Cooperative Extension. We provide no-cost resources to low-income school sites or community programs.

Nutrition education approaches impacting Yolo County in 2018-2019:

- One hundred and thirty teachers at 41 school sites reached over 2,400 youth through evidence-based, experiential nutrition or physical activity curricula. Eight after-school sites have incorporated moderate to vigorous physical activity within their program.

- The After-School Cooking Academy program is an obesity prevention, food security intervention, and experiential food preparation program.



Practicing knife cutting skills

Fifth and sixth graders learn cooking skills and nutrition knowledge over the course of 7 weeks with the goal of positive behavior change within the home environment. Over 225 students have graduated from the Academy and numbers are increasing with each cohort. Youth leaders who formerly completed the Academy, come back to teach and engage their peers as teen teachers.

- Learner-centered adult education is delivered by program staff and focuses on positive parenting skills and food resource management (which includes reading a food label, unit pricing, and food safety.) Over 75 adults, whose youth participate in the nutrition program, attended a parent class.



Spring 2018 Cooking Academy Graduates

2018-2019 Annual Report UC Master Food Preservers of Sacramento County

UCCE Master Food Preservers lead educational events throughout the year to teach safe methods to preserve food and how to use them in meals. During the 2018-2019 program year, we trained and certified 12 new volunteers in the following food preservation methods: freezing, dehydrating, boiling water and steam canning, pickling, fermentation and pressure canning. The 12 new volunteers brought the total volunteer base to 60 educators. Of these volunteers, 14 of them have been in the program for at least 10 years; eight for more than 20 years. These dedicated volunteers coordinate all aspects of their activities from planning to publicity to final presentations. During the 2018-2019 year they gave over 3,500 hours to the Sacramento Community through a variety of events.

Public Demonstrations: We teach two monthly demonstrations throughout year. Saturday demonstrations focus on basic food preservation techniques of freezing, dehydrating, and canning. Wednesday evening demonstrations focus on seasonal themes. We introduced two new topics this year: reducing food waste and fermenting cheese. In the *Waste Not, Want Not* class, attendees learned how to use vegetable scraps to make broth, use corn cobs to make a jelly that tastes like honey, and to grind dried tomato skins into powder for instant soup mixes and flavor enhancers. In the *Cheese Please* class, attendees learned to make fresh ricotta cheese, yogurt cheese and cream cheese.



Master Food Preservers Kathryn and Joanne lead the Cheese Please class

Outreach Events: Dedicated volunteers show up every week at the Florin Road farmers market. To quote UCCE Master Food Preserver Chéree Schiele, “Farmers don’t quit, neither do we.” Our volunteers also staffed informational booths at the monthly Fair Oaks Horticulture Center’s Open Garden, Elk Grove Tomato Festival, Elk Grove Pumpkin Festival, Sutter’s For Frontier Day, Sacramento Farm to Fork, CA Lottery Health & Safety Fair and the California State Fair. We also gave live demonstrations at the State Fair.

Youth Engagement: UCCE Master Food Preservers lead 4-H food preservation projects and work with weekly school field trip groups at the Florin Road Farmers Market. We also participated in the new Farm Day for third and fourth grade students hosted by the Farm Bureau.

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Safely preserving
food using research
-based techniques
allows families to
experience the
UCCE Master Food
Preserver tagline:
Preserve today,
relish tomorrow.

2018-2019 Annual Report

UC Master Food Preservers of Solano and Yolo Counties

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The mission of the University of CA Cooperative Extension Master Food Preservers is “To extend *research-based* knowledge and information on safe home food preservation methods and food safety to the residents of California focusing efforts in Solano and Yolo Counties.” The Master Food Preserver (MFP) program completed its second complete year of program training and extension of information on June 30th. The program had seventeen volunteers during this year of the report with five of these volunteers being newly certified in late May 2018.

The UC Master Food Preserver Program is an example of an effective partnership between the UC Division of Agriculture and Natural Resources and passionate volunteers. In exchange for extensive training on home food preservation from the University, UC Master Food Preservers offer volunteer services and outreach to the general public in 17 California counties.

In the 2018-2019 program year, the Master Food Preserver volunteers of Solano and Yolo counties completed 1,023 volunteer service hours and 363 additional continuing education hours. In the first two years since the program had its first graduates in 2017, the Master Food Preservers have completed 4,215 volunteer service hours.



