

# Cooperative Extension

Yavapai County

Yavapai County Report 2021



THE UNIVERSITY  
OF ARIZONA



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Helping develop local food sources through the Beginning Farmer Program



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### From the Interim County Director

The faculty and staff of Yavapai County Cooperative Extension are excited to share their work for the benefit of Yavapai County during 2021. We are dedicated to bringing science-based education and information from the University of Arizona to the residents of Yavapai County. We hope you enjoy reading this recap of the programs and use this as a resource. Currently, we are in the process of selecting a new County Extension Director/Agriculture and Natural Resources Agent. Please watch our website to keep informed of this and other important developments at Cooperative Extension.

Yavapai County Cooperative Extension program areas include 4-H Youth Development, Agriculture and Natural Resources, Commercial Horticulture/Small Acreage, and Family, Consumer and Health Sciences. Cooperative Extension provides these grassroots educational programs directly to Yavapai County residents in their communities. Educational efforts continued to be offered remotely during 2021. Due to the continued pandemic conditions, the ability to reach audiences in face-to-face settings was greatly reduced and required us to meet community educational needs via virtual means. While overall contact numbers were reduced in 2021, the faculty and staff of Yavapai County Cooperative Extension responded quickly to this shift in delivery and many programs have now reached new audiences and communities as a result.

In 2021, Cooperative Extension served 15,397 Yavapai County residents through its programs and services. In addition, 256 citizens served as Cooperative Extension volunteers. These valuable volunteers enhanced Extension programming by helping Extension faculty and staff deliver relevant educational programs and information to the citizens and communities of Yavapai County. The contribution of these trained volunteers totaled 12,486 hours of service for an estimated value of \$356,350. Cooperative Extension also benefited Yavapai County residents by providing direct assistance to other Yavapai County departments, municipalities, rural communities, and schools. Recently, Yavapai County Development Services posted a link to our website on their Facebook page, as they do not have landscape information. They excitedly reported receiving 3,173 hits to the link in one day. There are many more ways in which we can collaborate and leverage resources for the betterment of Yavapai County and its communities. We look forward to hearing from you!

Enjoy,

A handwritten signature in blue ink that reads "Patty Merk".

Patty Merk, Ph.D.  
Interim County Director





### Because of Yavapai County Cooperative Extension, in 2021...

- Yavapai County Cooperative Extension **served 15,397 residents** with direct education in 2021.
- Yavapai County Cooperative Extension volunteers **contributed 12,486 hours of service valued at \$356,350** (per Independent Sector, 2021 value of volunteer of \$28.54/hour) serving as Master Gardeners, 4-H Leaders, Food Safety Industry Council, and Extension Advisory Board members.
- **208 active Yavapai County Master Gardener volunteers contributed 11,729 hours of service** to their communities reaching **3,511** 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.
- **126 youth were enrolled in Yavapai County 4-H Club Programs.** These youth were supported by **35** volunteer leaders and enrolled in projects which included horse, sheep, swine, goat, steer, rabbit, poultry, photography, leathercraft, leadership, dog, robotics, shooting sports, and Cloverbuds.
- **107 school outreach visits were conducted across Yavapai County to conduct STEM** (science, technology, engineering and mathematics) education. Activities reached **1,715** students and averaged 1 hour in length. Lessons included hydrology, Arizona agriculture, engineering design process, and carbon cycle. Amidst the COVID-19 outbreak, programming consisted of a hybrid in-person and virtual delivery.
- **137 food establishment managers completed the 6-hour virtual Professional Food Manager Class** 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) identified and addressed 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 seventh year of the **Supplemental Nutrition Education Program (SNAP-Ed)** grant through the Arizona Department of Health Services. Cooperative Extension reached **619 contacts in Yavapai County** with nutrition education programming, focusing on low-income families with young children and older adults.
- **The Family, Consumer, and Health Sciences (FCHS) program continues to partner with Yavapai County Community Health Services** on numerous food safety and nutrition education programs including Nature Niño's, Supplemental Nutrition Assistant Program Education (SNAP-Ed), and the Food Safety Industry Council.
- **132 early care and education professionals** received training from a **Child Care Health Consultant** about health and safety practices in the childcare sites including topics such as disease transmission, oral health, and safe sleep. **143 children** participated in hands-on handwashing and oral health activities. This work is funded by the First Things First Yavapai Region.
- A team of Yavapai County Master Gardener volunteers created and maintained the **Yavapai County Native and Naturalized Plant Database**, an online database ([cals.arizona.edu/yavapaiplants/](https://cals.arizona.edu/yavapaiplants/)) which contains descriptions and multiple photos of **1443** native and naturalized plant species. This site is used by government agencies, schools, universities, non-profits, and other plant enthusiasts and had **110,586 pageviews**.
- **The Commercial Horticulture and Small Acreage (CHSA) program reached 6,603 stakeholders.** The CHSA had **327 participants** in virtual and in-person educational presentations.



