Maricopa County Cooperative Extension (MCCE) had another successful year in 2015, helping to “Improve people’s lives, communities, and the economy.” The year started off at a fast pace with the office partnering with our fellow UA staff at the Connect2STEM event at the Phoenix Biomedical Campus. It was part of the SciTech Festival that celebrates and showcases STEM (Science, Technology, Engineering, and Math) activities across the state and was also part of Super Bowl XLIX.

We had our annual Citrus Clinic and our Desert Turfgrass School. Our Turfgrass Extension program helps support the thousands of acres of turfgrass used for schools, parks and turf facilities across the county including those that hosted the Super Bowl, the Fiesta Bowl, the Cactus Bowl, 15 major league baseball teams, and the Waste Management Phoenix Open. These events generated over $2.5 billion for the Arizona economy.

Our office continues to grow and improve. We are in the middle of a new landscape project. Our goal is to transform grounds and landscape around the building into a Living Classroom where people go to not only see the plants, but also learn about planting methods and irrigation. We are working with community and industry partners to assure that the gardens are more than show, they are demonstration, providing educational opportunities for both visitors and students.

We had our Volunteer Appreciation and Open House event in October of 2015. This event was an opportunity to say thank you to the more than 6,000 volunteers that increase our capacity to deliver quality programs to the people of Maricopa County. Eighteen exceptional volunteers were recognized for their contributions to our programs. We implemented our Gro4-H program. A development program targeted at increasing the number of youth involved and expanding the reach of our 4-H programs. We are actively seeking donations that will help increase our capacity and give more youth the opportunity to have a 4-H experience.

In the pages that follow are short descriptions of the various programs offered at the Maricopa County Cooperative Extension. With each program, there is a contact listed. I urge you to call or write an email for more information. At the end of this report is an employee listing. These are the women and men who work year-in and year-out to make this office one of the premier Extension offices in the country, serving over 4 million people and helping to make a positive change in people’s lives, though education and inspiring discovery.

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County Extension Director
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Cooperative Extension
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EXECUTIVE SUMMARY

Because of Maricopa County Cooperative Extension . . .

Over 64,000 youth and 15,000 adults in 2015 receive nutrition and health information with over 4.7 million face-to-face contacts recorded by our office staff and our community partners.

The Turfgrass Research & Extension program worked with turf facilities across the county including those that hosted Super Bowl XLIX, the Fiesta Bowl, the Cactus Bowl, 15 major league baseball teams, and the Waste Management Phoenix Open. These events generated over $2.5 billion for the Arizona economy.

Over 3,000 residents received direct assistance with issues and concerns about water, plant selection, and insect/disease identification through our Master Gardener hotline, which received over 2000 phone calls and nearly 1000 emails.

$1.8 million in salary was provided to our 74 Maricopa County resident employees, 71% of them supported through grant and/or contract funds that were obtained by our faculty and staff.

4-H families, members, leaders and parents are making a difference by serving others through projects like feeding the hungry, providing services to the homeless, assisting senior and adult community centers, and providing animals, trees, water filters, and books to families.

2015 - By the Numbers:

- 225,000 youth participated in Extension activities.
- 82,000 adults participated in Extension activities.
- 6,000 volunteers gave over 85,000 hours of their own time to support Extension programs.
- Volunteer support is estimated at $2.0 million.
- Faculty obtained $3.2 million in grants and contracts.

https://www.facebook.com/MaricopaCountyCooperativeExtension

http://extension.arizona.edu/maricopa
Agricultural Literacy, School Gardening, and Project CENTRL

Our Agricultural Literacy programs assist educators in the effective use of incorporating information about agriculture into the subjects they already teach using lessons that are aligned to academic standards. The Summer Agricultural Institute (SAI) is a five-day educational workshop designed to teach K-12 teachers about food and fiber production and help them incorporate that knowledge in the classroom curriculum. SAI and workshops combine hands-on learning about agriculture with practical curriculum development. The Ag. Literacy program also provides food safety guidelines for schools that want to use school-grown produce in the cafeterias. Using online modules as well as face-to-face workshops, the program offers education for teachers to learn about the guidelines for developing, operating, and harvesting a school garden.

Project CENTRL (Arizona’s Center for Rural Leadership) trains 16 Arizona residents over the course of a year through nine seminars. These seminars teach them about their personal leadership strengths, educates them on issues in rural areas, and gives them the opportunity to learn about the political issues at state and national levels. This year they will begin their 25th class for the program.

