



UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources



**UC Cooperative Extension
Riverside County**

**Semi-Annual Report
UC Cooperative Extension Riverside
January-June, 2025**



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Visit our offices in Riverside, Palm Desert and Blythe, and let us know how UC Cooperative Extension in Riverside County can be of help to you.

For information visit us on the web at:

<http://ceriverside.ucanr.edu>

(951) 955-0170

Cooperative Extension

Riverside County

Cooperative Extension is an off-campus educational arm of the University of California, Division of Agriculture and Natural Resources. It came into existence when the Federal Smith-Lever Act of 1914 established the nationwide Cooperative Extension at land-grant universities. The mission of UC Cooperative Extension (UCCE) is to connect the power of UC research in agriculture, natural resources, nutrition and youth development with California counties to promote healthy people, healthy communities, healthy food systems, and healthy environments.

In Riverside, the University of California entered a Memorandum of Understanding with the County in 1917 to promote the vision of sharing UC research and science-based solutions to solve local issues and improve the lives of Riverside County residents by forming a strong partnership with Riverside County.

This report includes a summary of our programs with highlights, accomplishments and efforts from ***Jan to June, 2025***. Thank you for reading!



Rita Clemons

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4-H Youth Development Program

Riverside County 4-H Youth Development Program serves youth ages 5-19 in Riverside County and promotes hands-on, experiential learning for youth of all backgrounds and locations. Our community clubs, camps, in-school, afterschool, and special interest programs encourage youth to take on leadership roles and teach life skills, community involvement, and personal development while they engage in new experiences. The program is led by faculty, staff, and adult volunteers from the University of California Division of Agriculture and Natural Resources (UC ANR), a statewide network under the University of California. Our research-driven programming provides positive youth development opportunities that enable youth to reach their full potential as competent, confident, leaders of character who contribute to and are connected to their communities.

COUNTY PRESENTATION DAY

2025

On March 22, 2025, over 20 youth members from over 4 different community clubs participated in our annual County Presentation Day! Every year, youth members are encouraged to practice their public speaking skills by participating in club, county, regional, and state presentations.

Youth members can select from many different presentation types and can even earn awards and pins for their accomplishments at these events. Regardless of the age group, all 4-H members receive feedback from their evaluators, which they can then use to enhance their presentations for the next round. This event is open to all active 4-H members and helps strengthen their skills to prepare them for the sometimes daunting ordeal of speaking in public.



Youth pose with their awards at County Presentation Day 2025.

REGIONAL PRESENTATION DAY

2025

On April 5, 2025, our county hosted an in-person Regional Presentation Day at the UCCE Riverside office! We had over 25 youth members from 6 different counties in Southern California participate in this regional event. The counties in attendance were Riverside, San Bernardino, Orange, Imperial, San Diego, and Inyo counties. Our program staff are beyond proud to share that everyone who participated at Regional Presentation Day received a GOLD award and were eligible to present at State Field Day! State Field Day happened in-person at the UC Davis campus, but youth were also able to present virtually.



Youth members from across 6 different counties pose with their certificates on Regional Presentation Day 2025.



4-H Youth Development Program

COOKING ACADEMY
PILOT

2025

During April to May 2025, the 4-H Cooking Academy pilot program for our county took off and was generously funded and supported by the 4-H Expanded Learning Mini Grant awarded to Riverside County 4-H in order to build and enhance partnerships with local organizations and reach youth members beyond the community club delivery mode. Thanks to this mini grant awarded to our county as well as the support of our new partner, the Woodcrest Library, our program staff were able to mentor and train Teen Teachers with a passion for youth engagement and development, and to deliver this exciting program where local youth learned basic kitchen and cooking skills, as well as 6 healthy recipes derived from the 4-H Cooking Academy Curriculum. Over 30 local youth in grades 2-6 attended the opening session of the program. During the recruitment phase of this program, 4-H staff successfully recruited and trained 4 local teens to assist the program as Teen Teachers. The after-school program ran from April 4, 2025 to May 30, 2025!



Stephanie L. Barrett
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4-H SUMMER CAMP

2025

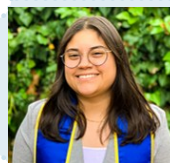
From June 22 to June 27, 2025, Riverside County 4-H hosted our annual Summer Camp at Mt. Kare in Wrightwood, California. Our camp had over 55 attendees from Riverside and Orange County 4-H. The theme for camp this year was “All Around the World.”



Local youth pose for a photo after successfully completing the first 4-H Cooking Academy session at the Woodcrest



Youth at camp pose for a photo in their camp t-shirts.



Leslie Rendon Castro
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Agricultural Economics/Farm Management

Agricultural Economics/Farm Management: Production economics, decision-making at the farm level, integrated input management, risk management. Area Program including the following counties: Riverside, San Diego, San Bernardino, Imperial, Santa Barbara, San Luis Obispo, Los Angeles, Orange, and Ventura. The program’s mission is to determine enterprises profitability and create understanding of what affects profit; thus, guiding growers to better management strategies and guiding researchers and educators to future program planning and collaborations for Agricultural Sustainability, food safety and security.

Newsletters



Two quarterly newsletters during the summer and the Fall of 2025 were disseminated. A statewide newsletter editors, we provided 11 articles of new research results and information to educate clientele with improved production practices and management of subtropical crops: [Newsletters - Agricultural Economics](#) /

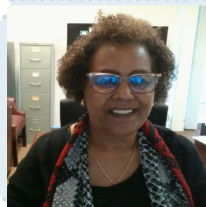
Seminars



California Avocado Growers Seminars Series 2025 was a collaborative program between the University of California Cooperative Extension Advisors and the California Avocado Society and California Avocado Commission to educate clientele with improved production practices and management of avocados. Workshops listed: [California Avocado Society - Seminars](#)

A Farm Budget Generator

A revision of the tool for development of enterprise budgets is undergoing. In the meantime, a preparatory workshop is provided to clientele.



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Climate Action and Land Equity (CALE)

Climate Smart Land Management Program is a new statewide program funded through the Department of Conservation. The program aims to build regional and state capacity to increase climate resilience on California’s natural and working lands toward a resilient, equitable, and carbon-neutral future. In alignment with the state’s initiatives and strategies to conserve 30% of the lands and coastal waters by 2030, this three-year grant award will enable UC ANR to build a practical, diverse, and meaningful approach that prioritizes equitable solutions and invests in the science highlighting that climate-smart, nature-based conservation solutions should be actively targeted, demonstrated, and accelerated on-the ground. The Climate Action and Land Equity Project (CALE) will magnify our commitment to protect and restore lands and support critical efforts to build resilience against the impacts of climate change.

Activities

Chandra continued her activities as Land Equity Academic Coordinator and Principal Investigator for the Climate Smart Land Management Program grant, funded by the Department of Conservation (DOC). She continued the partnership alongside Community Alliance with Family Farmers (CAFF), California Association of Resource Conservation Districts (CARCD), and California Farm Bureau Federation (CFBF). She is working alongside Sierra Reiss, Land Equity Project Manager (Project Policy Analyst 3) to support outreach, engagement, and administrative activities. Sierra completed an exciting request for proposals to support professional outreach services and develop expansive engagement to historically underserved and underrepresented communities; funded groups include Asian Culture & Media Alliance; Condor Visual Media; Entravision; and San Diego Food Systems Alliance in partnership with California Farmlink.