***In 2021, our educational programs focused on:***

<b>4-H Youth Development</b>	Providing 4-H Club program administrative support in a pandemic environment, including enrollment management and new volunteer certification, serving Yavapai County youth through STEM education outreach opportunities, and collaborating with University of Arizona state 4-H faculty and staff to deliver STEM programming statewide
<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>Livestock and Range Management</b>	Presenting livestock nutrition, artificial insemination, livestock handling, and range management programs to ranchers, agency professionals, and the 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>Commercial Horticulture/ 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 2021

Program Area	Educational Outreach	Office Contacts*	Totals
<b>4-H Youth Development &amp; STEM (Science, Technology, Engineering, and Mathematics)</b>	1,715	685	2,400
<b>Family, Consumer, and Health Sciences</b>	2,891	5,965	8,856
<b>Commercial Horticulture/Small Acreage</b>	234	1,382	1,616
<b>Home Horticulture</b>	4,073	4,387	8,460
<b>Natural Resources</b>	167	574	741
<b>Totals</b>	<b>9,080</b>	<b>12,993</b>	<b>22,073</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 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

2021 is characterized as a “Time of Transitions” for Yavapai County Cooperative Extension and this impact has been most keenly felt within the 4-H youth development program. The longtime 4-H Volunteer Coordinator, Shirley Vasovski transitioned out of the program to spend more time with her grandchildren. Stacy Deveau, current STEM Program Coordinator, Sr., took over as Interim Volunteer Coordinator. Dr. Claire Oberst was hired as the first Associate Agent for 4-H in many years. In addition to staffing transitions, intermittent COVID protocol and precautions led to the second year of online and adaptive program strategies for our valiant adult volunteer leaders and youth. Despite these evolving situations the following events, opportunities, and connections were possible.

### Record Books

The 4-H program has a long history of recordkeeping. In 4-H, young people keep records of their activities, events, profits and losses, skill development, learning experiences, and much more using the 4-H Record Book. In October, 52 4-H members from 8 Clubs turned in 4-H Record Books for review. These record books revealed the following member projects: Breeding Goat, Breeding Market Lamb, Breeding Ewe, Breeding Doe (Sheep), Cake Decorating, Cavy, Dairy Cow, Dog, Gardening, Dairy Goat, Horse, Leadership, Leathercraft, Market Steer, Market Swine, Pigeon, Poultry, Rabbit, Rocketry, Shooting Sports, Steer, Veterinary Science, and Sewing.

### 2021 4-H Club Opportunities

- **Arizona 4-H Summit:** This was a live and live-streamed event that provided teens with an environment in which they can explore what they are passionate about and how to take the next steps to create a future around that passion. Events included the Clover Ball, Arizona 4-H Presents, and Flickr Album project.