Pressure Canning Workshop -
Making Soup Safely at Home

This year, the Master Food Preservers completed more than 17 workshops and events such as a booth at the Yolo County Fair. These events resulted in 1,050 contacts in the reporting period and 3,385 contacts since UC MFP program officially re-started in Solano and Yolo counties in 2017 following a twenty-year hiatus. The Master Food Preservers Pressure Canners project to test pressure canners for accuracy is attracting clients from a large geographical area besides those residing in Solano and Yolo counties.

The group is looking forward to certifying a new group of 16 volunteers in 2020.



Food preservation public talk at Bauer
Community Garden in Woodland

2018-2019 Annual Report UC Master Gardeners of Sacramento County

Helping Sacramento residents obtain healthy environments, plants and communities are goals directing the work of the UC Master Gardener volunteers. We provide free or low-cost education that empowers gardeners and homeowners to conserve water, reduce green waste, and be responsible with pesticides. After receiving extensive horticulture training from the University of California, the Master Gardener volunteers empower others during one-on-one conversations on the phone and in person at workshops, at small groups during library presentations and to the 3000 attendees at our annual Harvest Day event held at the Fair Oaks Horticulture Center. From these in-person gatherings and also from our electronic media, residents take information they learned and implement change in their gardens and landscapes. The UC Master Gardeners teach the principles of integrated pest management (IPM) that can be used to effectively manage pests while minimizing the negative impacts on beneficial insects.

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2018-2019 By the Numbers

*271 volunteers contributed 17,785 hours of service to the community

Changes implemented by participants of UC Master Gardener events

*71% actively monitor for insects, weeds, or diseases

*86% are reducing pesticide applications

*43% follow pesticide label instructions

Gardening and landscaping can, and does, interest people of all ages. Currently, in Sacramento an influx of young people are seeking opportunities to gain knowledge on environmental issues and growing healthful food. Our 7,000 Facebook 'friends' assisted in introducing more millennials (20-30 year olds) to the UC resources we offer at our community events.



UC Master Gardener JaNahn Scalapino shares tips on how to attract pollinators, a key factor in creating a wildlife habitat.

A new Master Gardener project on certified wildlife habitats showcases how all ages can address environmental issues in various size landscapes including individual homes, on apartment balconies and school garden sites. Visitors to the Fair Oaks Horticulture Center are exposed to practical and cost effective methods on how to reduce the loss of beneficial insect habitat and to manage pest infestations with the least toxic methods. Seeing pollinators active in the vegetable garden, water saving irrigation techniques and non-toxic pest management tools motivates change.



2018-2019 Annual Report UC Master Gardeners of Solano and Yolo Counties

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The Master Gardener Volunteer Program is a partnership among the University of California, USDA, county governments, and California residents. The mission of the UC Master Gardener Program is to extend to the public research-based information, verified by UC experts, about home horticulture, pest identification, landscape maintenance, and other environmental issues. All of the Program's outreach emphasizes the importance of sustainable landscape practices in addressing multiple environmental concerns, including water and air quality, energy and soil conservation, invasive species, and waste management.

Solano County

In Solano County, Master Gardeners earn hours by doing presentations, hands-on demonstrations, staffing information tables (farmers markets), phone line, helping at school gardens, and a plethora of other outreach projects like our quarterly public newsletter, *Seeds for Thought* and blog, *Under the Solano Sun*. Over the year, 4,911 residents were contacted and educated about research-based home gardening topics.

2018-2019 By the Numbers

- *137 volunteers including
 - 3 platinum (2,500 lifetime hours)
 - 17 gold (1,000 lifetime hours)
- *7,238.50 hours of volunteer service to the community
- *Value of volunteer hours = \$184,075.05

Participation in school gardening keeps expanding in Solano County. Specifically, two great programs are happening in Benicia. There is Liberty High School Garden and Mary Farmer Elementary School Garden. Both programs provide education, as well as hands-on time in the garden for the students to connect to their food and learn how plants grow.



In addition to many community partners, Master Gardeners had an information booth at Kaiser Permanente's annual Celebrate Life event. This event celebrates patients who have survived cancer and are continuing to thrive.

The ever-popular Master Gardener booth gives out home gardening information as well as succulents, seeds and other items for the patients to grow at home. Master Gardeners helped teach the Rehab program patients who have various ability (severe to mild) but want to garden. We also were at Kaisers Earth Day Celebration with our worm bins.

