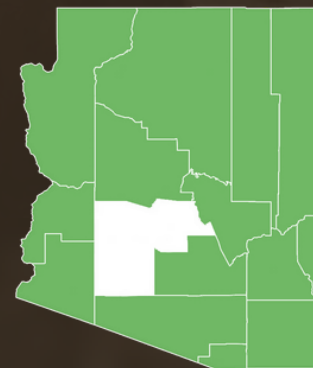




THE UNIVERSITY OF ARIZONA
Cooperative Extension
Maricopa County

MARICOPA COUNTY COOPERATIVE EXTENSION 2023 ANNUAL REPORT



Engaging with people through communities, the environment, and economies in Arizona and beyond.

** To quickly navigate to specific sections, [click on the page tile or number.](#)*

** To visit program websites, [click the name in the page header.](#)*

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Arizona's population is approaching 8 million residents, with roughly **two-thirds** living in Maricopa County, making it the **fourth most populous county in the nation**. Maricopa County is largely urban, yet it ranks among the top 1% of all counties nationwide in terms of agricultural production value.

This diverse economy fosters a prosperous and welcoming population. In a world seeking investment opportunities, our county excels in attracting new technologies, remarkable opportunities, and smart minds.

These opportunities, however, come with their unique challenges. Nothing can optimize these opportunities while addressing the associated challenges quite like science. This is the role we proudly undertake at Maricopa County Cooperative Extension (MCCE).

Maricopa County Cooperative Extension Programs:

- **4-H Youth Development**
- **Early Childhood Development**
- **Nutrition Programming**
- **Agricultural Literacy and STEM**
- **Field Crops and Integrated Pest Management (IPM)**
- **Urban Agriculture Production, Small-Scale and Beginning Farmer**
- **Turfgrass**
- **Smartscape**
- **Project WET**
- **Pesticide Safety Education**
- **Urban Horticulture - Maricopa County Master Gardeners**
- **Arizona Center for Rural Leadership - Project CENTRL**

These programs, in collaboration with the University of Arizona, provide Maricopa County residents with science-based, unbiased, and timely information in **4-H Youth Development, Family, Consumer, and Health Sciences, and Agriculture and Natural Resources**. Often described as the boundary organization of any Land Grant University, MCCE is regarded as the University of Arizona for many Maricopa County residents. Our MCCE team offers diverse applied research and educational programs to meet the needs of our growing, diverse population.

Maricopa County Cooperative Extension is home to **over 70 team members in our main building and other remote campuses across the county**. Our programs strive to provide unique opportunities designed for the documented needs of our communities. Our MCCE team members have sought, managed, and executed a record number of grants, contracts, and gifts to secure the necessary resources for their program areas.

Nearly 80% of our team is funded by grants, contracts, and gifts. Our return on investment (ROI) has increased from \$9 to \$10.5 per county budget dollar, highlighting the MCCE team's dedication to delivering quality research-based, educational programs. The continual growth also reflects the trust placed in MCCE by various funding agencies.

ROI = \$10.5 FOR EACH \$1 SPENT

Our work is made possible by the continuous support of the Maricopa County Board of Supervisors. The County's commitment to supporting our programming is essential, and we are grateful for this support. We also rely on the invaluable contributions of volunteers who provide thousands of hours, valued in millions of dollars, and a commitment that goes beyond any monetary figure. The unwavering support from our UArizona Cooperative Extension Director enables our team to continue our synergy on various issues of significant benefit to our communities in Maricopa County.

Our MCCE team, along with our amazing volunteers, community partners, sponsors, and advocacy groups, is dedicated to supporting community health and well-being, youth development, and producing the safest, most abundant, and most affordable food worldwide since 1914. We aim to ensure that the University of Arizona Cooperative Extension and MCCE continue providing world-class, lifelong educational programs for all Arizonans in sustainable ways that help our communities thrive for generations to come.

I invite you to learn about our MCCE programs, their deliverables, and their significant impacts on Maricopa County residents. Visit or contact us to see what's new at MCCE.

Best Regards,

Ayman Mostafa

Ayman Mostafa, PhD

Interim Director of MCCE, Programmatic Area Agent, Field Crops IPM & Urban Ag Production Regional Specialist, Department of Entomology





25 CLUBS  **650+ Youth (5-19)**  **65+ VOLUNTEERS**

4-H is a youth outreach program of the U.S. Department of Agriculture (USDA) and is implemented by the Cooperative Extension Systems (CES) through over 100 land-grant colleges and universities across the United States and its territories. Hands-on projects focus on one or more 4-H participation pathways of **Agriculture, Camping, Civic Engagement, Community Service, Cultural Understanding, Healthy Living, Leadership, and STEM**. Maricopa County has 650+ youth in some 25 county clubs supported by 65+ volunteers participating in the program.



