

# Cooperative Extension

Yavapai County

## Yavapai County Report 2019



THE UNIVERSITY  
OF ARIZONA

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Youth from the Lonesome Valley Wranglers 4-H Club, FCHS Cooperative Extension staff, an AmeriCorps service member, Whipstone Farm, and Prescott Farmers Market collaborated to host a seasonal produce class.



**From the County Director**

This report was finalized during the 2020 COVID-19 outbreak and we are currently offering limited services via remote delivery and all faculty and staff are available via email. This report details programs and services brought to Yavapai County resident by the University of Arizona Cooperative Extension in 2019. Our program areas included 4-H youth development, animal science, agriculture, horticulture, natural resources, and family consumer health sciences. These programs provided grassroots education to 29,478 Yavapai County residents. In addition, 480 citizens served as Cooperative Extension volunteers. These valuable volunteers enhanced Extension programming by helping Cooperative Extension educators deliver relevant educational programs and information to the citizens and communities of Yavapai County. The contribution of these trained volunteers totaled 27,942 hours of service with an estimated value of \$693,800.

Cooperative Extension greatly appreciates the financial support, office space, and services provided by the Yavapai County Board of Supervisors. Yavapai County Cooperative Extension continues to leverage county contributions through collaborations with local partners and securing grant funding. With Yavapai County’s continued support, Cooperative Extension is confident we can continue to offer high-quality educational programs making a brighter future for Yavapai County residents.

Sincerely,



Jeff Schalau  
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A young peach orchard in Sedona in 1930 (Sharlot Hall Museum Archives).



### Because of Yavapai County Cooperative Extension, in 2019...

- Yavapai County Cooperative Extension **served 29,478 residents** with direct education in 2019.
- Yavapai County Cooperative Extension **volunteers contributed 27,942 hours of service valued at \$693,800** (per Independent Sector, 2018 value of volunteer of \$24.83/hr.) serving as Master Gardeners, 4-H Leaders, Food Safety Industry Council and Extension Advisory Board members.
- **185 active Yavapai County Master Gardener volunteers contributed 14,288 hours of service** to their communities reaching 6,356 consumers with science-based gardening information. In doing so, they promoted safe pest management solutions, water conservation, use of appropriate landscape plants, small-scale food production through backyard/community gardening, and other science-based horticultural practices.
- **215 youth were enrolled in Yavapai County 4-H Club Programs.** These youths were supported by fifty-five volunteer leaders and enrolled in projects which included horse, sheep, swine, goat, steer, rabbit, poultry, photography, leather craft, leadership, dog, robotics, shooting sports, and Cloverbuds.
- **340 school outreach visits** were conducted across Yavapai County to conduct STEM (science, technology, engineering and mathematics) education. **Activities reached 7,100 students** and averaged one hour in length. Activities included exploring properties of matter, the hydrologic cycle, magnetic fields, engineering design process, the earth and moon, the solar system, and Arizona agriculture literacy.
- **1,308 youth had outdoor science education experiences at the James 4-H Camp at Mingus Springs.** Located in Yavapai County at 6,500 feet elevation, the James 4-H Camp was acquired in 2011 by the University of Arizona with help from generous donors and serves as Arizona's statewide 4-H camp.
- **356 food establishment managers completed the 6-hour Professional Food Manager Class** in both Prescott and Cottonwood. In doing so they increased their knowledge of food safety principles and how to make informed decisions to reduce risk factors and the incidence of foodborne illness in Yavapai County.
- The **13-member Food Safety Industry Council (FSIC)** met 5 times during 2019 to identify and address food safety issues in Yavapai County. The FSIC is the result of a partnership between Cooperative Extension and Yavapai County Community Health Services and provides guidance and feedback to the Yavapai County Board of Supervisors.
- Cooperative Extension completed its fifth year of the **Supplemental Nutrition Assistant Program Education (SNAP-ED)** grant through the Arizona Department of Health Services. In 2019, Cooperative Extension reached **1,388 contacts in Yavapai County** with nutrition education programming, focusing on low-income families with young children and older adults.
- **Cooperative Extension continues to partner with Yavapai County Community Health Services on numerous food safety and nutrition education programs** including Yavapai Seasonal Harvest, Supplemental Nutrition Assistant Program Education (SNAP-ED), and the Food Safety Industry Council (FSIC).
- A team of Yavapai County Master Gardener volunteers created and maintained the **Yavapai County Native and Naturalized Plant Database**, an on-line database ([cals.arizona.edu/yavapaiplants/](http://cals.arizona.edu/yavapaiplants/)) which contains descriptions and multiple photos of 832 native plant species. This site is used by government agencies, schools, universities, non-profits, and other plant enthusiasts and had **99,936 pageviews in 2019.**
- **The University of Arizona Cooperative Extension, Yavapai County hired Area Commercial Horticulture/Small Acreage Agent Isaac Mpanga, in December 2019.** This agent will work with small scale farmers to research and develop appropriate technologies to manage pests and grow specialty crops on small acreages. There will also be demonstration areas at the DK Cracchiolo Ranch near Cornville.