Chandra continued magnifying and elevating the voices of land managers and community-based organizations in the Southern California region toward a unified outreach plan bridging connectivity on climate action and implementation. Over the summer, Chandra worked actively on the Agricultural Land Access contract alongside Lucy Diekmann (Urban Agriculture Advisor) and led two focus groups for Tribal members and leaders and one interview with a Tribally-led organization. This work culminated in a final report, executive summary, and short presentation to Strategic Growth Council and the Agricultural Land Equity Task Force (ALETF). She continues to highlight the CALE project regionally and statewide, with an impact spanning multiple partnerships, projects, events, and groups served.



Climate Action and Land Equity (CALE)

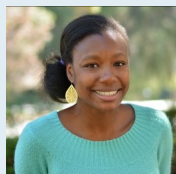
Alongside Maggie O’Neill, Chandra co-led the first Growing CALE Connections event in Irvine, Orange County. She also co-led a second event with Sierra Reiss (Project Policy Analyst 3) in Redlands, San Bernardino County; both events featured two farms that elevated equitable land access and land management diversification through climatic impacts, overregulation, and implementation challenges. Chandra and Sierra co-led the virtual event “Building Connections for California Land Access” Chandra also presented and engaged with attendees at the Southern California Conference on Ecological Change (Riverside), as well as nine other events supporting growers, landowners, and the agricultural community.

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Agriculture and Natural Resources
JULY 2025

Climate Smart
Land Management
Program Impact

15 PARTNERSHIPS CREATED	13 EXTERNALLY • 2 INTERNALLY
25 TRIBES OR TRIBALLY LED ORGANIZATIONS SERVED	
9 STAFF POSITIONS CREATED AT PARTNER ORGANIZATIONS	7 EXTERNALLY • 2 INTERNALLY
25 EVENT PRESENTATIONS	
23 DISADVANTAGED COMMUNITIES SERVED WITHIN THE GRANT REGION	
9+ PROJECTS DEVELOPED	
5 OUTREACH EVENTS HELD	2 IN PERSON • 3 VIRTUAL • 158 REGISTRANTS
15+ OUTREACH MATERIALS CREATED	

Chandra is compiling her peer review research needs assessment identifying barriers, challenges, and limitations to land use, access, tenure, and diversification issues for the Southern California region and analyzing land match, connection, and succession opportunities available to land managers. Part of this assessment included a presentation to American Farmland Trust’s Land Transfer Navigator Forum (Virtual) about continued need for support here. This extensive analysis of grower needs assessments from San Diego and Inland Empire and from state match and member programs has been instrumental to the conversation and any replications in new or existing areas remain instrumental to our knowledge, perspective, and shared strategic recommendations for state policy initiatives.



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Community Nutrition and Health

As an Area Youth, Families, and Communities Advisor based at Riverside County UCCE, I academically oversee CalFresh Healthy Living, UC, Expanded Food and Nutrition Education Program, and Master Food Preservation programs. Our programs have a common goal to improve **community nutrition and health**. In particular, we engage with limited-resources families, individuals, and communities to evidence-based nutrition and health knowledge to improve their well-being and living environment. I provide leadership and bring expertise on research to strengthen and expand Community Nutrition and Health Extension education programs.

Research

My current project, the Household Food Waste Reduction project, has the overall aim to reduce household food waste among Californians. The average U.S. household wastes 31.9% of the food it purchases, amounting to an estimated \$240 billion. In our state, residents discard nearly 6 million tons of food annually, contributing 18% of the total material sent to landfills. This food waste produces methane, a greenhouse gas contributing to the climate crisis. Our state aims to reduce organic waste disposal by 75%.

Cooperative Extension program educators can play an essential role in reducing consumer food waste. However, our needs assessment showed Extension staff and volunteers need training and evidence-based materials to provide food waste reduction education. Additionally, there is limited research on understanding barriers and best strategies to reduce household food waste among low-resource households. Our goal was to develop an evidence-based household food waste reduction toolkit for the educator to deliver to their participants to reduce household food waste contributing to landfills.

"Plan, Prep, Preserve: Your Path to Saving Food and Money: Household Food Waste Reduction Toolkit: A Resource for Educators"

was developed, including the following lessons:

Lesson 1

Shop Smarter, Plan Ahead :
Tips for meal planning, making a shopping list, and shopping to save money and food

Lesson 2

Efficient Kitchen (Cooking to reduce waste): Food preparation and cooking techniques for using food items in a variety of ways.



Community Nutrition and Health

Lesson 3

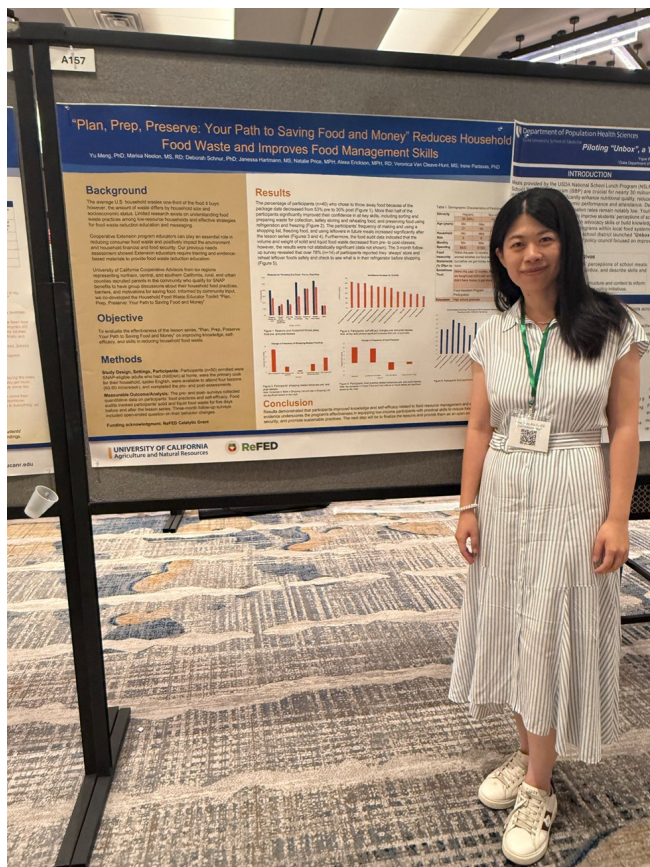
Food for Keeps: Organizing your Kitchen : Storage techniques for improving the shelf-life of foods and how to decipher “use-by”, “sell by” and expiration dates

Lesson 4

Chill Out: Preserving Food by Freezing Techniques for freezing foods to preserve them for future use

Lesson 5

Green Your Routine : Composting and Waste Sorting. The practice and benefits of composting.



The lessons are designed to be modular: they can be taught as a five-class series or as individual activities pulled from lessons. This design is meant to meet the needs of the intended audience as well as any constraints faced by the nutrition educator. These lessons and resources can be used to reinforce the Food Resource Management priority. Data was presented at the 2025 Society of Nutrition Education and Behavior Conference at Indiana this year.

Please contact me if you are interested to read the whole research report on food waste or are interested in collaborating on research and extension programs in area of community nutrition and health.



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Community Nutrition and Health

CalFresh Healthy Living, UCCE

CalFresh Healthy Living, University of California Cooperative Extension Riverside County helps people lead healthier lives. CFHL, UCCE teaches people eligible for SNAP about good nutrition, how to make their food dollars stretch further, and how to be physically active at any age. Effective, evidenced-based nutrition education and physical activity classes are aligned with policy, systems, and environmental (PSE) change strategies to create long lasting community change.