Maricopa County 4-H youth showed up in numbers at the County Fair with their large and small livestock animals. We are thankful to our community who generously supported the animal auctions enabling our youth to reinvest in their project or college fund. The 4-H General Exhibit building was filled with youth created projects including **photography, sewing, fine arts, cooking, cake decorating, food preservation, woodworking, welding, and much more**. Additionally, visitors to the General Exhibit building created a square to be included in a Quilt of Valor (<https://www.qovf.org/>). This quilt will be presented to a veteran at the opening ceremony of the 2024 County Fair.

Maricopa County 4-H staff chaperoned and supported youth at statewide and national 4-H events along with the prestigious leadership events of **AZ 4-H Summit** on the UA Tucson Campus, **JOLT** and **4-H National Congress** in Atlanta, Georgia. **Thanks to Tractor Supply Company we were able to provide scholarships to help our youth attend these events.**

Maricopa County 4-H staff held their annual **Camp GRIT**, a four-night, five-day residential camping experience at James 4-H Camp on Mingus Mountain between Prescott Valley and Jerome, AZ. Youth activities included **fishing, hiking, canoeing, arts & crafts, photography, archery, ball games and nights 'round the campfire**. It's a moment to escape from reality, create memories and make new friends.



This year, the **Teen Outreach Program (TOP)** served **78 kids, with over 89% successfully completing their 16-week and 32-week cohorts**. We focused on educating at-risk adolescents on healthy living, covering dynamic topics such as communication, decision-making, goal setting, values, identity, personal health, and overall wellness. Participants gained developmentally designed tools to promote **self-awareness, social awareness, self-management, and responsible decision-making**. This cycle's cohort primarily consisted of youth from Central and South America, with participants from Europe, Asia, and Africa as well. We provided the information in Spanish, English, and, with our team's support, translated it into Turkish and Arabic.

YOUTH IN 4-H PROGRAMS:

- ◆ **Are four times more likely to contribute to their communities**
- ◆ **Are two times more likely to make healthier lifestyle choices**
- ◆ **Are two times more likely to be civically active**
- ◆ **Are two times more likely to participate in out-of-school STEM programs**

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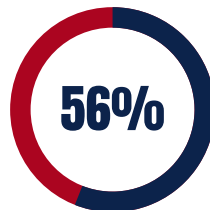
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The **University of Arizona-Roosevelt Early Childhood Family Resource Center** offers programs that promote family resilience and engage families with children from birth to age 5. This award-winning program includes **parenting education, child development classes, the Ready! For Kindergarten parent program, community resources, referral services, educational workshops, Play and Learn parent-child interaction, group support, and various forms of family and community engagement.** Our educational programs teach, train, model, and promote positive family interactions, helping children reach their fullest potential and families thrive.

 **348** Families received 548 referrals to assistance with needed resources and services such as **employment, food, housing, and utilities.**

Fifty-six percent (35.5%) were able to be reached and reported **they received the service.**



1337
FAMILIES
(Unduplicated)
with children under 5 participated in the parenting activities.



192
 Parenting activities were held throughout the year.

Research shows that programs such as this:



Help children **achieve developmental milestones**, preventing the need for special education and developmental services.

Increase school readiness and literacy levels, which prepares children for success in reading by the end of third grade.



Increase positive parent and child interactions, which develops social and emotional skills.

Strengthen families through increasing resilience factors and decreasing risk factors.



The Family Resource Center responds to incoming phone calls, texts, emails, and social media requests, providing up-to-date information about **resources for jobs, food pantries, healthcare, utility assistance, housing, and other needs**. We offer a variety of in-person programs, including **Car Seat Safety Education, Safe and Healthy Infant Sleep, Ready! For Kindergarten, Play and Learn groups, and Family Night**.

All programs and activities are free of charge, thanks to funding from **First Things First, Molina Complete Healthcare, Charles Schwab, and in-kind support from Walmart** and other partners. Programs are offered in English, Spanish, and Arabic. The center is located at Martin Luther King, Jr. School in South Phoenix and is open 40 hours per week.

79 Children have **new car seats fitted** for them because of parents completing the

Car Seat Safety Education Program.



CONTACT

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Research shows small positive changes in diet and physical activity are the key to lifelong health. Living healthy is not always easy, and it takes learning and practicing new, positive behaviors in a person's life to make them into lifelong habits.

Our two long-standing nutrition programs, **Supplemental Nutrition Assistance Program-Education (SNAP-Ed)** and **Expanded Food and Nutrition Education Program (EFNEP)** reach into local communities and make contacts with youth, adults, and seniors.

23 EFNEP & SNAP-ED STAFF **teaching at** **500 SITES**



The newest addition to our Maricopa County nutrition and healthy lifestyle programming is the **Diabetes Prevention Program (DPP)**, which started in Fall 2018. **This year-long Center for Disease Control (CDC) program instructs people diagnosed with pre-diabetes to focus on losing at least 5% of their body weight and exercising 150 minutes per week to decrease the risk of type 2 diabetes.** These two goals have shown to move participants out of the pre-diabetic range of their A1c, and back into a healthy A1c range. While pre-diabetes is reversible, unfortunately, type 2 diabetes is not reversible once diagnosed.