*In 2019, our educational programs focused on:*

|   |   |
|---|---|
| <b>4-H Youth Development</b>                | 4-H youth development programs, 4-H volunteer training/support, youth leadership, Science, Technology, Engineering, and Math (STEM), and water resource education and outreach. |
| <b>Family, Consumer and Health Sciences</b> | Food safety manager certification, consumer education, food preservation, early care education, early brain development, nutrition education, and community leadership.         |
| <b>Horticulture</b>                         | Master Gardener training and volunteer support, insect and disease management, backyard food production, and consumer help desks in the Camp Verde and Prescott offices.        |
| <b>James 4-H Camp</b>                       | Educational programs offered at the statewide James 4-H Camp at Mingus Springs located in Yavapai County.   |
| <b>Livestock and Range Management</b>       | Presenting livestock nutrition, artificial insemination, livestock handling, and range management programs to ranchers, agency professionals, and interested public.            |
| <b>Livestock/V Bar V Ranch</b>              | Sustainability of grazed rangelands for ranchers and agency personnel, rangeland monitoring education, and access to technical and educational resources.                       |
| <b>Small Acreage</b>                        | Beginning farmer training and support, well owner education, invasive species management, orchard education, specialty crops, and educational resources.                        |

## Yavapai County Citizens Served in 2019 by Program Area

| Program Area   | Educational Outreach | Office Contacts* | Totals        |
|--|----------------------|------------------|---------------|
| 4-H Youth Development  | 270                  | 2,248            | 2,518         |
| 4-H Science, Technology, Engineering, and Mathematics (STEM) | 7,100                | 34               | 7,134         |
| Family, Consumer and Health Sciences                         | 3,657                | 1,782            | 5,439         |
| James 4-H Camp   | 1,308                | 25               | 1,333         |
| Horticulture   | 4,432                | 7,356            | 11,788        |
| Natural Resources  | 321                  | 945              | 1,266         |
| <b>Totals</b>  | <b>17,088</b>        | <b>12,390</b>    | <b>29,478</b> |

\*Includes email, phone and face to face.



### Youth-Adult Partnerships

Youth-adult partnerships are the heart of the 4-H mission and a guiding principle for how 4-H leaders, staff, and volunteers work with young people. All members of a community have a role in creating a strong and healthy society. Sustained positive relationships between young people and adults support the healthy development and well-being of youth, while also benefiting adults, organizations, and communities. Youth-adult partnerships occur when:

- Young people are seen as assets to their communities as much as adults.
- Adults create ongoing opportunities for young people to share leadership with them in community settings.
- Youth contribute what they uniquely bring to the group and to the community.
- Youth and adults engage as equals in planning, implementing, and evaluating programs that shape the development of youth, as well as their communities.

### Yavapai County 4-H Office

Program Coordinator Shirley Vasovski certified and trained twelve new volunteers in 2019. Twelve community clubs within the county were led by fifty-five adult volunteers and reached over 215 youth participating in projects ranging from livestock and small stock to horse, outdoor adventures, sewing/textiles, and leadership. The clubs participated in a variety of community service projects that included food drives, serving meals during the year-end holidays, making pillow cases for hospitalized youth, and providing comfort items to heart surgery patients.

### Show and Sale within Yavapai County

The 2019 Yavapai County 4-H/FFA EXPO Show and Sale was held April 24-27 at the Prescott Frontier Days Rodeo grounds. Seventy-two items were sold at the auction. Revenue came to a total of \$74,987. Members who raised an animal or completed a project were able to sell their projects at auction. 4-H youth use their profits from the sale



Yavapai County 4-H Small stock members showing poultry at the 2019 4-H/FFA EXPO Show and Sale.



Yavapai County 4-H Horse Project members being judged at the State qualifying event.

to help fund their education and future livestock purchases. The 2019 Verde Valley Fair was held May 2-6 and was open to 4-H youth in the Verde Valley. 4-H members exhibited their projects and sold them at the Verde Valley Junior Livestock Auction. In addition, 4-H members would participate at the Yavapai County Fair Youth Livestock Show and Sale held September 5-8.

### Colorado River Small Stock Show (CRSSS)

Ninety-seven youth from ten counties participated at the Colorado River Small Stock Show held January 19-20 held in Cottonwood. Eighty-four youth attended from Yavapai, Mohave and Coconino Counties. Cooperative Extension staff provided knowledge based tests for small stock species for eighty-two youth. In addition, twelve teams participated in a quiz bowl consisting of forty eight members.