- **SaferFoodCats High School Summer Program:** This was a 6-day virtual program that introduced youth to career pathways in food safety while learning about techniques used in real-world food safety laboratories at the University of Arizona.
- **Governor’s Youth Commission:** This was an opportunity for Yavapai County youth to participate with teens across Arizona in identifying and addressing the greatest challenges facing Arizona’s youth through innovative community impact projects, establishing partnerships with young leaders across the state, and advising the Governor.
- **MoYava Camp at the James 4-H Camp on Mingus Mountain:** The 4-H Camp was open to all 4-H members, ages 8 to 18 from Mohave and Yavapai counties. The program included swimming, canoeing, arts & crafts, archery, nature hikes, campfires, camp skills, sing-alongs, and more.
- **Arizona 4-H Military Teen Adventure Camp:** This was a 4-day adventure camp to hone mountain survival skills such as blacksmithing, archery, and hiking. This was open to Arizona military teens 14-18 years old of Active Duty, Guard, Reserve, and Retired (Veteran) personnel youth
- **Journey: Opportunities for Leaders of Tomorrow (JOLT) Camp.** JOLT is an annual summer camp experience for Arizona 4-H Teens. Young leaders from around the state of Arizona gathered at the James 4-H Camp to develop life leadership skills, hone creativity, and become agents for positive social change in their communities.
- **Ag at Home Animal Projects Webinar Series:** This series featured chickens and other poultry, beef, horses, sheep, goats, cavy, working dogs, and horse judging. Webinar recordings were also available on-demand after the initial presentation.
- **Cloverbud activities featured in our Yavapai County 4-H Newsletter** - These activities are provided by 4-H across America: Balloon Rockets, Sink or Float, Exploring Farm Animals, Let’s Grow Vegetables, Create Your Corner, Helpful Hydrogels, Wonderful World of Worms, Weather Fun, Theater Arts Adventures, Electricity, Counting Coins, and “Tastes Like” Game.



## 4-H Clubs/Activities (continued)



### National Events

2021 Virtual Citizenship Washington Focus: This is a trip to Washington, D.C. to engage with 4-H youth from across the country. Youth learn about civil discourse, informed decision-making, media literacy, ways to assess the needs in your surrounding community to identify the best ways for you to affect change, and action plan development.

### Shows

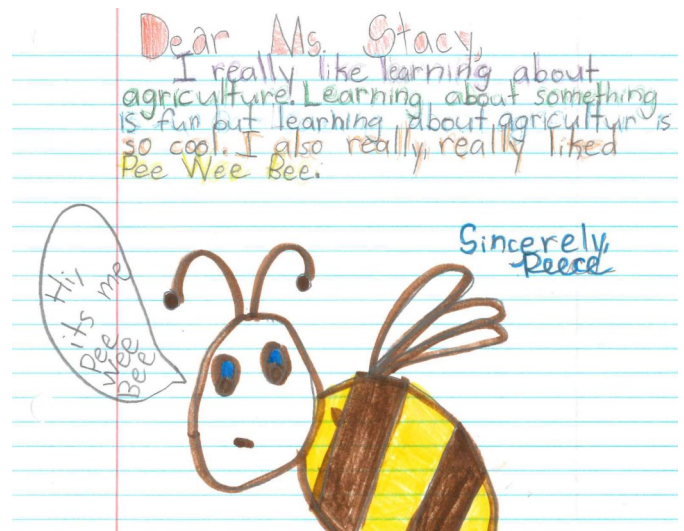
These include the Navajo County Small Stock Show (poultry, rabbit, cavy), Greenlee County Showmanship Showdown, Yavapai County Fair, Santa Cruz/Cochise Dual County Invitational Horse Show, Arizona National Livestock Show, and Arizona National Horse Show.

### Awards/Scholarship Opportunities

- The Arizona Nursery Association Foundation awards Scholarship
- 4-H Youth in Action Awards
- Nominations for the 4-H Hall of Fame, Volunteer Excellence, and Staff Excellence Awards
- Verde Valley Trust Fund Scholarship
- Prescott Western Heritage Foundation Scholarships
- Dorrance Scholarships
- 4-H Foundation Scholarship recipients from Yavapai County include Heather Norvell (Mildred and Larkin Fitch Merit Scholarship) and Jordyn Woodburn (Marge and Gene Bayless Scholarship)
- Tractor Supply Paper Clover Scholarships

### 4-H Volunteer Outreach

4-H gained 6 newly-certified volunteers in 2021; 7 more began the certification process but remain in progress. One new club was added in Ashfork and one is currently pending chartering. Fifty two member Record Books were received, reviewed, and judged.





### 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 kids to the University of Arizona and 4-H through science outreach programs in collaboration with local schools.