Liberty High School garden

2018-2019 Annual Report UC Master Gardeners of Solano and Yolo Counties

Yolo County

In Yolo County, Master Gardeners earn their hours by volunteering at farmers markets, holding talks at libraries, community gardens, and events at Woodland Community College and tending their gardens there. The MGs produce a quarterly publication called the Yolo Gardener which provides outreach to over 1,200 readers.

2018-2019 By the Numbers

*111 volunteers including
4 platinum (2,500 lifetime hours)
15 gold (1,000 lifetime hours)
*6,186.50 hours of volunteer service to the community
*Value of volunteer hours = \$157,322.70

Being so close to Davis, MGs in Yolo County are mostly located in Davis or Woodland. This past year, the MGs worked to extend their reach into Winters and Esparto. In Winters, there were two projects: the roundabout and the Winters Library Garden. MGs worked to create a design and then implement the plants focusing on drought-tolerance. In Esparto, our MGs strived to gain new audiences at the Esparto Library.



Winters roundabout
landscape project

MGs have an on-going presence at the Davis Library with their Year-Round Kitchen Gardening presentations. We have now added the Woodland Edible Teaching Garden in Woodland. MG Treva V. spearheads the gardening presentations. It's a fun location and very visible on the corner of First and Court Streets.



UC Master Gardener Jim Schulte
(right) with class participants at
Esparto Library

UCCE Capitol Corridor - Over 100 Years of Service

On May 8, 1914 Congress passed the Smith-Lever Act, providing federal funds to the USDA's Extension Service for cooperative work with Land-Grant universities and colleges, as a result of advocacy by farm groups and others who believed that rural Americans needed more opportunities and education in order to sustain a vibrant American economy and democracy.



4-H member with dairy cow.
1934. Solano County.

As part of the Smith-Lever Act, universities would manage agricultural extension in each state, with guidance from USDA. The program would be based on farmer-led demonstrations and would place an educator, or "agent," in counties to work with farmers and support their on-farm demonstrations.

Anticipating strong demand, University of California officials required each county government that wanted to participate in the Cooperative Extension partnership to allocate funding to help support extension work in that community. Additionally, it was 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.



Orchard Spray Application.
1920. Sacramento County.

At first geared towards strengthening rural areas, Cooperative Extension became integral to urban and suburban communities as well. Over a century later, Cooperative Extension continues to provide a vital link between public universities and communities.

In July of 2014, the University of California along with the Boards of Supervisors from Sacramento, Solano, and Yolo counties agreed to merge



Pear Blight field meeting.
1922. Yolo County.

the UCCE offices from each county into one unit: Capitol Corridor. This merger increases the impact of UCCE in each county with access to a greater number of programs and improves efficiency of services while reducing administrative costs.

UCCE Sacramento - 1917

UCCE Solano - 1915

UCCE Yolo - 1914

In Memoriam

Marijohn Bledsoe
October 23, 1973 - October 31, 2019

Beloved daughter, mother, cousin, friend, visual artist, consultant, instructor, Master Gardener, Master Food Preserver, and entrepreneur, Marijohn Marie Bledsoe passed peacefully on Thursday, October 31, 2019, in Modesto, California. She was 46.



A renaissance woman, she embraced multiple roles with heart, strength of character and genuine focus. But her role as a mother to her son, Langston, eclipsed all the career moves, monetary opportunities, and life-altering challenges of life.

Since childhood, Marijohn was sociable, adventurous, and actively curious about many things. She attended The Urban School of San Francisco and there she excelled in the visual arts, including painting, sculpting, and other art forms. During her time at Urban, her portfolio of 50 pieces of artwork including sculptures, metal printing, water colors and , oils won the top award in the National Advanced Placement for the Arts.

After graduation from The Urban School, she attended Fisk University, a HBCU in Nashville, and later transferred to the University of Memphis, graduating with a double major of economics and Middle Eastern Studies, foreshadowing her evolving international interests.

As a Community Education Specialist for the University of California Cooperative Extension Capitol Corridor office, Marijohn taught food safety and nutrition to aspiring Certified Master Food Preservers. Marijohn had also actively participated in both the UC Master Gardener and UC Master Food Preserver programs as a volunteer, and

While working for UC Davis, Marijohn continued to homeschool Langston, nurture him with homegrown organic foods, and make a living. The remarkable thing about Marijohn's spirit and zest for life was she had multiple health complications for most of her adult years, yet continued to live and thrive.

**UC Cooperative Extension, Capitol Corridor
2018-2019 Annual Report**



@UCCECapCorridor

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