### Horse Committee

The Yavapai County 4-H Horse Committee sponsored one county horse show that allowed six members to qualify for the State 4-H Horse Show held November 1-3 in Queen Creek. The county had sixteen youth participate in horse projects.

### My Preparedness Initiative (MyPI)

During spring break, 4-H provided a week-long youth emergency preparedness workshop for ten teens using U.S. Department of Homeland Security and Federal Emergency Management Agency certified Teen Community Emergency Response Team (CERT) training materials.

### Knife Skills Class Collaboration

The 4-H program collaborated with the Family, Consumer, and Health Sciences (FCHS) program to teach adults culinary knife skills. 4-H members were used as assistants while also learning knife and cooking skills.

### County Wide Shooting Sports

Yavapai County has several county-wide shooting sports programs for 4-H youth. In 2019, seven members participated in the county-wide shotgun program; nineteen youth participated in archery; and twenty-three were a part of the rifle program.



### MoYava 4-H Camp

Eighty-seven campers and twelve adults attended MoYava Camp at Mingus Springs. The camp was open to Mohave and Yavapai County 4-H youth from July 7-11. At MoYava 4-H Camp, youth learned about forestry, wildlife, fisheries, archery, rifle, and sun safety topics. Evaluations indicated that MoYava campers gained many new skills, became more independent, increased their knowledge of natural resource management, and made lifelong friends.

### Journey: Opportunity for Leaders of Tomorrow (J.O.L.T)

The 2019 J.O.L.T was held in Heber, AZ at Camp Shadow Pines June 10-14. During J.O.L.T., teens learned and practiced teamwork, communication, and leadership skills. J.O.L.T had a total of eighty-nine youth participated including eleven from Yavapai County.

### LEGO Robotics

4-H Robotics provides hands on experience for youth in robot design, programming, and building using Mindstorm Robotics Kits and software. A Mindstorm Robotics Day Camp was provided in collaboration with Embry-Riddle Aeronautical University on November 16. Twenty youth attended the all-day event. The Robotics Day Camp at University of Arizona in Tucson was attended by four youth from Yavapai County.



Arizona 4-H members learn and demonstrating their robotics skills



### Yavapai County STEM Programs

4-H is inspiring the next generation of inventors, entrepreneurs, and problem-solvers by giving youth plenty of opportunities to try their hands at real world science. Science, Technology, Engineering and Mathematics (STEM) projects provide science enrichment opportunities connecting youth to the University of Arizona and 4-H through science outreach programs.

#### Program Goals

- Serve Yavapai County youth through STEM outreach opportunities.
- Collaborate with STEM stakeholders to strengthen STEM literacy across Yavapai County.

#### STEM Outreach

The Yavapai County 4-H Program Coordinator Sr., Stacy DeVeau, conducted 260 STEM outreach visits, in formal school settings as well as informal settings: libraries, after school and camp programs. A variety of STEM topics, including the nature of science, the scientific method and properties of matter, magnetic fields, the engineering design process, modelling lunar phases, the sun-Earth relationship and the solar system. Arizona agriculture, and water science were provided for 7,100 youth. Stacy brought the Arizona Agriculture Literacy Days program to twenty-five classes this year. The state-wide program, which includes a reading of the book *Arizona Agriculture: Bee's Amazing Adventure*, runs mid-October to mid-December. Newly participating classes received a copy of the book for their class libraries. This year, the STEM program received continued funding from the City of Prescott to support the Wild Over Water (WOW) program. WOW consists of four lessons aimed at improving students' understanding of how water moves and is used in the Earth-system: the water cycle, watersheds, groundwater, and the evolution of water-related technology and conservation. The WOW program was delivered in twenty-four classrooms this year. Additionally, a presentation on virtual water, the water footprint of our choices, was delivered to three high school classes. Stacy once again participated in the Prescott Regional SciTech Fest sharing information about 4-H and other Cooperative Extension services along with information about Earth's water and groundwater flow with an estimated 600 community members attending.

## The James 4-H Camp at Mingus Springs



Cooperative Extension  
Yavapai County

### The James 4-H Camp

**Vision:** A high quality, residential, outdoor experiential education program for youth and adults to discover, learn and grow.

**Mission:** Using the network and resources within the land-grant university system, the James 4-H Outdoor Learning Center, managed by Adam Yarnes, assists youth and adults in expanding their knowledge and experiences through connecting with nature, subject matter education, and life skill development.

The James 4-H Outdoor Learning Center provides 4-H members/agents, university clubs and organizations, local schools, and non-profits a safe, *American Camp Association* accredited outdoor learning facility. 4-H programs across the state have access to natural resources and environmental education curriculum along with other critical 4-H curricula, communication, expressive arts, health and wellness; and engage youth in finding their leadership style, while learning citizenship and life skills. The James 4-H Outdoor Learning Center vividly demonstrates the 4-H motto "To Make the Best Better" creating the context for all that awaits for Arizona 4-H Camping.