These programs help:

- **Schools learn about the food safety guidelines for using produce from their garden for their cafeteria.**

- **Give youth the education concerning where their food comes from and a deeper understanding and appreciation of agriculture.**

- **Provides a premier leadership program for Arizona residents.**

### 2015 - By the Numbers

- **School Garden Food Safety** online and face-to-face workshops reached 97 teachers, who then taught over 6,000 students.

- **433** classroom educators who teach 20,200 students learned how to use an agricultural curriculum to help meet their STEM core requirements in the classroom.

- **Over 600** alumni of CENTRL indicated they have served in leadership roles in at least three community organizations.

Contact: Monica Pastor

mpastor@email.arizona.edu
Ready, Set, Grow! Our Early Childhood Development program works with children, families and professional caregivers to teach, train, and demonstrate education tools and methods that can be used to help kids get prepared for that first day of school. Our Roosevelt Early Childhood Family Resource Center is located at Martin Luther King, Jr. school in South Phoenix. Families with children from birth to 5 are invited to come to the center Monday through Friday. All programs and activities are offered at no charge. Our Brain Builders program is a 16-hour interactive training, focusing on integrating early brain development and typical child development for children prenatal to age three. The training covers all domains of child development including physical, cognitive, social, emotional, and adaptive development. The target audience is child care providers, and early childhood teachers; participants receive a 16-hour CEU certificate. Finally, although the program ended in December of 2015, our Train the Trainer program provided hearing and vision screening of children.

Programs such as these, have shown that:

- **Youth are better prepared to learn.**
- **Parents are better prepared to teach and help their children with their school work.**
- **Children that read at grade level by 3rd grade are more likely to graduate from high school.**
- **A high school diploma means a child is much less likely to be unemployed, apply for public assistance, or go to prison.**

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### 2015 - By the Numbers

- This program has earned more than $2.5 million in grant supported funding in the last six years.
- Over 12,000 children and adults participated and learned in educational activities through our Early Childhood Development programs.

Contact: Patty Merk, Ph.D.  
 pmerk@cals.arizona.edu
4-H Youth Development

4-H gives youth that extra edge for life success by offering numerous opportunities to develop leadership, responsibility, citizenship, and other life skills. 4-H helps develop competent, caring, and actively engaged citizens who strengthen Arizona communities. Through our research-based curriculum and university ties, 4-H opens a world of possibilities to youth and their parents who want to explore their interests from aerospace to gardening, dog care to robotics, horse care and many more. In 2015 we kicked off our Gro4-H campaign, an effort to secure funding to help us expand our programs, increase our enrollment, and maintain the high quality programming that has been offered by Maricopa County Cooperative Extension’s 4-H program for over 100 years.

Participants in 4-H programs are:

- Four times more likely to make contributions to their communities (grades 7-12).
- Two times more likely to be civically active (grades 8-12).
- Two times more likely to participate in Science, Engineering and Computer Technology programs during out-of-school time (grades 10 – 12).

2015 - By the Numbers

- Over 103,000 youth participated in Maricopa County Youth Development educational programs. 4-H, Water and Natural Resources, Ag in the Classroom, and others partnered to reach youth in Maricopa County.

- Over 1,500 volunteers donated over 11,300 hours of support for Maricopa County 4-H youth programs, estimated to be worth $255,000.

Contact: Bryan Chadd  
  
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Kim Christman  
  
Kchristman@email.arizona.edu
The University of Arizona Cooperative Extension in Maricopa County has a vibrant and active Master Gardener program and volunteer force. There are three parts to becoming and staying a Certified Master Gardener: 1) attending the training, which provides novice and experienced gardeners alike with the opportunity to improve their horticultural knowledge and skills; 2) sharing at least 25 hours of expertise and time with the public through organized volunteer activities; and 3) earning at least 12 hours of personal continuing education. Providing support to the green industry in Maricopa County, the Commercial Horticulture Program provides research-based outreach to nurseries, landscape companies, and small acreage vegetable producers. The Beginning and Small Farms Program connects existing and prospective producers with University and outside resources. Learning opportunities include IPM walks and hands-on training sessions in organic production techniques. Current research is investigating unconventional leafy greens for summer production.

Our Horticulture and Agroecology programs:

- Create greater awareness and appreciation for the Sonoran Desert environment we live in.
- Increase the access for Maricopa County residents to fresh fruits and vegetables.
- Decrease pesticide applications in residential communities across the county.