Projects and Activities

Mountain Vista Elementary School

Educators Esmeralda Nunez, Vianca Nunez, & Jenifer Poulen, established a new school garden with 12 garden beds for 5 TK/Kinder classes, reaching 114 students. CFHL, UCCE Riverside facilitated 2 spring planting days in April 2025. In partnership with UC Master Gardeners Brad Hardison and Jax Patterson, CFHL, UCCE provided garden support and materials, including garden soil, seeds/seedlings, and soil amendment.

Coral Mountain Academy (CMA)

The CFHL, UCCE Palm Desert team reinvigorated the 3 school gardens and facilitated a spring planting day on April 1, 2025, where students planted seeds and seedlings. A total of 215 students were reached with garden programming, including three 1st-grade classes, four 2nd-grade classes, and two 4th-grade classes. Master Gardener Jax Patterson provided CMA seedlings, and CFHL provided seeds, soil, and amendment. CFHL, UCCE provided rock wool and lettuce seeds for 152 TK through 5th-grade students to plant in the hydroponic garden tower in June 2025 during summer school programming. Students got to take home their own lettuce seedling that they planted from seeds.



*Coral Mountain Academy
Spring planting Day*

Alvord USD

May 2025, Nutrition Educator Alondra Alonso wrapped up the 6-lesson series of the high school nutrition and cooking curricula, **Fuel for Life**, with 11 Career and Technical Education (CTE) classes in Alvord USD. The 5 Foods and Nutrition classes at Norte Vista High and 6 Culinary Arts classes at La Sierra High students learned essential life skills such as nutrition, safe food handling and preparation, healthy cooking methods, and food resource management. Alondra provided food demonstrations and food tastings, reaching a total of 283 teens, 133 at Norte Vista and 150 at La Sierra.

Community Nutrition and Health

CalFresh Healthy Living, UCCE



Youth Participatory Action Research (YPAR) Food Waste Reduction Projects

Wells Middle School: Exploring Food Waste and Food Redistribution Feasibility

From April to May 2025, CFHL, UCCE Riverside Educator Alondra Alonso facilitated a 6-session YPAR project with 13 middle school students at Wells Middle School. In total, 8 sessions were held, with students exploring school food waste, specifically how much food is wasted in one day and what foods are wasted the most. The project concluded with a food waste audit on May 20, 2025 during all three lunch periods.

Based on the food waste audit results, milk was the most discarded item. Almost 20lbs of open milk cartons and 169 unopened milk cartons were discarded. Pizza was the most popular entrée but also the most disposed entrée. 58 unopened baby carrots packets and 31 cucumber containers were discarded.

Student recommendations included offering alternative drink options, creating an accessible share table, adding educational signage, informing students that they are not required to take milk, and offering seasonings on the side to avoid excess waste.

This YPAR project empowered students to investigate a real issue in their school community, collect and analyze data, and propose actionable solutions. Their findings highlight opportunities to reduce waste, improve student choice, and support sustainability.

La Sierra High School: In spring 2025, CFHL, UCCE Riverside Educator Alondra Alonso facilitated an 8-session YPAR project with 18 AVID seniors at La Sierra High School. Students explored differences in food waste behaviors at home vs. school, designed and conducted a survey and developed recommendations to reduce waste. Students built research, teamwork, and presentation skills while brainstorming actionable solutions to improve food access and reduce waste at La Sierra High School.

Key activities included analyzing survey data and a presentation to the AVID class, 2 AUSD school board members, AUSD Child Nutrition Services Director & Nutrition Specialist, and CFHL, UCCE staff.

YPAR findings and recommendations that the students identified were the four main themes influencing food waste at home vs. school:

- ◆ **Taste & Quality** – Cafeteria food is less preferred than food at home.
- ◆ **Perceived value of food** – Food at home is valued more because families pay for & prepare it.
- ◆ **Environmental Influences** – Different settings lead to different eating & waste habits.
- ◆ **School Rules & Restrictions** – Lack of storage for leftovers, no place to give unwanted food, and required fruit/vegetable portions contribute to waste.
- ◆ 3 out of 5 action plans created by La Sierra High students indicated share tables as their recommendation to **reduce food waste** on campus.

Community Nutrition and Health

CalFresh Healthy Living, UCCE

Activities

The Palm Desert Team started the partnership with **Blue Zones** in Coachella in June 2025, providing a 10-lesson series of Team With Intergenerational Support (TWIGS), nutrition, and garden-enhanced classes.

At **Desert Sands USD Early Childhood Education (ECE)**, the team reached all ECE classes providing Coordinated Approach To Child Health (CATCH) physical activity lessons. Some champion teachers extended the CATCH lessons on their own, providing more opportunities for structured physical activity during the school day.



Blue Zones Coachella at Coachella Branch Library

Earlier this summer, Educator Marlen Gaspar led **Community Settlement Association (CSA)** participants to use the 311 Riverside App to report and track non-emergency issues. Participants gathered to walk the perimeter of the CSA as part of a CFHL, UC **Our Voice project** supported through a collaboration with the Our Voice Citizen Science Research Initiative at the Stanford University School of Medicine. The participants used the 311 Riverside App, a free mobile app developed by the city of Riverside, to report and track cracked sidewalks, and a lack of crosswalks. It increases community awareness and responsiveness to help keep Riverside's infrastructure and services running smoothly. The participants took photos of hazards hindering them from being physically active in their neighborhood.



Cal Fresh Living, UCCE Riverside Program Staff

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Community Nutrition and Health

Expanded Food and Nutrition Education Program (EFNEP)

The Expanded Food and Nutrition Education Program (EFNEP) works with limited-resource families to build knowledge, skills, and confidence for making healthy food and lifestyle choices. Through interactive lessons, hands-on cooking demonstrations, and community partnerships, EFNEP inspires participants to create lasting, positive changes in their health and well-being. In the past six months, EFNEP in Riverside County has expanded its reach, strengthened partnerships, and delivered engaging classes that connect directly with the needs of the community.

Meet Our New EFNEP Supervisor



In July 2025, Marilynn “Kiska” Ljungberg stepped into the role of EFNEP Program Supervisor for Riverside and San Bernardino Counties. With over 11 years of experience with EFNEP, she has worked closely with families and communities to make nutrition education both meaningful and accessible. Her focus is on strengthening partnerships, supporting her team, and ensuring the EFNEP program remains engaging and impactful. She looks forward to building on EFNEP’s successes and continuing to work alongside our community partners to make a positive difference.

Educational Activities

RUSD Family Resource Center – Riverside Unified School District: The Family Resource Center hosted EFNEP classes serving more than 15 families in a collaborative effort to promote healthy eating habits. Using the “Eating Smart, Being Active” (ESBA) curriculum, participants learned practical nutrition tips and enjoyed hands-on food demonstrations. Families expressed their appreciation for the interactive, supportive environment.



Families completing EFNEP classes at the RUSD Family Resource Center.

Community Nutrition and Health

Expanded Food and Nutrition Education Program (EFNEP)

Educational Activities

Liberty Village Apartments Veteran Housing Partnership

EFNEP began a new partnership with Liberty Village Apartments Veteran Housing to expand outreach to veteran families. As part of this collaboration, Community Nutrition Educator Roxana Price led an *ESBA* series focused on healthy eating habits and practical strategies for improving nutrition and overall wellness.