### James 4-H Camp Program Impacts

- 516 4-H participants and 999 community partners received positive youth development programming. These students gained life skills such as responsibility, teamwork, and citizenship along with STEM education and Natural Systems Sciences education.
- Participants gained a greater appreciation for the natural world.
- Participants formed lasting relationships with other campers and mentors.



Campers also engage in service projects at the James 4-H Camp to improve facilities for future campers.

- Participants learned to trust and increased their willingness to try new things.
- Participants gained a better understanding of natural resources and water/watershed issues.
- The James 4-H Camp is honored to have a community of support. In 2018 the James 4-H Camp benefited from over 220 volunteers who served more 10,000 volunteer hours. Volunteers helped with maintenance, teaching programs, medical, cooking, cleaning and so much more.
- The work of running a camp is a hard business that we could not achieve without the hard work of our volunteers. Their work has also brought camp up to a higher level of functionality from fixing trails, maintaining facilities, and adding new programming which will in turn produce dividends for the camp and the campers that come every summer.

### Notable Successes Experienced

- 100% of group leaders were satisfied with our facility and programming options and have selected to return in 2019.
- Delivered programs to twenty-two groups for a total of twenty-five weeks of programming for 1,515 participants at the James 4-H Camp at Mingus Springs.
- Zero major medical or risk management issues or reports.
- Added two new 4-H county programs and three new community partners.
- Maintained our *American Camp Association* accreditation.
- Increased the water storage capacity by over 100%.
- Expanded relationships with current and new partners.
- Completed replacing all old utility lines (gas main, water main and septic line).
- Repainted exterior of four cabins.
- Plumbed rain harvesting system for fire suppression.
- Completed a nine month grant in partnership with forest service and Dahlberg foundation for over 63K in road and watershed improvement.



Yavapai and Mohave County 4-H members learning at the James 4-H Camp.



### Family, Consumer, & Health Sciences (FCHS)

Cooperative Extension works to strengthen families, promote healthy lifestyles, wise financial decisions, and develop community leaders by taking our programs to community centers, schools, churches, and other venues to reach different audiences. These programs are conducted by University of Arizona Agriculture, Life & Veterinary Sciences, & Cooperative Extension (ALVSCE) county-based agents and campus-based extension specialists from the Norton School of Family and Consumer Sciences (NSFCS) and the Department of Nutritional Sciences (DNS). In Yavapai County, the FCHS program includes food safety, food preparation, local food systems, early childhood education, Supplemental Nutrition Assistance Program Education (SNAP-ED) and the Diabetes Prevention Program (DPP).

### Certified Professional Food Manager (CPFM)

During 2019, 356 Yavapai County food establishment managers were trained through the Prometric Certified Professional Food Managers' (CPFM) program. This nationally recognized, six-hour certification course is aligned with the 2017 FDA Food Code. The Food Safety Manager Certification is required by the Yavapai County Environmental Health Department. Cooperative Extension's training helps restaurant managers and employees increase their knowledge of food safety principles and make informed decisions to reduce risk factors and the incidence of foodborne illness. The 2019 "pass rate" for the exam was 92%. One-hundred percent of CPFM post-exam survey respondents evaluated the quality of the training as "good" to "excellent" and 96% CPFM post-exam survey respondents felt that the training materials and presentation prepared them adequately for the exam. Eighty-eight percent of CPFM participants increased their overall knowledge about food safety practices as in pre- post test scores.

### Yavapai County Food Safety Industry Council (FSIC)

The FSIC is made up of thirteen appointed members, ten of whom are industry representatives (two from each of the Board of Supervisors Districts) and three community representatives at large, as well as ex-officio members from Yavapai County Community Health Services and the University of Arizona Cooperative Extension. In 2019, the FSIC:

- Approved two new issues of the Food Safety Scoop education newsletter written by Cooperative Extension and mailed to all licensed food establishments in Yavapai County (over 1,200 establishments).
- The FSIC and the Yavapai County Board of Supervisors recognized 205 eligible licensed food establishments in Yavapai County as "Golden Plate Award" winners, indicating they had no critical violations during inspections during the year. This is an increase from 175 winners in 2018.
- Ex-Officio members Aimee Novak, UA Food Safety Education Program Coordinator, co-presented with Cecil Newell, Public Health Protection Section Manager for Yavapai County Community Health Services, about the development, history, and function of FSIC at Arizona County Directors of Environmental Services Association meeting.
- FCHS Assistant Agent Hope Wilson presented the topic about the "Hepatitis A" virus and its recent outbreaks at the November FSIC meeting.



Aimee Novak teaching Food Safety to HeadStart staff from four northern Arizona Counties.