275+ Volunteers **served** **2200+ Hours** **valued at** **\$68,700**

Over 12,6000 face-to-face interactions with community members **reaching +9100 people** at food demonstrations and food tasting events.

157 community partners and collaborators at nearly **500 sites** across **Maricopa County**

Info for 2023 EFNEP

- ◆ EFNEP is **active in 6 counties** within the University of Arizona Cooperative Extension system.
- ◆ In Maricopa County, **three part-time staff teach direct nutrition and physical activity education** to young adults moving into adulthood, and parents and grandparents raising grandchildren.



“I just wanted to thank you again for all of your help!”

I'm so grateful that this program was offered to me for free... **If it wasn't for this class, I would've continued eating a whole bunch of sugar and salt every day**, which would have most likely led to a variety of health problems. I've taped up the pamphlets that you gave me in my kitchen, and I've started to implement all that you taught me. Thank you for being an amazing educator and thank you for the amazing meaningful work that you do!

-West Valley EFNEP Participant, 2023

Info for 2023 SNAP-Ed

- ◆ UA SNAP-Ed is **active in 12 counties** within the University of Arizona Cooperative Extension system.
- ◆ In Maricopa County, **21 staff members** worked in the SNAP-Ed program, each specializing in different areas such as Policy, Systems, and Environmental change work. Their focus includes **Food Systems/Food Access, Childhood Health (nutrition and physical activity), Direct Education, Food Demonstration, and Social Media.**
- ◆ **SNAP-Ed serves 6 major areas in Maricopa County:** Maryvale, South Phoenix, Wilson, Phoenix Central, Buckeye, and Salt River Pima-Maricopa Indian Community-South Scottsdale.



Students and Families Making a Difference

“The **Wilson Elementary School Garden** was installed this year by [club] students. [Our] garden coordinator worked with students and **students planted the garden at the Spring Service Day.**”

Info for 2023 Diabetes Prevention Program DPP

- ◆ **12 participants** for the year-long series.
- ◆ **100% engaged** and made significant efforts to stave off type 2 diabetes.
- ◆ Total weight loss at the 9-month mark in the program= **96 lbs!**
- ◆ The average number of minutes per week of exercise was 205 minutes; **a significant increase from participants' average of less than 30 minutes of exercise per week at the beginning of the program.**
- ◆ By the end of the program, 91% of participants achieved one of the main goals: reaching 150 or more minutes of weekly physical activity.

“

Since my last appointment I have lost 6 lbs. and decreased my BMI by 1.0

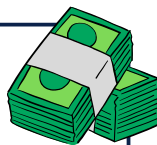
My glucose levels have decreased by 11 points and are now consistently within range. **I shared with my physician that I was participating in the University of Arizona Cooperative Extension Diabetes Prevention Program.** He is pleased to hear that I am getting the information, peer support, tracking and coaching to decrease my weight, decrease my A1C and increase my physical activity.

Thanks to [my facilitators] for all that you do for me and for our group!

”

\$1.9 MILLION

in funding was obtained for the **DPP, SNAP-Ed and EFNEP** programs for Maricopa County.



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The **Agricultural Literacy and STEM (Science, Technology, Engineering, and Mathematics) Education program** provides educators with agricultural experiences to learn about the original STEM career: farming. Through this program they are able to draw connections to where food and fiber comes from and access school garden curriculum support to engage their students with agriculture.

Arizona Agricultural Institute 1.0 & 2.0:

In 2023, the **33rd annual Arizona Agricultural Institute (AAI) offered 32 teachers, who collectively educate over 4,000 students annually**, in-person tours of agricultural production sites and professional development hours. The aim was to highlight agriculture's importance and equip educators with scientifically accurate information for hands-on student learning. During the Maricopa County summer tour (AAI 1.0), participants explored wheat, composting, agritourism, watermelons, specialty crops, genetically engineered corn, precision agriculture, soil conservation, agricultural careers, and the beef, dairy, and yogurt processing industries. In winter, the Yuma County tour (AAI 2.0) included citrus, dates, lettuce, winter greens, seed and transplant production, and a visit to the San Luis Port of Entry to understand the agricultural workforce.



Farm to School Annual Gathering:

On October 19th and 20th, the Agricultural Literacy and STEM program helped host the Farm to School Annual Gathering. The gathering started off on the 19th with two in-person tour groups: one in Tucson and one in Phoenix. **A total of 60 educators attended the in-person tours.** Educators were able to visit school gardens, seed research facilities, native garden spaces, and farms; attend cooking demonstrations; enjoy a shared-meal and networking hour; and ultimately come away with connections and resources to help them build more robust farm to school programming in their communities.