Veteran families participating in EFNEP's "Eating Smart & Being Active"

Moreno Valley Adult School Collaboration

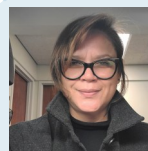
EFNEP continues its strong partnership with Moreno Valley Adult School, providing students with practical tools for making healthier food choices. Lessons not only promote wellness but also support students' educational success, reinforcing the connection between healthy living and academic achievement.



EFNEP graduates from Moreno Valley Adult School



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Community Nutrition and Health

Master Food Preserver Program

The UC Master Food Preserver Program is a public service and outreach program. The Master Food Preserver Program extends UC research-based information about home food safety and preservation to the public with the help of our trained volunteers.

Training/Conference/Meeting

2025 Volunteer Certification Training: We have been busy training our next group of certified Master Food Preservers. January to June we conducted 22 on-line training sessions with Master Food Preserver trainees statewide learning all about home food preservation practices, reducing food waste and food safety. Trainees received detailed instruction on safe home food preservation techniques, best practices for introducing researched based information to community members and where to locate reputable materials and techniques to share. Trainees attended 5 hands-on labs where they practiced the safe home food preservation skills and techniques, building their confidence to share the researched-based information to our communities. Trainees completed case studies, quizzes, final exam and delivered a final in-person presentation.



Congratulations class of 2025



February 2025 – Grow Riverside: Master Food Preservers were there to introduce our program to over 100 participants at the GROW Riverside conference. This multi-day event included a tour to several community gardens in the area and concluded at the EAT Center where we were there to answer questions on food safety concerns and reputable food preservation techniques.



Grow Riverside Conference

Community Nutrition and Health

Master Food Preserver Program

March 2025 - EAT Cultural Center: Another packed event at the EAT center where UCCE Master Food Preservers discussed methods of safe home food preservation and why some of the methods you see on the internet or old family recipes could be unsafe. We had a wide variety of items our Certified Master Food Preserver volunteer Kathy King processed for her home pantry. A variety of canning equipment was on hand so individuals could ask questions and look at the differences in equipment. This introduction class was developed as a prerequisite for any of our hands-on classes so individuals would have a basic understanding of canning processes and equipment.



March – EAT Cultural Center Corn Relish and Pickling and Season Blends



April—EAT Center Strawberry Jam and Strawberry Lemonade concentrate



May – EAT Cultural Center Strawberry Freezer Jam.



June – EAT Center Youth Strawberry Freezer Jam and Pickling



June – High Grove Library Refrigerator Picking



Denneigh Denton
Volunteer Services Coordinator for
Master Food Preserver Program
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Crop Production and Entomology

Program effort focus during January-June 2025 consisted of problem solving research focusing primarily on alfalfa and cotton production, extending these results both locally and often in other areas of the southwest U.S. via invited presentations, and organizing multiple educational meetings for local agriculture. Fourteen (14) presentations (most were invited, several out of state) were made, six (6) educational meetings were organized, and twelve (12) field trials were initiated in addition to follow-up from multiple 2024 field projects as data from 2024 indicated \$100/acre net increase from one product. National recognition (3rd place) was received for quality of research work (applied research poster competition on growth response of spider mite infested alfalfa to new miticides).

Congratulations!

AWARDS

*3rd Place in national competition – Applied Research Poster – National Association of County Agricultural Agents (NACAA). Poster entitled “New miticides vary in efficacy controlling twospotted spider mites (*Tetranychus urticae*) in alfalfa hay based on growth response”*

“2025 Outstanding Contribution to Agriculture” – Desert Valleys California Association of Pest Control Advisors (CAPCA)

PRESENTATIONS

- “ Beltwide Cotton Conferences - New Orleans, LA (2 presentations)
 - “*La Paz County (AZ Coop. Ext.) Master Gardeners Class “Insects and IPM” Salome, AZ
 - “*California Cotton Growers and Ginners Association annual meeting – Tulare, CA
 - “*California/BASF cotton Growers meetings (2) – “Beat the Heat of Cotton Production“ - Tulare, CA; and Coalinga, CA
 - “ Progressive Farmers meeting – “2024 UCCE Research Results” - Blythe, CA
 - “*Desert Ag Conference – ‘Update on summer and fall insects and control’ - Maricopa, AZ
 - “*Corteva educational meeting - “Biostimulants”– Clovis, CA
 - “*CAPCA-Desert Chapters “Lygus bug & spider mite control update in alfalfa” – Brawley, CA
 - “*CAPCA–Desert Valleys Chapter - “Caterpillars in low desert alfalfa” - Blythe, CA
 - “*Ocean Organics - “Cotton heat mitigation” – (zoom presentation)
 - “*2025 Utah Hay Expo -St. George, Utah - “Spotted alfalfa aphids”
 - “*Helena Agronomy/PCA meeting – “Update on low desert insects and control”- Yuma, AZ
 - “*Helena Agronomy/PCA meeting – “Mitigating heat stress in cotton” - Yuma, AZ
- * = *Invited presentation*



Crop Production and Entomology

FIELD TRIALS INITIATED

- Product evaluation to mitigate cotton yield loss due heat (5 trials)
- Disease control in cotton trial
- Alfalfa weevil control with insecticides
- Comparison of fungicides for alfalfa disease control
- Weed control in dehydrator onions (2 trials)
- Evaluation of Envita WG for nitrogen fixation in wheat foliage
- Comparison of insecticides for Bermudagrass seed insect control

(Also assisted UCCE Imperial County personnel with similar trial)



Figures 1-2. After picked in December 2024 (left) and yields calculated in early 2025, the treatment in this cotton field in 2024 resulted in a 10.8% lint yield increase, with net increased income of approximately \$100/acre. This trial is being replicated again in 2025 (right) to verify the 2024 results.

MEETINGS ORGANIZED

Organized 6 monthly *Progressive Farmers meetings* for local growers and agriculture industry. Topics included:

(Jan.) Update on 2025 Regulations and Inspections from Riverside County Ag Commissioner

(Feb.) Common Soil and Water Resource Concerns and NRCS Practices, Enhancements and Assistance

(March) 2024 Research Results - UCCE Palo Verde Valley Field Experiments

(April) Low Desert Melon Diseases: Diagnostics, Management and Epidemiology

(May) Soil, Plant and Water Relationships

(June) New Technologies for Weed Control in Desert Agriculture.

OTHER

- Served as national agronomy/pest management committee chairman (NACAA), and also California state chair for the NACAA Recognition committee
- Conducted state 4-H Insect Identification Contest in Davis, CA

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Integrated Pest Management

Have you ever dealt with urban pests such as bed bugs, mosquitoes, cockroaches, ants, or termites? If so, you already know how challenging they can be to manage. That's why the University of California has invested in hiring pest control scientists to help Californians combat these pests collectively.

At UCCE-Riverside, the Integrated Pest Management (IPM) program educates both pest management professionals and the public about environmentally friendly methods and tools for controlling pests. Our program also conducts research to identify the most effective management strategies and shares this knowledge widely for public benefit.