### Food Safety Community Presentations

- Presented "Introduction to Home Canning" to twenty participants with information about how to safely preserve food at home.
- Partnered with SNAP-ED to provide the CPFM program to thirty-five lunch aides and other nutrition staff at NACOG Head Starts from four counties: Apache, Navajo, Coconino, and Yavapai.

### Community Food Preparation/Culinary Classes

- In 2019, FCHS faculty and staff continued to offer hands-on food preparation and culinary classes for community members. Classes offered throughout the year included knife skills; salads and dressings; cooking with spices; preparing seasonal produce; home canning and high-altitude baking. The classes were attended by 227 community members. Following each of the classes, attendees completed a survey: 100% of attendees surveyed rated the classes as Good to Excellent and 85% increased their level of knowledge about the class topic. Following classes with cooking demonstration, 97% of participants reported that they had increased their level of confidence level for properly using a knife and preparing fresh fruits and vegetables.
- FCHS offered Community culinary workshops throughout the year in partnership with 4-H club members and Master Gardeners. Classes include hands on activities and education on developing knife skills, cooking basics, building confidence and creativity in the kitchen
- Food Safety Education Program Coordinator Aimee Novak was invited to be a guest speaker for the Community Supported Agriculture class at Yavapai College and at the Scottsdale Culinary Festival at the Scottsdale Civic Center on April 13th & 14th. It is estimated that over 25,000 participants attended the Scottsdale event.

### Supplemental Nutrition Assistance Program Education (SNAP-ED)

The goal of the SNAP-ED program is to improve the likelihood that persons eligible for SNAP will make healthy choices within a limited budget and choose active lifestyles. Yavapai County Cooperative Extension SNAP-ED focuses on providing nutrition education to young children, their parents, and older adults through classroom and community education, food demonstrations, gardens, farmers' markets, and Farm-to-Fork initiatives. In 2019, the program entered its fifth year of the SNAP-ED grant cycle and reached a total of 1,388 contacts.

SNAP-ED nutrition education classes and activities for 2019:

- Taught a six-session adult gardening and nutrition education series called "Seed to Supper" four times and reached eighty-one participants.
- Partnered with Prescott Farmers Market, Whipstone Farm, UA Externs in Sustainability, and Yavapai County 4-H in hosting a "How to Prepare Seasonal Produce" class in Prescott and Cottonwood.
- Participated in four community sponsored events in Yavapai County.
- Conducted three Head Start family engagements.
- Successfully recruited and trained a Farmers Market Navigator for Prescott Farmers Market through partnership with SNAP-ED and Pinnacle Prevention.

In addition to nutrition education classes and activities, SNAP-ED focuses on supporting policy, systems, and environments that encourage healthy choices. In 2019, the program:

- Planted two new educational gardens: Nye Head Start Center in Prescott Valley and Cottonwood Public Library in Cottonwood.
- Conducted a follow-up in-service training for lunch aides at Northern Arizona Council of Governments (NACOG) Head Start Program from four AZ counties: Apache, Navajo, Coconino, and Yavapai. Thirteen Yavapai County Head Start lunch aides attended this training.
- Yavapai County Head Start locations submitted 172 monthly nutrition education activity reports for October 2018-November 2019 where they reported



Teaching gardening is one way people can grow their own fresh nutritious food. Cooperative Extension's SNAP-ED programs teach gardening in their "Seed to Supper" classes.

374 different activities with the children in their centers including taste tests, songs, fruit/vegetable picture cards, and circle time activities. The spent over 74 hours conducting nutrition education, accounting for 2,677 nutrition education contacts with the children in their centers.

- Trained fifteen SNAP-ED local implementing staff from six counties on the "Seed-to-Supper" curriculum.
- Served as a panel member and organized Yavapai County Master Gardeners for a hands-on gardening session at the Arizona Department of Education's Arizona School Garden Sustainability Northern Valley Workshop.
- Presented at the Early Learning Institute sponsored by First Things First, Yavapai College, and Friends of the Prescott Public Library.

### University of Arizona Cooperative Extension – National Diabetes Prevention Program

In October 2018, FCHS in Yavapai County launched a diabetes education and prevention program called *Prevent T2*, part of the National Diabetes Prevention Program (NDPP) supported by Centers for Disease Control and Prevention (CDC). *Prevent T2* is a 12-month, 26-lesson lifestyle change program with overwhelming evidence to support its effectiveness. The program reduces the risk for developing type 2 diabetes by 58% (Knowler et al, 2002), for those at high risk. Among seniors 60 years or over, the risk reduction is reported to be 71%. The NDPP focuses on healthy eating, increasing physical activity, and reducing stress. The specific goals of the program are for participants to 1) lose 5% of their initial body weight, and 2) reach 150 weekly minutes of physical activity by the end of 12 months.