### Program Goals

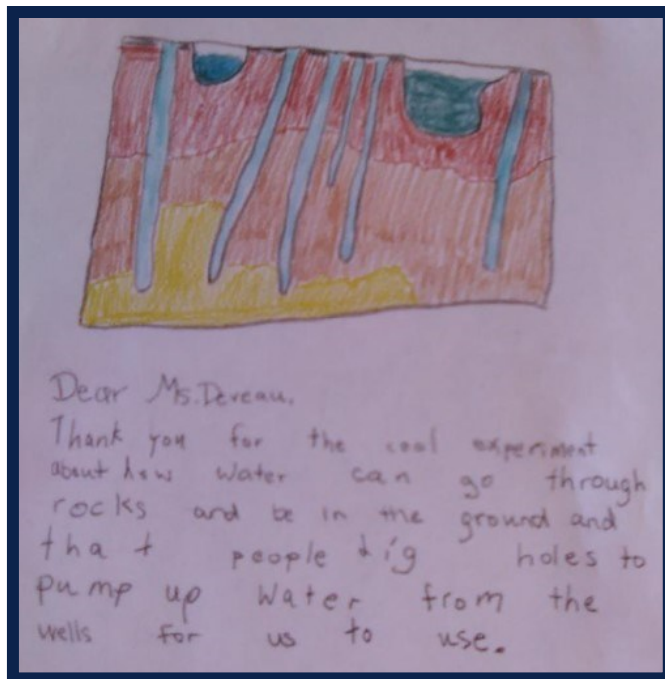
- Serve Yavapai County youth through STEM outreach opportunities.
- Collaborate with STEM stakeholders to strengthen STEM literacy across Yavapai County.
- Collaborate with UA state 4-H faculty and staff to deliver STEM programming statewide.

### STEM Outreach

Yavapai County 4-H staff attended a 3-day professional development in-service at James 4-H Camp.

Stacy DeVeau, the Yavapai County 4-H Program Coordinator, Sr., served on the 4-H Agent Search Committee, which was successful in hiring a new 4-H Agent. 4-H applied for and received an \$850 grant from the Arizona 4-H Youth Foundation to purchase 'escape room-like' kits adaptable to teaching new content, including Climate Change, Sustainability, Being Firewise, and Financial Literacy.

Stacy also conducted **107** STEM outreach events, both in formal school and informal settings, both online and in-person when conditions permitted. Programs were presented in schools, libraries, homes, and at 4-H Camp. The majority of offerings included virtual presentations: WAVE (Water Awareness Virtual Education) and Arizona Agriculture. In-person events included WOW (Wild over Water), Engineering Design Process, and Understanding the Carbon Cycle. Both WAVE and WOW consist of lessons aimed at improving students' understanding of 1) how water moves and is used in Earth's natural and urban water cycles, 2) watersheds and watershed protection, 3) water usage and conservation, and 4) water-related careers. While 2021 continued to present challenges it also provided unique opportunities to enhance program variety. Arizona 4-H faculty and staff worked collaboratively on virtual programs, including the Arizona 4-H STEM Ambassadors Project, and Curbing Our Carbon Appetite Challenge for our collective stakeholders. 2021 programs reached **1,715** youth across Yavapai County.



A letter received from a 4th grader following delivery of a presentation using a groundwater flow (illustrated above) used to demonstrate how water is pumped from the ground, how that impacts table, how recharge occurs, and how surface and groundwater are connected.

### 4-H STEM YOUiversity

- Robotics Train the Trainer 101 & 102 Workshops in Virtual format.
- Greenhouse Engineering Design & Sustainable Energy Virtual Camp.
- Greenhouse Sustainable Energy Engineering Design (SEED) Hybrid Camp.
- Augmented Reality (AR)/Virtual Reality (VR) Floating Farm Camp.
- Robotics Camp.
- Sustainable Energy Engineering Design Camp
- STEM Ambassadors – a leadership opportunity to learn and then share STEM skills.
- Tech Changemakers – a leadership opportunity for teens to learn and then share digital skills with adults and other youth in their Yavapai County communities.
- Emerging Leadership Experience - Leadership development offered by the Arizona 4-H State Ambassadors.





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

Cooperative Extension works to strengthen families, promote healthy lifestyles, make 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, Childcare Health Consultation, Supplemental Nutrition Assistance Program Education (SNAP-ED), and the Diabetes Prevention Program (DPP).