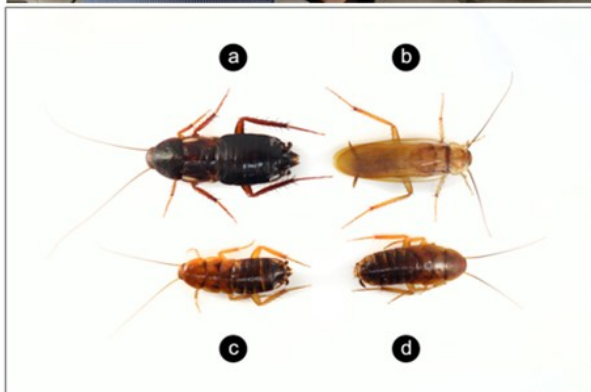
Dr. Taravati, our IPM Advisor at UCCE-Riverside, has over 14 years of experience in pest control and applied entomology. He holds a Ph.D. in Entomology from the University of Florida and is licensed by the California Structural Pest Control Board (SPCB) as both a Qualified Applicator and a Field Representative (Branch II).

Activities

- Organized pest control workshops
- Conducted research on Turkestan cockroach management (*Periplaneta lateralis*)
- Helped Riverside and other Californians with pest control problems
- Published articles
- Updated my professional blog
- Added text to speech functionality for people with impaired vision



Integrated Pest Management



Siavash Taravati
Proceedings of the Eleventh International Conference on Urban Pests 2023
AF-Borgers, Academic Society, Lund, Sweden
William H Robinson, editor

MANAGING THE DARK ROVER ANT USING BAITS

SIAVASH TARAVATI

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Abstract The dark rover ant (DRA), *Brachymyrmex patagonicus*, is an invasive ant species that is found in many parts of the world. DRA can become a structural pest when they enter buildings in search of stored food or shelter, or when they swarm inside. Managing DRA can be difficult since they don't respond well to all baits, leading to failed pest control efforts. This research studied the efficacy of commercial baits containing hexachlorocyclopentadiene, thiamethoxam, clothianidin, and indoxacarb. The results showed a significant difference in the survival rates among active ingredients, with products containing imidacloprid, thiamethoxam, and clothianidin being the fastest-acting treatments, while indoxacarb failed to show any statistically significant difference from the untreated control. When under water stress, all baits killed DRA at a faster pace. Nevertheless, the indoxacarb-containing gel bait still failed to kill the workers at a significantly faster rate compared to the untreated control. When exposed to hexachlorocyclopentadiene, there was no significant difference in the survival of DRA that were not starved compared to those starved for 24 hours. There was a significant difference between the survival of DRA that were not starved and those starved for 48 hours.

Key words *Brachymyrmex patagonicus*, baiting

INTRODUCTION

The dark rover ant (DRA), *Brachymyrmex patagonicus* Mayr, is an invasive species native to South America. It is currently found in South America including Argentina, Paraguay, Bolivia, Brazil, and Venezuela. It was first reported in the United States of America in Madisonville, Louisiana (Wheeler and Wheeler, 1978) and has spread to many other states. It is found in Southern United States, Arizona, Nevada, California, as well as Europe. It was first found in California in 2010 in a residential area in Anaheim, Orange County (Martinez et al., 2011). This ant is commonly found in urban streets and parks as well as agricultural fields of Southern California including the Riverside, Orange, and Los Angeles Counties (personal observations). S. Taravati DRA nest both inside and outside structures, with a strong preference for sweet such as honey. Workers are often observed on countertops and walls. In Arizona, male and female alates have been collected from mid-April to early November. While they do not cause structural damage, they are considered a nuisance species. Due to their relatively recent emergence, little is known about their susceptibility to current management strategies and insecticides (Miguélena and Baker, 2014).

Results from the laboratory foraging experiments revealed that *B. patagonicus* readily relocates its colony closer to food and water sources. Data from these trials also confirmed that foragers must maintain contact with the queen and brood to forage. Laboratory trials showed that *B. patagonicus* foragers favored carbohydrate-rich food in controlled settings, whereas field trials demonstrated a seasonal preference shift—with carbohydrates being preferred in winter and

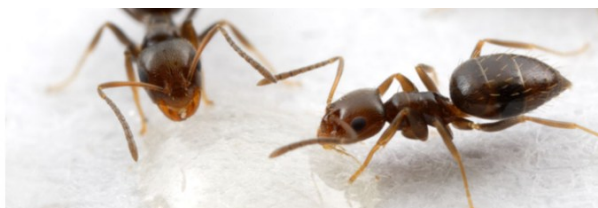


My name is Siavash Taravati, an Integrated Pest Management (IPM) Advisor at UC ANR's UC Cooperative Extension (UCCE) in Riverside County. My job involves doing research and extension activities on different aspects of structural IPM.

Featured Posts:

California Pest Control Licenses

in

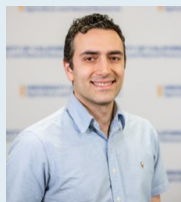


Biology of the dark rover ant

PESTS | 30-JUL-2025 | BY: DR. SIAVASH TARAVATI

Read ▶ Pause || Stop X Speed → 1.0x

The dark rover ant (DRA), *Brachymyrmex patagonicus*, is a small invasive ant species that has become increasingly common in parts of California. First detected in the state in 2010 (Martinez et al. 2011), it is now found across Southern California and parts of the lower Central Valley (Taravati 2018). This is a relatively small ant, with workers measuring only 1–2 mm (1/32 to 1/16 inch) in length, which is significantly smaller than Argentine ant (*Linepithema humile*) workers, which range from 2.2 to 3.2 mm (1/16 to 3/32 inch) long. Although small, these ants can become a nuisance pest inside buildings and can be challenging to control using products designed to control more common ants, such as Argentine ants. While not known to sting or bite, the dark rover ant's nuisance behavior indoors and its expanding range make it a species of interest for pest control and urban entomology professionals.



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Master Gardener Program

The UC Master Gardener Program of Riverside County began the fiscal year with 241 Master Gardeners. During the yearly reappointment process, several MGs resigned due to health concerns, family matters, or relocations outside of Riverside County. Despite these changes, the program continues to thrive and Master Gardener Volunteers remain committed to offering expert horticultural advice and support to the community.

Reorganization Structure

This year has been one of significant change, most notably marked by the reorganization of the UC Master Gardener Program’s leadership structure. Over the past year, the Reorganization Committee composed of seven Master Gardeners and an outside consultant met regularly to determine how best to structure the program to reach more residents across all areas of Riverside County. In addition, a key component is supporting Master Gardener Volunteers in their essential role of sharing research-based horticultural information. The committee established three regional areas, each with a focus on developing and supporting local efforts within that region. In addition, there are six project teams that provide support across all three regions. These teams focus on specific areas of the overall program. Finally, each project has designated leads, local Master Gardeners who take the lead on implementing and managing that particular project within their region. To share the new structure and gather feedback, nine meetings have been planned, beginning in July to align with the new fiscal year. These meetings will follow a phased approach:

Phase One

Present the proposed structure to Master Gardener Volunteer influencers, those making a meaningful impact in the program and invite constructive feedback for the Organizational Committee.

Phase Two

Meet with all project coordinators to share the structure and gather their input.

Phase Three

The final three meetings will be open to all Master Gardeners, giving everyone the opportunity to review the new structure and provide feedback.

The final structure will be the result of thoughtful discussions and collaboration, all focused on improving our ability to serve the public and support the Master Gardeners.



Committee Members at the Reorganization Meeting



Master Gardener Program

The Home Gardening Basics (HGB) Classes

The Home Gardening Basics (HGB) classes have become a very popular activity in the community. Our first session was a three-part class with 20 attendees, a limit set due to space constraints. For the second, advanced class, we were able to accommodate 35 participants by reserving a larger room. Both sessions had waiting lists, which led us to schedule an additional class for the fall. The most exciting outcome is that many participants have applied to the Volunteer Training Program to become Master Gardener Volunteers. They are consistently eager to learn, enthusiastic about sharing their knowledge with the community, and excited to apply their new skills in their own gardens.