HEALTHY STARTS HERE



### Yavapai County Master Gardener Volunteer Program

The Yavapai County Master Gardener Volunteer program teaches engaged citizens to become valuable horticultural volunteers in their communities. Cooperative Extension Agriculture and Natural Resources Agent Jeff Schalau taught and coordinated the 2019 Master Gardener training course in Prescott and managed the program in conjunction with Mary Barnes, Master Gardener Volunteer and ANR Program Coordinator.

Following the 2019 training session, 37 class members became Associate Master Gardeners. The training course is offered each Spring and alternates yearly between Prescott and the Verde Valley. After volunteering 50 hours, participants become Certified Master Gardeners. Each subsequent year, Master Gardeners provide a minimum of 25 hours of volunteer service and six hours of continuing education to maintain their certification. The Master Gardener Help Desks in Prescott and Camp Verde also provided science-based horticultural information to Yavapai County residents.

Yavapai County Master Gardeners also staffed ten educational displays at public events, provided 43 presentations, and two Osher Lifelong Learning Institute (OLLI) classes which reached 2,932 residents. Master Gardeners partnered with the SNAP-ED program efforts to create raised beds, install irrigation systems, and design outdoor learning spaces at schools and Head Start Centers. Master Gardeners also maintained a small landscaped area at the Camp Verde Cooperative Extension Office and partnered with the Highlands Center for Natural History to provide instructional assistance in multiple school habitats. The annual July Monsoon Madness Plant and Yard Sale provided an opportunity for Yavapai County residents to purchase and learn about using low-water-use plants. Yavapai County Cooperative Extension continues to have one of the most ambitious and successful Master Gardener Programs in Arizona.

In 2019, 181 Master Gardeners contributed 14,288 hours of volunteer service to citizens and institutions of Yavapai County. This was accomplished through direct outreach at



2019 Master Gardener course participants. After completing the course and contributing 50 hours of volunteer service, they become Certified Master Gardeners.



Master Gardener interacting with visitors in the Horticulture Department at the 2019 Yavapai County Fair.

public events, Speakers' Bureau presentations, and the Master Gardener Help Desks in our Camp Verde and Prescott offices. Educational contacts included 5,218 face-to-face, 726 phone, and 412 e-mails. Master Gardeners also provided on-site assistance and education to three community gardens, four school gardens, two museums, a hospital, and a zoo.

### Backyard Gardener Newspaper Column

ANR Agent Jeff Schalau has authored the Backyard Gardener since 1998. The Backyard Gardener is a weekly gardening column that appears in four Verde Valley newspapers (19,500 combined circulation) and has also appeared every other week in the Prescott Courier newspaper (13,000 circulation). Each column is sent out to Twitter (563 followers) and posted to the Yavapai County Master Gardener Facebook Page (857 followers). Mr. Schalau was also invited to share his weekly newspaper columns with the National Extension Master Gardener Facebook Page (80,749 followers) each week. He also maintained the Backyard Gardener web site which contains all columns written from April 1998 to the present. The site is searchable, has a chronological archive, and contains a clientele feedback form which generates many e-mail questions/comments/interactions each year. The web site contains over 1,117 columns and had 267,760 page views during 2019. This is a major marketing tool for county horticulture programs/events and the website is used extensively to answer client e-mail questions. Visit the website at: <http://cals.arizona.edu/yavapai/anr/hort/byg/>.

### Yavapai County Native and Naturalized Plant Database

Master Gardener Sue Smith continued to lead a team of Master Gardeners in maintaining and adding to the Yavapai County Native and Naturalized Plant Database (YCNNDP). Using her skills as a former eBay programmer, Sue and her team have photographed and described 832 plants on the site. The YCNNDP website had 99,936 page views in 2019. The website is located at <http://cals.arizona.edu/yavapaiplants/> and is widely used by both native plant hobbyists and professional land managers to help identify native plants.



**Rangeland Education/Livestock Nutrition**

Range livestock is the number one agricultural product produced in Yavapai County. Healthy rangelands and effective grazing management allows ranches to be profitable, productive, and sustainable. Rangeland monitoring allows ranchers, agency personnel, and interested members of the public to objectively record rangeland conditions and document rangeland trends as it relates to plant community and grazing management. Agent Jeff Schalau led Coordinated Resource Management (CRM) activities at the Yavapai Ranch near Seligman. These included a spring planning meeting (twelve participants) and fall rangeland monitoring (fourteen participants over two days). This team has been monitoring at the Yavapai Ranch since 1994 and has demonstrated exemplary collaboration between the various government and private entities involved.

Livestock nutrition is an important consideration for Yavapai County ranchers. Forage quality decreases during the winter months and cattle are usually provided with supplemental protein and energy. This supplementation provides mother cows with the nutrition to recover from calving, feed their calf, and get rebred the following cycle. A Livestock Nutrition Workshop was presented by University of Arizona faculty and other experts in Prescott on March 6, 2019 and attended by 45 ranchers.