On October 20th, **148 people logged in to join the virtual day** filled with sessions and breakout room discussions focusing on how schools can incorporate agriculture into their classes, what available resources for educators and community members, and the programs and support currently being offered.

Many organizations and departments came together to make this event possible, including the **MCCE SNAP-Ed team, Local First, Pinnacle Prevention, the Maricopa County Public Health Department, the Mollen Foundation,** and more!



921 The Ag Literacy & STEM newsletter reaches over **900 people each month.**



Our Field Crops & Integrated Pest Management (IPM) continues to serve the diverse agricultural systems we have in Maricopa County and the state of Arizona, through the delivery of various in-person and virtual formats. **Our applied research has accomplished the following in 2023:**

◆ The Program continued to conduct applied research on major pests of alfalfa and forage crops. We conducted annual efficacy trials for alfalfa weevil and aphids to monitor the performance of insecticides used in AZ. **In 2023-24, we tested twenty-three compounds for their efficacy on alfalfa weevil.**

◆ The smartphone app developed by the Program to assist Pest Control Advisors (PCAs) and growers in making informed decisions about **alfalfa weevil has been significantly utilized, with over 2,000 uses this season.** According to a survey conducted during the Program's events, **over 71% of participants indicated they use the app for managing alfalfa weevil.** The app was updated in 2022 and 2023 to address fluctuations in hay prices. [Survey Link] https://uarizona.co1.qualtrics.com/jfe/form/SV_24zPN7nu96LDs0Z



◆ Accumulated surveys until 2023 indicated that **78.4% of surveyed PCAs and growers adopted the Economic Threshold for alfalfa weevil and the Program's research-based recommendations**, compared to just 24% in the 2014 survey.

◆ The Program provides results and recommendations to replace the broad-spectrum insecticides with the more precise and safer selective ones. Survey results showed that the applications of selective, **soft insecticides increased from 0 to 66% for the management of alfalfa aphids**, according to the Program's 2014-2023 surveys.



Recommendations for use of different insecticides and timing of planting for the management of sugarcane aphid (sorghum aphid) have been adopted for at least half the acreage of sorghum in the State. Recommendations for use of different insecticides and timing of planting for the management of sugarcane aphid have been adopted for 63 and 50% of sorghum acreage, respectively in the State according to the Program's surveys (2020-2023). We now recommend planting sorghum early to avoid the massive infestations of sugarcane aphid. When chemical control is necessary, our research identifies two selective insecticides that suppress aphid populations while preserving natural enemies and minimizing impacts on human health and the environment. We are planning a large efficacy trial for this pest this year.



<https://extension.arizona.edu/sites/extension.arizona.edu/files/programs/2019-and-2020-sugarcane-aphid-management-on-forage-sorghum-research-mostafa-harrington-burayu-10.28.2020.pdf>



The Program is providing results and recommendations to replace the broad-spectrum insecticides, with the more precise and safer selective ones. **Survey results showed that the applications of selective, soft insecticides increased from 0 to 66% for the management of alfalfa aphids**, according to the Program's 2014-2023 surveys.

3000 Over 3000 growers and agricultural professionals were reached through the Program's events, offering over 100 Continuing Education Units.



◆ We continue monitoring resistance of different groups of insecticides in alfalfa and crop forage pests in AZ. We are collaborating with colleagues from western states to track changes that may impact major pest situations in AZ.

◆ Hundreds of field, in-person, phone and virtual consultations in the decision making of various pest management were provided to clientele in Arizona and neighboring states.



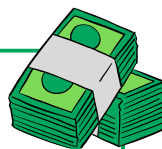
◆ **The Program secured USDA-NIFA funding (~\$850,000) to study the roles of natural enemies in managing major alfalfa insect pests, in collaboration with Utah State University.** This funding allowed us to test the impacts of five commonly used insecticides in alfalfa pest management on two natural enemies, the ladybeetle and spider. We complemented this trial with a field cage experiment at the University of Arizona's Research Farm at Maricopa Agricultural Center to quantify the roles of these natural enemies in alfalfa aphid management decision-making.



2024 Field cage experiment at Maricopa Agricultural Center

\$3 MILLION

Since 2018, over \$3 million secured to fund applied research and Extension activities.