2015 - By the Numbers:

- 30,000 people had direct contact with our horticulture and agroecology programs.
- Over 400 active volunteers registered over 23,000 hours, estimated to be worth $533,000.

Contact: Kelly Young
kyoung@cals.arizona.edu
Turfgrass Extension programming supports industries that generate over $2.5 billion for the Arizona economy. In Maricopa County, that includes turf facilities that hosted Super Bowl XLIX, the Fiesta Bowl, the Cactus Bowl, 15 major league baseball teams, and the Waste Management Phoenix Open. The Turfgrass Extension program contributes to schools and municipalities by evaluating ways to optimize water and manpower inputs. A current project demonstrates the use of colorants on dormant bermudagrass, to “green-up” turf during the winter months. It looks great, uses very little water, and it doesn’t have to be mowed! We collaborate with campus faculty and experts across the country to assure the latest research findings are being delivered and adopted to address the needs of Maricopa County.

Our Turfgrass program:

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

- Provides 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.

2015 - By the Numbers:

- Turf research and Extension influences industries that generate over $2.5 billion for the Arizona economy.

- Turf research is continuing to find alternative grasses that use less water as well as investigating pest management and weed control solutions for turf.

Contact: Kai Umeda
kumeda@cals.arizona.edu
Our Field Crops and Integrated Pest Management (IPM) Program continues to serve the diverse agricultural system we have in Maricopa County. With an emphasis on reducing the environmental footprint for our agricultural production, our Field Crops IPM program helps bring new selective chemistries that optimizes the use of chemical sprays on crops to protect the environment, animals, and humans. We work to increase irrigation efficiency to reduce agriculture water use, and help to keep Maricopa County agriculture competitive with the rest of the country and on the world market. One of the major issues the program is addressing is the management of alfalfa and forage crops. Alfalfa hay dominates the cropping system in Arizona with ~300,000 acres of alfalfa and other forage crops farmed each year. With some of the highest yield per acre nationwide and an annual crop valued at ~$500 million, forage crops contribute significantly to the dairy and other livestock enterprises. Maricopa County Cooperative Extension Field Crops/IPM Program is leading a national grant to study better practices to manage aphids in alfalfa, a pest that can significantly decrease crop yield when not controlled properly.

Our Field Crops/IPM Program aims at:

- **Reducing pesticide residues in the environment.**
- **Improving yield & quality and economic returns for growers and tribal farms in the region.**
- **Developing more stable natural controls and sustainable agricultural production for the region, resulting in healthier plants, fewer pest outbreaks, and pest resurgences.**

**2015 - By the Numbers:**

- **Over 500 growers and agricultural professionals attended Field Crop Extension events, which offered timely, updated, and science-based information, and provided more than 30 Continuing Education Units.**

- **Our agricultural faculty were involved in over $1 million of grant funds to address the issues of field crops that generate over $1.5 billion for the Arizona economy.**

Contact: Ayman Mostafa
ayman@cals.arizona.edu
Nutrition and Physical Activity

Living healthy isn’t always easy – it takes discipline and learning what to eat, how to exercise, and knowing the difference between research and facts, and the latest diet or pill on the Internet. However, our Nutrition and Physical Activity team make learning about staying healthy fun and enjoyable, regardless of whether you are 5 or 50! Our Supplemental Nutrition Assistance Program – Education (SNAP-Ed) and Expended Food and Nutrition Educational Program (EFNEP) reach into local communities, making contacts with youth and adults alike. As part of the University of Arizona Nutrition Network (UANN), which is active in 11 Cooperative Extension offices across the state, our SNAP-Ed faculty and staff coordinate efforts throughout Maricopa County, engaging schools and communities in learning healthy habits. EFNEP is active in four other counties, and in Maricopa County, EFNEP teaches nutrition and physical activity to adults in limited-income areas.

Studies show that participants involved in Nutrition and Physical Activities Programs like EFNEP and SNAP-Ed:

- 58% felt more motivated to increase physical activity.
- 99% intend to fill their plate with at least 50% fruit and vegetables each day.

2015 - By the Numbers:

- Over 15,000 adults and 63,000 youth participated in SNAP-Ed and EFNEP programs.
- 15,000 volunteers donated 34,000 hours of their time, valued at an estimated $785,000.
- $2.5 million in grants were obtained for SNAP-Ed and EFNEP programs for Maricopa County.