Home Gardening Basics Team



Home Gardening Basics Class Participants

District Science Leadership (DSL) Meeting

The Riverside County Office of Education (RCOE) invited the UC Master Gardener Children, School, and Youth Gardens Coordinators to present at their District Science Leadership (DSL) meeting, held at the UCR Botanic Gardens. DSL hosts quarterly meetings at various locations throughout the county, focusing on best practices in science education and highlighting science-related opportunities for educators to share with students. This quarter, the UC Master Gardeners were invited to showcase the



School staff at the UCR Botanic Garden for the DSL Meeting

online science lessons available to the public on our website and to introduce the newly released Invertebrate Series for grades TK–8.

Over 30 teachers attended the meeting and were later treated to a narrated nature walk through the Botanic Gardens, led by a Master Gardener Docent.



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Natural Resources

The goal of the Natural Resources program is to promote sound management and conservation of the region’s natural resources, through research, educational activities, and building relationships with a broad range of land managers. The program partners with resource management professionals working on private, state, tribal and federal lands. The Natural Resources program works to ensure our lands will provide benefits for generations to come.

Educational Activities

- ◆ Advised land managers in western Riverside County on managing invasive plants.
- ◆ Partnered with land managers in Riverside County to apply for and receive grant funding for weed management activities.
- ◆ Co-organized and co-led symposium on managing stinknet in Arizona and California, which is a problem weed in Riverside County (120 attendees).
- ◆ Co-lead and co-organizer of Low Desert Weed Management Area and steering committee member of Santa Ana River Weed Management Area. We organize weed management activities in the region and hold meetings to discuss weed removal activities in natural areas.
- ◆ Member of CalTrans Pesticide Technical Advisory Committee to help effectively and efficiently use

pesticides to reduce unwanted vegetation and reduce fire risk on CalTrans properties

- ◆ Completed reviews for 2 invasive plants not yet common in California, to help determine the risk these species pose to Southern California and prioritize eradication efforts, if needed.
- ◆ Worked with land managers to remove fountain grass from sensitive habitat in western Riverside County.
- ◆ Co-lead bimonthly (6x/yr) meetings with tribal environmental departments on oak and forest management and restoration
- ◆ Co-presented at information table at Tribal Earth Day event (600 attendees), discussing care for landscape plants, pests and weed management.



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Plant Pathology

The Plant Pathology Advisor works to support farmers, pest control advisers, and agricultural professionals in Imperial, Riverside, and San Diego counties by providing research-based solutions for managing plant diseases. Through education, research, and technical assistance, the advisor helps diagnose, prevent, and control plant diseases in various crops, improving agricultural productivity and sustainability. She also collaborates with industry and regulatory agencies to address emerging disease threats and develop effective management strategies.

Educational Activities

In April, the Plant Pathology Advisor participated in the **CAPCA Summit** in San Diego, a meeting that provided continuing education for PCAs and growers across Southern California. In her presentation, she shared insights into powdery mildew, a persistent challenge for both horticultural and agricultural producers in the region. She covered the biology of these pathogens, key diagnostic methods, and integrated pest management (IPM) strategies to help mitigate their impact.

That same month, at a **Latino Farmer Gathering** in Coachella, the advisor engaged with small Latino farmers, highlighting the importance of plant disease diagnostics and discussing how her program could support their production practices.

In May, the advisor contributed to the **Agave Field Day** organized by the UC Organic Institute, which brought together not only current agave growers but also individuals interested in starting or expanding agave production in Southern California. During the event, she presented on the major fungal diseases affecting agave, explained how to recognize their symptoms, and shared best management strategies to help reduce their impact (Figure 1).



Figure 1. Plant Pathology Advisor, Ana M. Pastrana, speaking at the Agave Field Day.



Plant Pathology

Research

In terms of research, the advisor completed fungicide trials to assess the efficacy of conventional and organic compounds against **onion downy mildew** and **melon powdery mildew** (Figure 2). However, due to the unusually dry winter and spring, these trials did not yield useful results. Another project focused on monitoring **lettuce downy mildew** through a trap nursery in the low desert to guide resistance breeding using relevant pathogen isolates (Figure 2). Despite low disease incidence last winter, outreach was conducted, and work will continue this fall/winter with the remaining funds.



Figure 2. Lettuce downy mildew nursery trap (left) and powdery mildew fungicide trial (right).



The advisor also continues to provide diagnostic support and expert guidance to PCAs and growers across Southern California, helping them accurately identify plant diseases, interpret results, and implement effective management strategies to protect crop health and productivity.



Ana M. Pastrana León

Plant Pathology Advisor

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The Small Farms and Specialty Crops Program

The Small Farms Program of the Inland Empire addresses the unique challenges faced by small-scale and specialty crop producers in the region. The program delivers culturally and linguistically appropriate outreach to support socially disadvantaged, limited-resource, and specialty crop farmers in making informed management decisions ranging from crop selection and variety development to pest and disease control, irrigation, postharvest handling, food safety, marketing, agritourism, and financial and risk management. Through field research trials, technical assistance, educational programs, and publications, the program promotes the sustainability and success of diverse small farms. It also works to strengthen connections between local producers and government agencies (e.g., USDA, CDFA) to improve access to resources and participation in relevant programs. The program supports farmers at every stage of business development to enhance their operations and long-term viability.

Extension and Outreach

To support small-scale farmers in the Inland Empire, our program delivered a range of **educational workshops and extension activities** focused on food safety, market access, crop production, organic practices, and pest management. We conducted two Food Safety Modernization Act (FSMA) compliance workshops in Riverside County, each with over 15 participants. These workshops covered essential topics such as Produce Safety, Worker Health, Hygiene and Training, Soil Amendments, Wildlife and Domestic Animal Management, Land Use, Agricultural Water, Postharvest Handling and Sanitation, and the development of a Farm Food Safety Plan. To help farmers navigate sales channels and strengthen their business models, we hosted three market access workshops attended by 15 to 40 producers each. These sessions provided practical guidance on connecting with buyers, understanding local and regional markets, and building farm-specific marketing strategies. Recognizing the need for climate-resilient agriculture, we organized a specialty crop production workshop that focused on identifying and growing crops adapted to the Inland Empire's arid and variable climate. Topics included crop selection, variety trials, and production methods aimed at increasing resilience and profitability. We also conducted a workshop on organic certification, designed to help small-scale growers understand the requirements, process, and benefits of becoming certified organic. The session covered organic standards, documentation, allowable inputs, and the steps involved in transitioning to organic production—an increasingly in-demand market segment.

Beyond workshops, our team carried out regular on-farm visits to offer individualized technical support and build long-term relationships with producers. We developed and distributed several extension publications, including a bilingual factsheet on pistachio blanking related to extreme heat events, and another on Indianmeal moth management in dried fruit and nut storage. These materials provided growers with timely, research-based recommendations to support better crop quality, food safety, and economic viability. Together, these efforts strengthened the knowledge, skills, and capacity of small and specialty crop producers throughout the Inland Empire.



The Small Farms and Specialty Crops Program

Extension and Outreach



Delivering a bilingual food safety workshop to support small-scale farmers with FSMA compliance.



Small farmers engage in a marketing workshop focused on building local market connections and business strategies.