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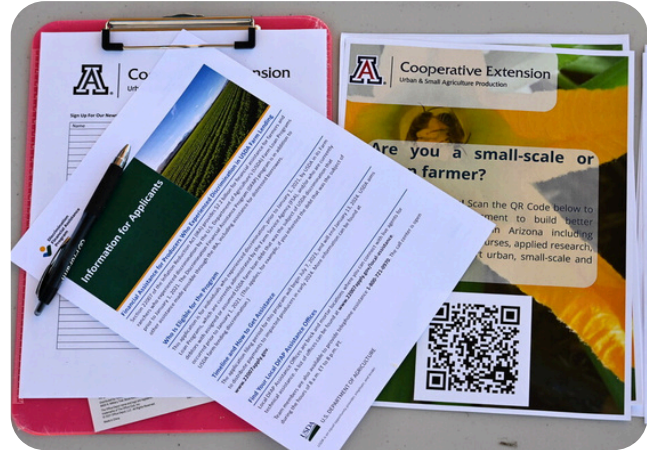
The University of Arizona Urban Agriculture Production, Small-Scale, and Beginning Farmer Program (the Program), established in 2021, leads efforts to create an urban and sustainable agriculture infrastructure that serves the state. The Program acts as an umbrella, catalyzing discovery related to urban and small-scale agriculture, coordinating communication, maximizing the impacts of relevant University of Arizona programs, and promoting policies that support urban agriculture production and enable businesses, entrepreneurship, and supply chain systems.

The Program's active listserv, with **over 900 subscribers**, delivers monthly newsletters and updates. The new **Instagram account has reached over 800 followers**. In October 2023, the Program completed the "**People's Demonstration Farm**" (PDF) with an outdoor classroom, hosting a grand opening and educational events. The PDF opening coincided with the launch of the Urban Agriculture Service Center, providing technical assistance for urban and small-scale producers. Additionally, the Program partnered with Spaces of Opportunity to expand research efforts and initiated a cover crop trial for urban agriculture.



In addition to workshops, seminars, and field days, the Program launched a **UArizona-certified course on Beekeeping in October 2023**, with **the first cohort of 25 students graduating last April**. Two more courses are in the works as part of new grant partnerships – an urban agriculture online curriculum and a conservation stewardship course for urban and small producers.

The Urban Ag Program is collaborating with USDA on new annual needs assessments to monitor impact. The current survey is ongoing and accessible via this link. They are also launching a Service Incubator to increase access to USDA programs, **offering annual "Service Eligibility Partnerships Grants" to first-time USDA producers in Maricopa County** who apply with a stated need and solution. Grant guidelines are available on our website.

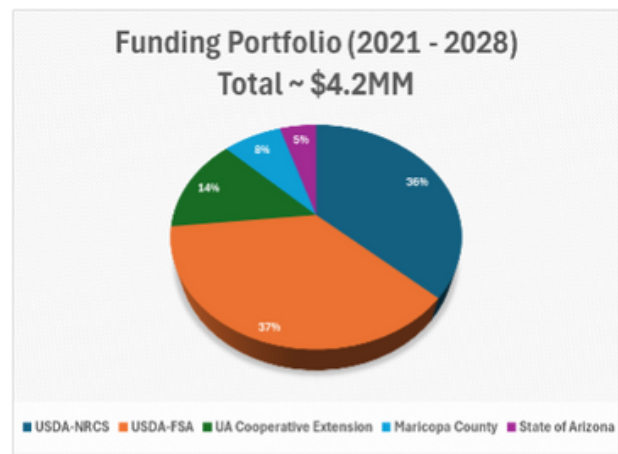


2023 was filled with educational workshops and seminars informed by the 2022 needs assessment. **Over 900 clients were reached across 27 events. 41% of attendees (n=141) were socially disadvantaged according to the USDA definition.** 90% (n=233) of attendees reported the education received as highly useful, and 65% (n=238) reported they would probably or definitely change their behavior because of the education received.

900 CLIENTS reached over **27 EVENTS** with **41% DISADVANTAGED**

In 2023, the Urban Ag Program leader obtained approval to **create the University of Arizona Center for Urban Smart Agriculture (UACUSA)**. The new Center will advocate for and support science-based solutions to the unique challenges of urban agriculture in Arizona and beyond. **UACUSA will identify environmental, socioeconomic, and political challenges, engage stakeholders for applied research and education, and collaborate with UArizona Continuing and Professional Education to certify participants in informal courses.** UACUSA will connect with urban agriculture communities, academic collaborators, government representatives, and students.

The Center and Program follow the template of cooperative support from Extension, with federal, state, and county funding. A diverse funding portfolio of **over \$4.5 million has accumulated from the University of Arizona, USDA-NRCS and FSA, State of Arizona Department of Agriculture, and Maricopa County Board of Supervisors**. This is in addition to in-kind support provided by all entities, such as office space and support for salaries and operational costs. The Center is expected to receive further funding from these sources and others through collaboration with AZ, regional, and national institutes on grants, contracts, and agreements.



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461 VOLUNTEERS worked **20,813 HOURS** valued at **\$661,185**

The Urban Horticulture Program for Maricopa County Cooperative Extension supports the Horticulture Industry in Maricopa County through plant problem diagnosis and research-based outreach to nurseries, landscape managers and arborists. **In 2023 the Program contributed to the identification of two new virus diseases affecting cacti in nursery production.** The Program worked with a team of local municipalities to build and host a new Extension website offering a Tree Guide for Maricopa County. This presents the latest evaluation of tree species commonly used in local urban landscapes. **The Program is conducting research to combat the invasive stinknet weed. Stinknet has heavily infested Maricopa County and threatens to spread to other parts of Arizona.**

The Master Gardener Program:

- **Includes** over 400 Certified Master Gardener volunteers.
- **Teaches** efficient and productive garden and landscape practices specific to our region within the Sonoran Desert.
- **Distributes** the latest research-based science provided by the University of Arizona.
- **Offers** public education in proper plant selection; placement, care and watering; plant problem diagnostics; and the identification of weeds and pests.