### Certified Professional Food Manager (CPFM)

In 2021, 137 Yavapai County food establishment managers were trained through the Prometric Certified Professional Food Managers' (CPFM) program. The nationally recognized, six-hour certification course aligns with the 2017 FDA Food Code. The Yavapai County Environmental Health Department requires the Food Safety Manager Certification. 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 foodborne illness incidence. The course was offered in a virtual format in 2021. 100% of CPFM post-class survey respondents evaluated the quality of the training as "good" to "excellent," and 92% of the responding participants to the post-class survey stated that they completed and passed the ProProctor online CPFM exam. 77% of CPFM participants that completed the pre and post quizzes increased their overall knowledge about food safety practices.

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

The FSIC is made up of 13 appointed members, 10 of whom are industry representatives (2 from each of the Board of Supervisors Districts) and 3 community representatives at large, as well as ex-officio members from Yavapai County Community Health Services and the University of Arizona Cooperative Extension. In 2021, the FSIC:

- Met to conduct business four times via video conference.
- Approved one new issue of the Food Safety Scoop education newsletter written by Yavapai County Cooperative Extension and mailed to all licensed food establishments in Yavapai County.
- In 2021 the FSIC and the Yavapai County Board of Supervisors recognized 279 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 205 winners the previous year.

### Community Food Preparation/Culinary Classes

- After the suspension of in-person programming, FCHS faculty and staff produced and filmed an educational culinary video series to meet requests from community members about cooking at home. These classes are designed to reinforce kitchen skills and food safety practices. In addition, participants have access to virtual cooking lessons to facilitate new ideas for meals, learn proper chopping skills, and learn new methods for preparation and storage to maximize the longevity, consumption, and safety of fresh food items. Videos were uploaded to the Yavapai Cooperative Extension YouTube site and the main Cooperative Extension site. There were **1,398** total views of culinary videos in 2021.
- In 2021, The 90-minute Introduction to Home Canning class was offered twice via Zoom with approximately 95 participants.

FCHS faculty and staff have provided technical assistance to local growers and the Prescott Farmers Market about safe food handling practices and standards of practice for producing and selling value-added products.

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

In January 2021, FCHS began the second cohort of the Prevent T2, part of the National Diabetes Prevention Program (NDPP) supported by The Centers for Disease Control and Prevention (CDC). Prevent T2 is a 12-month, 26-lesson lifestyle change program that 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 twelve months. The second Yavapai County cohort of 11 participants began the program in January 2021 via Zoom. The program had an 82% retention rate after one year. The group reported an average of 260 weekly minutes of physical activity per participant. The group of nine participants completing all twelve months of the program lost a total of 70 pounds.



Yavapai County Golden Plate Award

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

The goal of the SNAP-ED program is to improve the likelihood that residents 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 2021, the program reached a total of 690 contacts and entered the second year of a 5-year grant that began in October 2020. Due to the COVID-19 pandemic, programming focused on train-the-trainer models, providing virtual support for early education staff and parents, and shifted priorities to increased access to food through emergency food mapping, food sharing events at Head Start Centers, and promoting outdoor activities to families.

### **Nutrition Education Classes/Activities**

- Participated in 11 community-sponsored events in Yavapai County reaching (virtually engaged with) a total of 630 community members.
- Taught a 6-session adult gardening and nutrition education series called "Seed to Supper" twice via Zoom and reached 60 adults.

### **Nutrition Education and Physical Activity in Yavapai County Head Start Centers**

In addition to nutrition education classes and activities, SNAP-ED focuses on supporting policy, systems, and environments that encourage healthy choices. In 2021, the SNAP-Ed faculty and staff provided training and technical assistance to all 11 Head Start Centers in Yavapai County. FCHS faculty and staff served as trainers of the Empower 2.0 Learning Collaborative to provide 14 live, virtual learning sessions: Child Nutrition, Breastfeeding, Physical Activity, and Screen Time. FCHS faculty and staff also provided approximately 11 hours of technical assistance to Yavapai County Head Start staff. Following the training, 82% of Yavapai County Head Start centers reported meeting more Child Nutrition and Physical Activity best practices than before the training started.