Providing on-site education to farmers about identifying and managing common peach diseases.



Discussing strategies to expand farm product access to local and regional markets.

Research

The Small Farms Program continues to support on-farm research trials that address production, sustainability, and pest management challenges faced by small-scale and specialty crop producers in the Inland Empire.

Avocado Density Trial:

This trial evaluated the viability of high-density avocado planting systems with the goal of maximizing fruit yield per acre on a sustained basis. Early results suggest that high-density planting can significantly increase income per acre and may be especially beneficial for growers in regions with high water costs, offering a pathway to remain profitable and competitive.

Tomato Powdery Mildew Evaluation Trial:

In response to the ongoing challenge of powdery mildew in organic tomato production, the Small Farms Team conducted a trial evaluating the effectiveness of various organic treatment options. The goal is to identify sustainable and soil-friendly solutions that reduce disease pressure while maintaining crop quality. Preliminary results are promising and will inform future recommendations for tomato growers in the region. For additional details, contact the Small Farms Team.

Jujube Grafting and Variety Trial:

With jujube sapling prices doubling in the past five years, local growers have shown increasing interest in learning cost-effective propagation methods. This project

investigates optimal grafting techniques for jujube to reduce input costs and expand local production. In parallel, we are conducting a variety trial to determine which jujube cultivars perform best under Inland Empire growing conditions in terms of yield, adaptability, and market potential.

Indianmeal Moth Management in Dried Fruit:

Indianmeal moth is a common postharvest pest affecting dried fruit and nut storage. This project focused on developing best management practices to reduce infestations, including improved sanitation protocols, proper storage techniques, and integrated pest management strategies. Outreach materials, including a factsheet, were developed to help farmers and food handlers preserve product quality and minimize economic losses due to pest damage.



*Adult and Larvae of Indianmeal Moth.
Photography by Siavash Taravati*

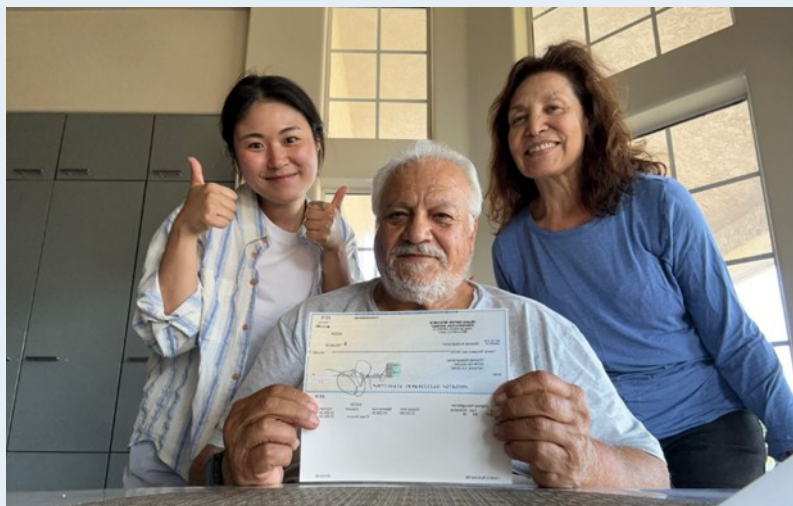


The Small Farms and Specialty Crops Program

GRANT AVAILABILITY

The 2023 California Underserved and Small Producers Grant Program (CUSP) is designed to facilitate support for small and medium scale California agricultural producers, or small and medium scale Socially Disadvantaged Farmers and Ranchers through technical assistance with business planning and marketing strategies. Up to \$20,000 are available to farmers in the region. During this reporting period, over \$100,000 has been awarded to farmers in the Inland Empire (IE).

If you are interested in this grant, please reach out.



Supporting resilience: Farmer receives grant assistance to recover from recent crop losses.



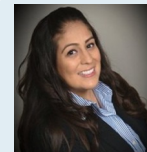
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Vegetable Crops

Riverside County is comprised of four districts including Coachella Valley, Palo Verde Valley, Riverside/Corona, and San Jacinto/Temecula Valley. These districts collectively account for vegetable production valued \$378,351,000 in 2023 (15.3% increase from 2022) of which bell peppers, carrots, head lettuce, broccoli, and oriental vegetables were top 5 commodities valuing \$77.6 M, \$39.7 M, \$30.3, \$26.6 M, and \$26.2 M, respectively (Riverside County Agricultural Production Report, 2023). Coachella Valley is nicknamed a ‘Winter Salad Bowl’ of California and the country, where most cool-season leafy greens are produced. Cool season, winter and early spring vegetable crops include broccoli, Brussels sprouts, cauliflower, cabbage, lettuce, carrot, celery, and artichoke among others. Warm season fruiting vegetables include bell pepper, okra, tomato, watermelon, cantaloupes, and eggplant. Our research and extension efforts are directed at addressing vegetable production challenges with an emphasis on managing pests and diseases, soil health, and soil fertility. In addition, we continue to work with Native American Tribes and other marginalized communities to support food sovereignty and improve access to healthy food through backyard gardening.



Education, Meetings, Workshops

In the past 6 months, I responded to more than 12 grower field calls, hosted a field day, and co-hosted 3 clientele meetings including Annual Vegetable Production IPM Workshop, Coachella Latino Growers Meeting, Pest Control Advisors Meeting, and Torres Martinez Tribal Senior Garden Harvesting Event. I also spoke at these clientele meetings. I was interviewed by ANR Media Team twice on the use of soil conservation practices in the desert for crop production and impacts of UCCE efforts on small-scale growers in Coachella Valley. One of the interviews can be accessed here: <https://www.youtube.com/watch?v=3KOSO0cizc0>. published two first-authored extension newsletter articles in Imperial County Agricultural Briefs directly accessed by my clientele. In addition to delivering services directly to clientele, I also involved in Professional Competence and University/Public Services. As far as the University and Public Services, I toured IR-4 Western Regional Team visiting Coachella Valley and continue to serve in leadership roles as Membership Committee Chair for the Society of Nematologists and as Western Regional Committee Vice-Chair for Professional Excellence with the National Association of County Agricultural Agents. In terms of Professional Competence, I prepared a presentation to be delivered on my behalf to CA Melon Research Board annual meeting, co-edited Vegetables Crop Guidelines for Imperial County, invited by four scientific journals to peer review seven research manuscripts, reviewed a UC IPM Pest Management Guideline, and reviewed a graduate student master’s thesis.



Vegetable Crops

Research Projects

We continue to work with Torres Martinez Desert Cahuilla Indian Tribe in Coachella Valley on backyard gardening. We organized a harvesting event where seniors came over to harvest vegetables including curly kale, cherry tomatoes, rosemary, swish chard, and lettuce (Figure 1). We also harvested a second-year sweet onion trial funded by USDA/NIFA to assess bulb firmness on mechanical harvestability. We screened 40 short-day sweet onion varieties for relative firmness to mechanize harvesting (Figure 2). These varieties are commercially available and sourced from seed companies. We just planted okra to assess yield response on cover crop, compost, and biochar soil treatments. This is a CDFA funded project for managing soil health, nematode, and nitrogen (Figure 3). In addition, we completed a nematicide trial evaluating efficacy of root leachate and reduced-risk nematicides on root-knot nematodes on cantaloupes, an extension of UC IPM funded project. Furthermore, we completed an insecticide trial on broccoli and lettuce.