Master Gardeners and University staff operate a Plant Help Desk through which they **answered over 1250 garden and landscape questions from the public.**



CONTACT

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The Pesticide Safety Education Program (PSEP) is a statewide program designed to provide pesticide safety information and resources to people working in agricultural and structural pest control.

PSEP offers programs in English and Spanish to better serve the linguistic needs of its clientele and coordinates outreach efforts with colleagues involved in state, county, and tribal pesticide programs. These partnerships and programs are key to ensuring certified applicators receive training and informational resources to help them work safely and effectively with restricted-use pesticides.

The Pesticide Safety Education Program:

- ◆ Provides pest management professionals with information and tools to protect themselves, other people, and the environment when handling pesticides or working in pesticide treated areas.
- ◆ Develops study materials and offers workshops to prepare individuals for state-mandated pesticide applicator certification and Pest Control Advisor licensing exams.
- ◆ Updates clientele on pesticide-related regulations, issues, and solutions so they can make informed decisions when using pest control products.



In 2023, PSEP teamed up with the Arizona Department of Agriculture to present a new course titled, “**Are you ready for a pesticide inspection?**”

During this interactive course, participants formed small groups and rotated through thematic stations where they learned how to properly store pesticides; complete, maintain, and post pesticide use records; and inform employees about pesticides used at work.

5 **GROWERS**
3 **TRIBAL PARTNERS**
8 **CERTIFIED APPLICATORS**
2 **AGRICULTURAL TEACHERS**
0 **PEST CONTROL ADVISORS**
2 **PESTICIDE SAFETY TRAINERS**



RECEIVED NOTICES ABOUT PESTICIDE COURSES AND RESOURCES THROUGH THE PSEP LISTSERV.

879 **individuals** gained information about

- pesticide certification
- regulation updates
- application technologies
- safe pesticide practices
- pesticides in the news
- compliance issues

during 20 safety sessions, conferences, and continuing education events.

Pesticide applicator pre-certification and safety training was provided to **137** agricultural and structural pest management professionals during **5** in-person and virtual courses.

CONTACT

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In 2023, we offered three educational opportunities – **TURF 101**: a short course for new hands in the field, the Outdoor Track of the AZ School IPM Conference, and **our signature event– the Annual Pest Management and Pesticide Safety Seminars for Turf and Landscape personnel**. This year, topics included new research results on turf beetles and desert-adapted turf varieties, techniques to improve water use efficiency, combating herbicide resistance and getting your facility ready for a pesticide inspection.

Our attendees are DIVERSE: Personnel from golf courses, school districts and other institutions, pest control and landscaping companies, city and town staff, tribal communities, government agencies and more. **What do we know about our attendees?**

84%
Were Returning Attendees

98%
Will adopt at least one new IPM practice as a result of information gained at the seminars.

98%
Reported improved understanding of specific topics related to pest management and pesticide safety in turf and landscapes.


What do our attendees appreciate the most?

Timely and relevant information and convenient locations and formats to access it.



The overarching goals of our Turfgrass Science Extension Program:


To improve turfgrass management strategies and practices for schools, cities, and professional turf facilities by conducting research and introducing innovative technologies to optimize water use and manage pests and weeds.


To provide educational opportunities for turf managers to learn how to decrease or improve inputs and improve turf quality with techniques that conserve water resources, implement integrated pest management, and reduce their environmental footprint.

Research: Our **Turf Entomology graduate student Joseph Montoya** successfully **defended his Master's Thesis and completed his program in July 2023**. His graduate research looked specifically at first determining which species of beetles damage turf in Arizona and then determining the time of year each species is most active. **This research provides new information and crucial resources to inform best practices management strategies for turfgrass managers in Arizona.**

Of the scarab species collected during this study, we found four groups in direct association with damaged turfgrass in Arizona: *Cyclocephala pasadenae* (BOLD:AAY5363), *Hybosorus illigeri* (BOLD:AEV9441), *Ataenius stephani* (BOLD:AEU2777), and *Strigoderma pimalis* (BOLD:ABW8722). Peak flight times of the adult beetles occurred in the summer between June – August. **Email [Shaku Nair](#) to subscribe to the turf listserv.**

Specific benefits derived from our programs:

- Access to experts/specialists - 80%
- Educational events (e.g., Seminars, Field Days, etc.) - 88%
- Site visits by experts to provide technical advice - 44%
- Publications - 37%
- Applied problem-solving research - 32%
- Other - 10%