Dr. Isaac Mpanga, Commercial Horticulture/Small Acreage Area Agent, Yavapai and Coconino Counties.

Participating youth came from diverse backgrounds and locations across Arizona.

**Small Acreage Education**

Jeff Schalau has been collaborating with Dr. Mitch McClaran since 2017 to develop small acreage farming programs at the DK Cracchiollo Ranch in Oak Creek Valley. An Area Commercial Horticulture/Small Acreage Agent search resulted in the hiring of Dr. Isaac Mpanga in December 2019. Dr. Mpanga will provide small acreage and beginning farmer education to Yavapai (80%) and Coconino (20%) County residents and he is based in the Camp Verde Cooperative Extension Office. Other Small Acreage Education programs included three Well Owner Workshops presented to 137 participants in collaboration with Extension Specialist, Janick Artiola (two in Prescott 4/16/19 and 8/19/19 and another in Black Canyon City on 8/27/19); one Beginning Farmer’s Workshop presented to fifteen participants in collaboration with Extension Specialist Russ Tronstad (Prescott, 8/8/18); and two Small Ruminant Education sessions (Prescott, 10/8/19 and 10/22/19).

Small Ruminant education classes were a new offering in 2019. Information presented was related to raising sheep, goats, alpacas, and llamas. The two 3-hour Small Ruminant classes were evaluated by participants through a retrospective assessment of knowledge gained. Participants indicated they gained knowledge about care and feeding, preventative healthcare, emergency healthcare, ration calculation, breeding considerations, and dairy/meat production.



Dr. Janick Artiola presenting during a well owner workshop in Black Canyon City.

**Natural Resource Conservation Workshop for Arizona Youth**

The Natural Resources Conservation Workshop for Arizona Youth (NRCWAY) is a five-day residential camp experience for youth ages 13 to 19 sponsored by the Arizona Section, Society for Range Management (SRM). NRCWAY was planned and delivered by a team of Cooperative Extension Natural Resource Agents, which included Yavapai County Agent Jeff Schalau. NRCWAY was held at the James 4-H Camp at Mingus Springs July 15-19, 2019. The theme was forest and range management. Twenty-eight youth attended and several natural resource professionals provided education through lectures and hands-on field experiences.



## Program Evaluation and Its Importance

During educational programs, Cooperative Extension evaluates knowledge gained, behaviors modified or new practices adopted by participants. These measurements indicate short and medium term impacts, respectively. In some cases, follow-up surveys are conducted to see if the practices adopted have improved the participant’s health or resource concern being addressed. Cooperative Extension uses these data to design and implement future programs. Below are some examples of evaluations conducted in 2019.

### Master Gardener Help Desk Survey

In 2019, email surveys were sent to clients that consulted with the help desks during the year. Clients responded and were asked about their level of satisfaction with the information they received, if the information provided was helpful, if they applied the recommended solution, and if the recommended solution was effective. 53 clients responded and the results follow. 72% of the respondents were “Extremely Satisfied” and an additional 15% of the respondents were “Somewhat Satisfied”. 89% of respondents said the information they received was helpful and they learned new information from the interaction. 85% of respondents indicated they applied the recommended solution. 69% of the respondents whom applied the recommended solution indicated it was effective and the remainder either indicated the plant in question was already dead or they needed more time to evaluate the solution’s efficacy.

### Seed to Supper Programs

Ninety-seven percent of participants that completed the series (n=81) stated that they more confident about growing some of their own food after the series and 89% indicated that they felt motivated to eat more fruits and vegetables after the series.

### Diabetes Prevention Program (DPP)

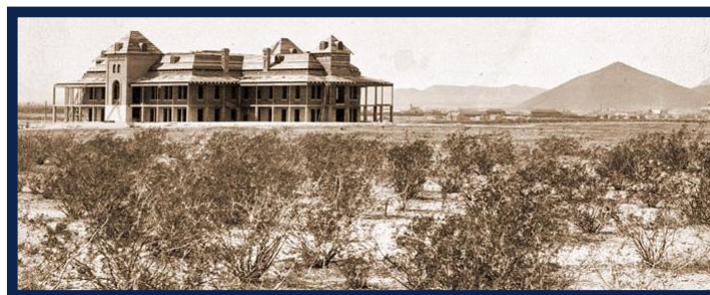
In Yavapai County, DPP participants completed the year-long DPP program in August 2019. Eighty-two percent of participants lost weight with participants losing an average of 7.5 pounds of weight (approximately 4% of initial body weight). The group as a whole lost a total of 83 pounds.