Between January and May 2021, Yavapai County Head Start Centers submitted monthly nutrition education activity reports describing activities they had conducted with children enrolled at their sites. In these reports, Head Start Center staff reported that they conducted 88 different activities with the children in their centers including taste tests, songs, fruit/vegetable picture cards, and circle time activities; spent 120.3 hours conducting nutrition education, accounting for 732 nutrition education contacts with the children in their centers and 406 contacts with parents. Due to COVID-19, most Head Start sites were conducting education virtually. To provide

children and their parents with a hands-on educational activity, SNAP-Ed staff assembled and distributed 183 take-home gardening kits to Head Start families in Prescott Valley, Chino Valley, and Camp Verde. Staff also constructed 2 raised garden beds at Prescott Valley Head Start in collaboration with the Scotts Miracle National Head Start Association Garden Grant.

### **COVID-19 Pandemic Response to Increase Food Access**

Coordinated 2 "food sharing" events with donated produce from the Prescott Farmers Market and local farmers. Distributed 375 food boxes to residents of the Senior Housing site Good Samaritan Village Towers. FCHS staff also assembled and delivered 60 take-home gardening kits to residents. Partnered with Pinnacle Prevention, Prescott Farmers Market, and Manzanita Outreach to pay local farmers \$15,000 for produce that was distributed to eligible older adults in the Verde Valley as part of the Seniors Farmers Market Nutrition Program (FMNP).

### **Nature Niños**

Nature Niños is a coalition of municipal, county, and nonprofit entities launching a child, family, and community outdoor health initiative. FCHS is part of the core development team of this initiative that also includes the City of Prescott Recreation Services Department & Community Nature Center and Yavapai County Community Health Services. These partners developed an assessment tool to measure levels of trail accessibility for families with young children. This resulted in a list of Prescott's 12 most accessible trails. Each month, for 12 months, a different trail is the site of an advertised community event that features guided outdoor experiences for families with children ages 0 to 8. These events provide opportunities to promote physical activity and social and emotional well-being, options for families to enjoy the outdoors, and promote the use of the area's parks and trails to new audiences. The kickoff event took place on September 4, 2021, and 105 parents, caregivers, and children came through the 2-hour event at Granite Creek Park & Splash Pad. Four events were conducted in 2021.



### **Childcare Health Consultation**

Yavapai County Cooperative Extension became the agency responsible for the First Things First Yavapai Region Childcare Health Consultation Strategy beginning in 2021. Childcare Health Consultants (CCHC) provide consultation, technical assistance, and training to childcare centers, home-based providers, and preschools to promote safe and healthy learning environments for young children and staff.

Due to the COVID-19 pandemic, in-person visits to Quality First sites were limited. In 2021, CCHC Marissa Enderle conducted 20 in-person training sessions reaching 132 childcare professionals at Quality First sites on the following topics: Disease Transmission, Oral Health, Safety, and Safe Sleep. She also conducted hands-on handwashing and oral health demonstrations for children at Quality First sites reaching 143 children <5 years old, distributed 178 supplementary education materials (120 handouts or educational materials and 58 incentive items). She also participated in 12 virtual collaboration meetings with Quality First Coaches and childcare sites. Ninety-eight (98%) of participants that responded to post-training surveys stated that the quality of the training was excellent or good, and 62% of participants reported increased knowledge about the training topic after completing the training (n=50). 100% stated that “information I learned today will improve the health and safety of the children in my care”.



### **Early Childhood Health and Education Community Events/Education**

This grant-funded project administered by the Arizona Department of Health Services is part of a joint initiative by Nemours Foundation and the University of North Carolina to support improvements in childcare program practices and policies for healthy eating, breastfeeding support, physical activity, and screen time. This initiative utilizes the online assessment and planning tool GoNAPSACC (Nutrition and Physical Activity Self-Assessment for Child Care) to deliver the Better Together curriculum in grant-funded states to help childcare sites make health improvements.

### **Early Childhood Financial Literacy Education Library Pilot Project**

Yavapai County is one of six counties participating in the Early Childhood Financial Literacy Library pilot project that began in 2021. This project loans kits to Early Childhood Education Centers for a 2-month period. Kits include multiple copies of 6 different books. Each book includes a “Helpful Hints for Parents,” tip sheet. All books and materials are in English and Spanish. Professionals at the center were provided with instructions on how to use the materials as well as promotional materials to inform parents of the opportunity to participate.



# Master Gardeners/Home Horticulture



Cooperative Extension  
Yavapai County

## 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 (ANR) Agent Jeff Schalau taught and coordinated the 2021 Master Gardener training course via ZOOM to 27 Yavapai County residents, each earning the title Associate Master Gardener.