Contact: Traci Armstrong Florian
tarmstro@cals.arizona.edu
Urban Water Resources

Living in the Sonoran Desert, many residents of Maricopa County are aware of the importance of water. However, many still struggle on connecting water conservation and actual practices. That’s where our Urban Water Resources programs shine – we help kids and adults learn about the water in our environment, and what can be done to help preserve the water quality and quantity for future water users of our county.

Our Arizona Project WET (Water Education for Teachers) program continues to expand, not only providing workshops for teachers, but doing direct education to youth in and outside the classroom. Through its workshops and multi-day academies for teachers, Arizona Project WET (APW) helped 120 educators become more aware of Arizona’s water resources. They then share that knowledge in the classroom with their over 9,900 students. APW also helped over 2,000 adults learn more about local water issues at public events this past year. The Smartscape Program engages professionals from the landscape industry, offering two four week, 16 class programs dedicated to teaching about conserving water in our desert environment. Smartscape also offers an advance course in irrigation for those who are looking for a more in-depth educational experience.

These programs help:

- *Teach future generations about the importance of conserving water in our desert communities.*
- *Train landscape professionals and managers proper management techniques to conserve water while maintaining attractive and sensible landscapes for the Sonoran Desert.*

**2015 - By the Numbers:**

- Over 17,000 school aged youth in Maricopa County participated in Arizona Project WET programs in 2015, learning about water in the environment and what we can do to protect and use our water resources more wisely.
- 760 landscape professionals and managers from 31 different cities and towns in Maricopa County have attended Smartscape training over the last five years.

Contacts:  
Kaitlin Poe-Orsburn  
Smartscape

Pamela Justice  
Arizona Project WET
Our Mission: To engage with people through applied research and education to improve lives, families, communities, environment, and economies in Arizona and beyond.

Our Vision: We envision strongly connected communities invested in the betterment of every individual.

As the University of Arizona in Maricopa County:

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

Our 2016 Advisory Board

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Below is a listing of the faculty and staff at the Maricopa County Cooperative Extension. These women and men are the ones who deliver the programs to the residents of Maricopa County. Their hard work and dedication have made positive differences in people’s lives, communities, the environment, and the economy in Maricopa County.

KEY:  
ANR – Agriculture and Natural Resources; EFNEP – Expanded Food and Nutrition Education Program; FCHS – Family and Consumer Health Sciences; FRC – Family Resource Center; 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.

Faculty and Staff 2016

Edward C. Martin, Director, Professor & Extension Specialist  
Traci Armstrong Florian, Agent: FCHS, EFNEP, & SNAP-Ed  
Bryan Chadd, Agent: 4-H Youth Development  
Kim Christman, Area Agent, 4-H Youth Development  
Ruth Jackson, Assoc. in Extension: FCHS  
Patty Merk, Area Agent: FCHS/Family & Youth  
Ayman Mostafa, Area Agent, ANR/Field Crops, IPM  
Monica Pastor, Area Agent, ANR/Ag. Literacy, Project CENTRL  
Rebecca Senior, Assistant in Extension, Living Classroom  
Kai Umeda, Area Agent: ANR/Turfgrass  
Kelly Young, Agent: ANR/Horticulture

Marina Acosta Ortiz, Program Coordinator, SNAP-Ed/Gardening  
Barbara Ashford, Administrative Assistant  
Paula Barr Skillicorn, Instructional Specialist, SNAP-Ed  
Worku Burayu, Research Specialist, Field Crops/Turfgrass  
Sally Cassady, Health Educator, Sr., SNAP-Ed  
Angie Castro, Program Coordinator, Sr., FRC  
Anne Cimarelli-Stears, Health Educator, Sr., SNAP-Ed  
Mary Conner, Administrative Associate  
Jonneen Cook, Program Coordinator, Urban Horticulture  
Yvonne Cooper, Program Coordinator, Urban Horticulture  
Stephanie Copeland, Program Coordinator, Sr., Brain Builders  
Juliana Davies, Program Coordinator, SNAP-Ed  
Sharon Dewey, Instructional Specialist, ANR/Horticulture  
Carol Diemer, Instructional Specialist, SNAP-Ed  
Ashley Dillard, Program Aide, SNAP-Ed  
Ashley Dominguez, Program Aide, FRC  
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Pamela Justice, Program Coordinator, Sr., AZ Project WET
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Kaitlin Poe-Orsburn, Program Coordinator, Sr., Smartscape
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Jennifer Wolf, Administrative Secretary

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Associate Dean & Director, Extension & Economic Development, College of Agriculture Life Sciences, The University of Arizona.

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