### Natural Resources Conservation Workshop for Arizona Youth (NRCWAY)

Results indicated students (n=28) increased their knowledge of rangeland and forest management, and became more comfortable and connected to the outdoors during their camping experience. Students also indicated an increased interest in pursuing a career in natural resources. Students were asked to list one new thing that they learned. While specific answers varied, 43% were forestry related and 39% were rangeland related. Some specific examples: “I learned that thinning the forest is actually beneficial”, “I learned how to monitor grasses around rangeland”, and “I learned about the ways to identify a plant.” Additional data is presented in the table below.

## NRCWAY Pre- & Post– Exam Results

| Topic  | Before Mean | After Mean | % Increase in Knowledge |
|--|-------------|------------|-------------------------|
| Forestry (forest health and inventory)                   | 1.8         | 3.5        | 94%                     |
| Fire Ecology   | 2.3         | 3.9        | 70%                     |
| The state of Arizona legislative process                 | 1.9         | 3.2        | 68%                     |
| Grazing animals forage preference                        | 2.4         | 3.5        | 46%                     |
| Rangeland management (including plant ID and monitoring) | 2.5         | 4.4        | 76%                     |



U of A Old Main under construction and the surrounding desert (1889).

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## Visiting UA Faculty & Staff—2019

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Cooperative Extension  
Yavapai County

Elisabeth Alden, Assistant Agent/FRTEP (Mohave)  
Janick Artiola, Water Quality Specialist, SWES  
Kevin Bawden, Regional Coordinator & Community Outreach Manager (Pinal)  
Andrew Brischke, ANR Area Assist Agent, (Coconino/Mohave)  
Paul Brown, Associate Director, ANR Programs  
Kim Christman, Area Assoc. Agent, 4-HYD (Maricopa)  
Mike Crimmins, Climate Extension Specialist, SWES  
Duarte Diaz, Associate Dairy Specialist, ACBS  
Madeleine DeBlois, Research Scientist, Norton School  
Jeremy Elliot-Engel, Associate Director, AZ Cooperative Extension & State 4-H Program Leader  
Josh Grace, ANR Area Assistant Agent (Apache/Navajo)  
Ashely Hall, Area Assistant Agent, Natural Resources (Gila)  
Victor Jimenez, 4-HYD Agent, Maricopa Ag Center-Pinal Co.  
John Koprowski, Director, SNRE  
Christina Lipin, Prog. Coordinator, UACE Wildcat Corps, NSFCS

Gerardo Lopez, Ext. Specialist in 4-HYD STEM, ACBS  
Mitch McClaran, Range Mgmt. Professor, SNRE  
Kim McReynolds, NR Area Agent (Cochise/Greenlee)  
Denise Moreno, Outreach Prog. Coordinator, UASRP  
Ethan Orr, UA Government Affairs, Interim County Director (Pima)  
Kathryn Orzech, PhD, SNAP-ED Prog. Evaluator, AZ Health Zone  
Amy Parrott, Area Assoc. Agent, 4-HYD (La Paz & Yuma Counties)  
Monica Ramirez-Andreotta, Assistant Professor, SWES  
Patrick Rappold, Area Associate Agent, Forest Health (Gila)  
Marie Blanche Roudaut, CLIMAS Graduate Fellow  
Ursula Schuch, Commercial Hort. Specialist, Plant Sciences  
Jeff Silvertooth, Associate Dean and Director, Extension & Economic Development  
Kara Haberstock Tanoe, Research Specialist, Norton School  
Kai Umeda, Turf Specialist (Maricopa)  
Jeremy Weiss, Extension Climate Scientist, SNRE  
Ashley Wright, Assistant Agent, Livestock (Cochise)

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## University of Arizona Cooperative Extension Advisory Board

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|                               |                                    |
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| <b>Jeanne Briggs</b>          | Board Chair, Food Safety/Nutrition |
| <b>Angela Teskey Peterson</b> | Co-Chair, 4-H Leader/Rancher       |
| <b>Shelley Blackmore</b>      | Rancher                            |
| <b>Bill Marmaduke</b>         | Master Gardener                    |
| <b>Rich Peterson</b>          | Agriculture                        |

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### YAVAPAI COUNTY COOPERATIVE EXTENSION OFFICES

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|--|---|

Web: <https://extension.arizona.edu/yavapai>

Facebook: [@yavapaicoopext](https://www.facebook.com/yavapaicoopext)

**The University of Arizona  
Yavapai County Cooperative Extension  
Faculty and Staff Members**



**Back row left to right:** Karen Pizzuto, Lisa Gerber, Mary Barnes, Pam Denney, Rebecca Serratos, Aimee Novak, Lydia Watts, Isaac Mpanga

**Front row left to right:** Stacy DeVeau, Shirley Vasovski, Jeff Schalau

**Not pictured:** Hope Wilson, Adam Yarnes

**Thank you to our community collaborators and partners.  
We appreciate your support!**

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