97%
 Found value in the turf and landscape programs offered by UA



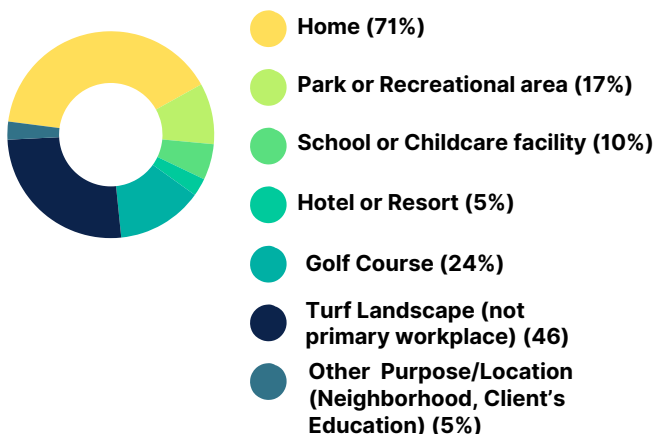
93%
 Found the cost of attending the seminars reasonable

100% reported that they will use the information gained at the seminars in locations other than their primary workplace and will attend future seminars. (This is valuable information that reflects the dissemination of information we provide)

Over 256 client queries specific to turf and landscapes were **resolved.**

Over 400 turf and landscape personnel trained in various aspects of turf management in our educational events presented in-person and online.

We provided **1758 hours of continuing education.**



CONTACT

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For more than 29 years, the Smartscape program has provided foundational training for thousands of professionals and positively influenced landscape choices and outdoor water use in the Phoenix and Tucson areas. **The program offers research-based best practices for design, installation, and care of water-efficient landscapes.** Smartscape enjoys the support of industry experts who share their time and talents instructing our students always with an eye on water conservation.

Creating more sustainable and livable cities in the valley with support from the University of Arizona, Arizona Municipal Water Users Association (AMWUA), and the Arizona Department of Water Resources is a goal of the Smartscape program.

Check us out www.smartscape.org



102 GRADUATES



Our graduates are Smartscape Smart!
In 2023 our 102 graduates brought a collective 2,466 hours of classroom and hands-on instruction into their work communities. They multiply the knowledge gained by sharing their new skills in water conservation and landscape management with their co-workers and clients throughout Maricopa County.

128 PARTICIPANTS

76

Enrolled in the ten-class Smartscape course, in either English or Spanish.

52

Graduates participated in one of the Advanced courses, such as Urban Forest Management, Advanced Plant Material, and Advanced Irrigation.

CONTACT

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A message from Project CENTRL Class 32 graduate: Javier Medina.

When this program started, people kept saying it was "life-changing." I wondered what that meant. Would it lead to a new job or a career in politics? I came into this program feeling out of place, afraid of public speaking and of not being smart enough, and most of all, afraid of failing and letting everybody down.

Early on, I gave a speech and cried because my worst fear came to life and I wanted to hide. "What is wrong with me?" I thought. I felt like I had failed, but then I looked up to see everyone else was crying too. When I finished, they all stood up and clapped.

That was one of the best moments of my life.

It brought us closer as a class, and I realized others might feel like me. I shared parts of my life I had never talked about, and people connected with it.

“ It feels like everything had a purpose, and perhaps I have a purpose too. ”

Since then, I've realized that all my experiences, both good and bad, have led me to this moment. It feels like everything had a purpose, and perhaps I have a purpose too. **Each seminar reminded me of the issues impacting the rural Arizona community where I grew up**, issues that my family was directly affected by. The biggest takeaway is that to get something done, you just have to go and do it. It's okay to be scared, different, and even to cry. We're all in this together, and despite our differences, we're more similar than we think.

As Class 32 graduates, I now understand why people described the experience as "life-changing." **I'm not making more money, but everything I do is more valuable. I didn't change jobs, but I have a purpose. And I'm not going into politics, but I now know how to make a difference.** This program changed my life in all the best ways.

Thank you, Project CENTRL!



CONTACT

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As an extension program, **Arizona Project WET (Water Education Today)** aims to **bring the water knowledge of experts in the field from industry and academia into the K-12 education system** by using the best educational techniques and inspiring students and teachers to explore our state's water resources. In 2023, APW continued its mission of building water literate leaders, educators, professionals, and community stewards by:

Deepening water related content knowledge for 1,505 teachers through professional development workshops.

Inspiring 2,144 students with real-life water content in classroom and field programs as well as **13,334 students at Arizona Water Festivals in 28 communities** around the state.

Bringing the expertise of water professionals to the K-12 classroom through engagement with **over 30 cities, water companies, and partners statewide** who supported our programs by volunteering at events, sponsorship, and sharing their content expertise in support of curriculum development.