Master Gardener volunteer class plant identification field trip to Sharlot Hall Museum, the only non-Zoom session in 2021.

In 2021, 147 master Gardeners were recertified (completed the required minimums: 25 volunteer and six continuing education hours). Also, 17 Associate Master Gardener Volunteers completed their required 50 hours to become certified Master Gardeners. The 208 active Master Gardeners contributed 11,729 volunteer hours in a variety of ways, even with the challenges of social distancing and other CDC best practices.

The Master Gardener Help Desks in Prescott and Camp Verde provided science-based horticultural information for a total of 1,582 contacts, 67% of which were via email monitored from homes. Master Gardeners delivered 60 presentations to the public, many via Zoom, with a total attendance of 1,276. Many of the presentations were recorded and those YouTube videos resulted in 666 views.

Horticulture information was provided at the Prescott, Chino Valley, and Verde Valley Farmers' Markets and the Yavapai Fair, reaching a total of 1,575 people. Following COVID protocols, Master Gardeners supported landscapes/gardens at many locations in the county, some being:

- Greenhouses at the Prescott VA and Yavapai College
- Museum grounds (Sharlot Hall in Prescott, Heritage Museum in Sedona)
- Red Rock Ranger Station
- Heritage Park Zoo Garden
- Montezuma Well
- Community Nature Center
- Highlands Center for Natural History

- Monarch Butterfly Garden in VOC
- Grow Food in Your Backyard Mentor program
- Schools (Abia Judd Elementary School and Primavera School in Prescott)
- Yavapai College
- Community gardens in Prescott Valley and Cottonwood
- City of Sedona Landscape Project

The Yavapai County Master Gardeners held two plant sales for Master Gardeners in 2021. They were not open to the public due to COVID restrictions.

## Website and Social Media

The Yavapai Gardening webpage had 5,751 hits. During COVID, the use of social media to reach and educate clientele was increased. Master Gardeners posted information on a wide range of horticulture topics on their Facebook page multiple times a week generating 1,698 followers. The number of people reached on a single day in November was 11,826. Before his retirement, Jeff Schalau's Backyard Gardener column had a Twitter following of 719.

## National Exposure

ANR Agent Jeff Schalau authored the weekly **Backyard Gardener newspaper column** from 1998 until his retirement in July 2021. The archived articles are still available, are accessed nationwide, and generate queries to Yavapai County Extension offices. Jeff posted thirty of those articles on a national Extension Facebook site. They cover a variety of horticulture topics and often come up on a Google search. In 2021, those columns generated 327,209 page views. <http://cals.arizona.edu/yavapai/anr/hort/byg/>.

The **Yavapai County Native and Naturalized Plant Database** was created and is maintained by Yavapai County Master Gardeners under the leadership of Sue Smith. The database is unique in that it uses common terminology, contains photos of different plant characteristics (leaves, flowers, stems, bark, etc.), and is searchable by several plant attributes. A small team of Master Gardeners meet monthly to review and add plants; 99 species were added in 2021. The site generated 110,586 page views in 2021. The website is located at <http://cals.arizona.edu/yavapaiplants/> and is widely used by both native plant hobbyists and professional land managers.

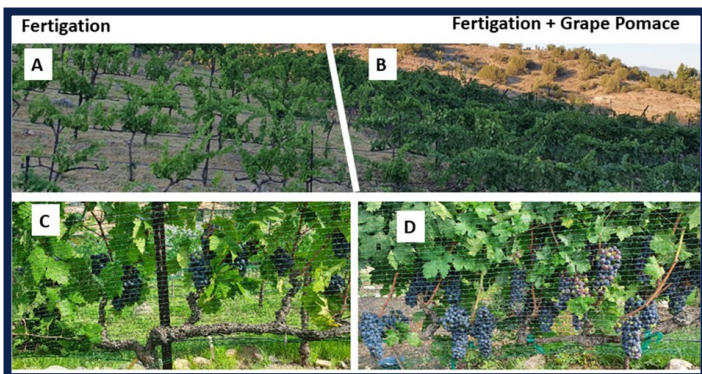


Homepage of Yavapai County Native and Naturalized Plants.