Figure 1. Torres Martinez Desert Cahuilla Indians Senior Garden at the Tribal Reservation in Coachella Valley established in collaboration with UCCE Riverside CalFresh Team.



Figure 2. USDA/NIFA funded short-day sweet onion trial evaluating 40 varieties for mechanical harvesting in Coachella Valley.



Figure 3. CDFA funded project evaluating cover crops (Sudangrass, sun hemp, cowpea, and brown mustard), compost, and biochar soil treatments for soil health benefits at the Coachella Valley Agricultural Research Station. Sunn hemp and Sudangrass cover crops (left) and okra (right)



Vegetable Crops

Meetings, Talks and Interview

I hosted a cover crop field day on June 17 where 19 clientele attended to learn about the use of cover crops, compost, and biochar on the management of soil health, nematode, and nitrogen. I also co-hosted Torrez Martinez Desert Cahuilla Indians Tribal Senior Garden Harvesting Event on May 14 in collaboration with UCCE Riverside CalFresh Team where the tribal seniors participated in harvesting fresh fruits and vegetables including kale, chard, rosemary, tomatoes, and lettuce to take home.

Co-hosted an Annual Vegetable Production and IPM Workshop on May 1 in Imperial Valley where speakers from across the state are invited to share research on relevant information on vegetable production (Figure 4).

Co-hosted a Latino Growers Meeting in Coachella Valley on April 22 to connect resources to this farming demographics where I spoke about the how best to manage root-knot nematodes on fruiting vegetables in Coachella Valley.

Co-hosted a Pest Control Advisors Meeting in Imperil Valley on April 2 to share information on diseases and insect pests of importance for crop production in the desert. Finally, I prepared a presentation on CA Melon Research Board funded nematicide trial and delivered on my behalf by UCR colleague Dr. Kerry Mauck in San Diego. As far as the interviews, I was interviewed twice by ANR Media Team on the soil conservation practices including cover crop, compost, and biochar uses for soil health, soilborne diseases, and nitrogen in vegetable production as well as impacts UCCE's presence had on vegetable production in Coachella Valley.

Publications

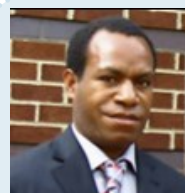
I published two first-authored extension newsletter articles in Imperial County Agricultural Briefs entitled

- 'Environmental DNA analysis revealed cover cropping in the low desert increased microbial activity and improved nutrient cycling and okra crop yield' (Ag_Briefs283.pdf)
- 'Efficacy of reduced-risk nematicide on root-knot nematodes on cantaloupes in low desert growing conditions (Ag_Briefs2801.pdf).

An abstract for the first article was accepted to be presented at an Annual American Phytopathological Society's Plant Health Meeting in Honolulu, HI.



Figure 4. Vegetable production and IPM Workshop in Imperial Valley



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Woody Biomass and Bioenergy

Woody Biomass and Bioenergy encompasses innovative extension education programs and applied research associated with the use of forest resources and biomass and bioenergy development in Riverside and San Bernardino Counties. The program investigates opportunities and strategies for increasing the use of woody biomass through development of biofuels and bioenergy as well as other products. The programs also aim to integrate efforts to enhance biomass management and natural resources manufacturing for reducing community risk from wildfires. The goal of the biomass and bioenergy program is to develop and extend research-based information on converting woody biomass into fuels for transportation and other products consistent with the California Forest Carbon Plan.

UC ANR Advocacy Day

On April 9, 2025, UC Agriculture and Natural Resources (UC ANR) held its annual Advocacy Day, meeting with state legislators to highlight the diverse ways Californians are benefiting from UC ANR’s work across the state. Led by Vice President Glenda Humiston, the delegation met with Assembly member Steve Bennett, Assemblymember Alexandra Macedo, and several other legislative staff to share research-driven solutions that address some of California’s most pressing challenges.

During the meetings, Haris Gilani, UC Cooperative Extension Biomass and Bioenergy Advisor for Riverside and San Bernardino counties, discussed UC ANR’s leadership in advancing clean energy solutions and tackling wildfire-related issues. He emphasized the need for investment in infrastructure to transform excess biomass—such as forest residues and agricultural byproducts—into renewable energy and value-added consumer products. This approach not only reduces wildfire risk and greenhouse gas emissions, but also supports economic development by creating new job opportunities in rural communities.

Through collaborative research, community engagement, and partnerships with industry and policymakers, UC ANR is working to ensure that California’s natural resources are managed sustainably while fostering innovation in the state’s bioeconomy.



UC ANR Team at the Capitol



Woody Biomass and Bioenergy

BEAM Biotech Camp

On June 9, Haris Gilani, UC Cooperative Extension Biomass and Bioenergy Advisor, participated in the BEAM Teacher Professional Development event organized by the San Joaquin County Office of Education and hosted by UC ANR. Speaking to Grades 6–12 educators, Gilani introduced the fundamentals of biomass—what it is, how it is currently used, and opportunities for more effective utilization. The interactive session included an open Q&A, providing teachers with real-world examples and classroom-ready concepts to inspire students in STEM fields, renewable energy, and environmental sustainability.

On June 16, Gilani delivered a student-focused version of the presentation during the BEAM Biotech Camp, also organized by the San Joaquin County Office of Education. Addressing Grades 6–12 students, he connected the topic of biomass to pressing issues such as clean energy, wildfire risk reduction, and the development of sustainable consumer products. The session aimed to spark curiosity, encourage critical thinking, and highlight potential career pathways in California’s growing bioeconomy.



San Joaquin County Office of Education STEM camp

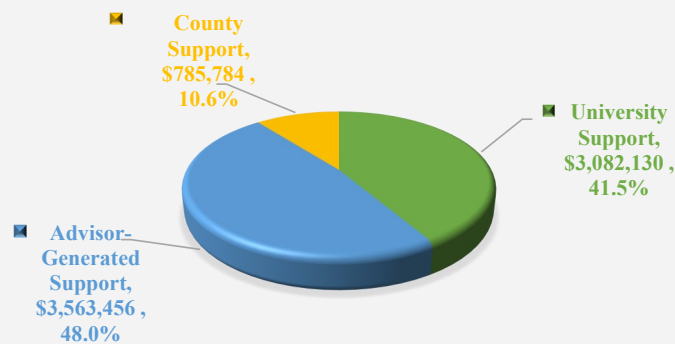


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UC Cooperative Extension (UCCE) Budget by Fund Source

Budget for Fiscal Year 2023-24

University Support	\$ 3,082,130	41%
Advisor-Generated Support	\$ 3,563,456	48%
County Support	\$ 785,784	11%
UCCE Riverside Total	\$ 7,431,370	100%



Budget for 5 years (FY 2019/20 to 2023/24)

	University Support	%	County Support	%	Total (Uni+County)
2019-20	\$ 3,554,782	84%	\$ 674,064	16%	\$ 4,228,846
2020-21	\$ 3,228,067	84%	\$ 634,064	16%	\$ 3,862,131
2021-22	\$ 3,226,217	82%	\$ 687,896	18%	\$ 3,914,113
2022-23	\$ 4,098,118	85%	\$ 750,479	15%	\$ 4,848,597
2023-24	\$ 6,645,586	89%	\$ 785,784	11%	\$ 7,431,370





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**UNIVERSITY OF CALIFORNIA
AGRICULTURE AND NATURAL RESOURCES (UC ANR)
NONDISCRIMINATION STATEMENT FOR UC ANR
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April 2023

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