CONTACT

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Lance Tubinaghtewa
(Instructional Specialist)
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MISSION

To engage with people through applied research and education to improve lives, families, communities, the environment, and economies in Arizona and beyond.

VISION

To be a vital national leader in creating and applying knowledge to help people build thriving, sustainable lives, communities, and economies.

- ✓ We **empower people** to expand their capabilities to improve their lives.
- ✓ We **develop capable leaders** in all communities.
- ✓ We are a **trusted partner** in communities for leadership education.
- ✓ We are a **well-known, effective, and accessible educational resource** for all communities.
- ✓ We are **recognized experts for developing and disseminating research-based information**.

MARICOPA COUNTY COOPERATIVE EXTENSION 2022 ADVISORY BOARD

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PROGRAM ACRONYM KEY

ANR – Agriculture and Natural Resources

DPP – Diabetes Prevention Program

EFNEP – Expanded Food and Nutrition Education Program

FCHS – Family, Consumer and Health Sciences

FRC – Family Resource Center

SRPMIC: Salt River Pima-Maricopa Indian Community

IPM – Integrated Pest Management

SNAP-Ed – Supplemental Nutrition Assistance Program-Education

TOP – Teen Outreach Program

WET – Water Education for Teachers

YD – Youth Development

CENTRL – Center for Rural Leadership

***Click employee's name to visit their University of Arizona Profile Page.**

Hadeel Aborached, Community Outreach Assistant II, FRC

Lupine Allen, Program Aide, Field Crops IPM/Urban Ag Production

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Barbara Ashford, Administrative Assistant, SNAP-Ed, EFNEP

Sarai Barrera, Direct Educator - Maryvale Community, SNAP-Ed

Rubi Salazar Bogarin, Family Support Specialist, Family Resource Center

Soumya Bollam, Program Aide, Field Crops IPM/Urban Ag Production

Stacy Bryant, Budget and Data Coordinator, SNAP-Ed

Liliana Burgos Morales, South Phoenix Community Lead & Childhood Lead, SNAP-Ed

Sandra Campas, Nutrition Educator, EFNEP

Gabriela Castillo, Gardens/Growers Coordinator - Maryvale Community, SNAP-Ed

Michael Chamberland, Agent: ANR/Urban Horticulture

Jordan Christiansen, Community Outreach Professional II, Arizona Project WET

Mary Conner, Accounting Assistant IV

Anahi Delgado, Food Access Coordinator - South Phoenix Community, SNAP-Ed

Nate Diemer, Program Coordinator, Urban Ag Production

Tiffany Drake, Program Coordinator, Urban Ag Production

Angel Escalante, General Maintenance Mechanic

Tamara Floyd, Outreach Director, FRC

Valerie Gabrielson, Program Coordinator, 4-H Youth Development

Marina Gallardo, Maryvale Community Lead and Food Systems Lead, SNAP-Ed

Eunice Gonzales, Manager, Finance and Administration

Vanessa Gonzalez, Specialist, Family Support, Family Resource Center

Kyle Harrington, Associate in Extension, Field Crops/IPM

Khandle Hedrick, Nutrition Educator, EFNEP

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Kirstyn Kay, Program Coordinator, AZ Water Festival
Niki Key, Administrative Associate, Project CENTRL
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Avik Mukherjee, Postdoctoral Research Associate I
Cathy Munger, Systems Administrator, Principal
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Dotty Spears, Operations Manager, SNAP-Ed

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Caroline Woolsey, Program Coordinator, IPM/Ag

AMERICORPS

Avi Rubin, Americorps, 4-H Youth Development

Myrna Flores, Americorps, FRC

Santiago Calleros, Americorps, 4-H

Asha Howell, Americorps, Master Gardener



*2023 MCCE Outstanding Employee of the Year:
Kaley Necessary*



Employee Appreciation Day Games



Halloween Contest! Which one is your fav?

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Family Resource Center**

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Phoenix AZ 85040

Phone: 602-980-3692



Explore all of
the **MCCE**
Programs
Online and on
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*Yummy Potluck at the Annual
Holiday Party*



Can you guess who's behind
the masks?



Taking a break to check out
the People's Garden!

Make a Donation - We are pleased to offer a variety of ways that you can make your gift to Cooperative Extension and to the Maricopa County office.



To make your gift by telephone, call
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Charitable Gift Annuities are an important way to support Arizona Cooperative Extension, particularly county-level Extension programs, while receiving life-long income and significant tax benefits.
Call 520-621-7883 for more information.

THANK YOU

2023



Maricopa County Cooperative Extension's journey over the past year has been marked by dedication, collaboration, and unwavering commitment to the betterment of our communities. As we reflect on the milestones achieved and challenges overcome, we are reminded of the profound impact that emerges when knowledge, innovation, and compassion intersect. With renewed dedication, we look forward to the opportunities that lie ahead and **remain committed to empowering Maricopa County residents with the tools and information they need to thrive.**