## Program Goal

The Commercial Horticulture and Small Acreage (CHSA) program started in December 2019 to promote sustainable local food production in Yavapai and Coconino Counties by supporting commercial growers with science-based research through extension programming.

In 2021, the CHSA program reached 6,603 stakeholders through emails, telephone contacts, in-person meetings, Instagram, YouTube, and ResearchGate, a 309% increase compared to 2020.



Grape pomace applied field shows good growth and yield of vineyard (right) compared to only fertigation (left) at Javelina Leap Vineyard, Cornville, AZ. (Picture by Dr. Isaac Mpanga)

## Grape Pomace Special Talk

A special presentation was given virtually on using grape pomace as a soil amendment to encourage local vineyards to recycle the waste from the wineries as a soil amendment by composting or solarizing. Eighty-five stakeholders registered for the online event. Thirty-five were able to attend, while the rest listened to the recording later. The local farmers such as Page Springs and Javelina Leap vineyards started using the grape pomace as a soil amendment in their vineyards instead of throwing it into the landfills as waste.

## Small-scale Farmers Colloquium (SFC)

Due to the COVID-19 outbreak, which limited in-person meetings, SFC was started in 2020 and continued in 2021 as an alternative way to reach stakeholders with science-based information. Six monthly meetings were held online with farmers and faculty presentations on diverse topics. A total of 177 stakeholders attended the sessions, which is a 39% increase compared to 2020 attendance. Ninety-six percent (96%) of those who participated at the SFC indicated they gained knowledge from the meetings, and 79% said they would use the knowledge gained on their farm.

## Regenerative Agriculture Field Day

A field day was organized at Whipstone Farm in Paulden and Bent River Farm in Clarkdale to discuss soil health practices (cover crops, manure), silvopasture, high tunnels production systems, etc. Sixty-five farmers attended the 2-day events in

both locations with zeal and enthusiasm. One hundred percent (100%) of the participants said they gained knowledge due to participating in the field day, with 95% indicating they will implement the knowledge gained in their operations.

## Beginner Farmer Apprenticeship Program (BFAP)

Beginner farmers are hungry for field experiences to help them succeed in the new farm's operations. The BFAP started in 2021, where new farmers are paired with experienced local farmers to gain experience and complete online classes for theoretical learning. Two new farmers enrolled in the program, participating in 128 hours of on-farm training at Schaffer Farm, Bloomingreed Farm, Clear Creek Vineyard, and Southwest Wine Center) in Yavapai County. There were 18 hours of online classes on basic soil science and crop production topics, and 5 hours of participation in the monthly Small-scale Farmers Colloquium with a final report completing the experience. Participants were awarded certificates of completion after the final submission of their project report. The program was very successful, with the 2 new farmers starting their farms and applying the knowledge gained directly.

## Research and Extension Funding: Grant Awards

Dr. Isaac Mpanga received 2 federal grants from the National Institute of Food and Agriculture and Natural Resources Conservation Services totaling \$1,729,388. Until leaving for private industry in January, 2022, he served as Project Director for the 2 projects. The projects aimed to provide small-scale farmers with local research and extension data on soil health, water conservation, and sustainable agriculture with climate-smart focused activities in Northern Arizona and other parts of the state and beyond to boost sustainable local food production. In these projects, all research and extension activities are going to be done in close collaboration with the local farmers in their fields. They are now administered by Dr. Judith Brown at the University of Arizona in Tucson and workshops are offered virtually.

## Publications

Publications are part of research and extension programming that always makes resource materials available to growers and other stakeholders. This is especially needed in a pandemic situation as we have now where in-person meetings are limited. Eleven publications were completed with four peer-reviewed journals articles, four peer-reviewed factsheets, and three abstracts. For more information on publications, visit:

<https://www.researchgate.net/profile/Isaac-Mpanga>.



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## Visiting UA Faculty & Staff—2021

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Cooperative Extension  
Yavapai County

**Janick Artiola**, Water Quality Specialist, SWES  
**Andrew Brischke**, ANR Area Assist Agent, Coconino/Mohave Cos.  
**Duarte Diaz**, Associate Dairy Specialist, ACBS  
**Jeremy Elliot-Engel**, Associate Director, AZ Cooperative Extension & State 4-H Program Leader  
**Josh Grace**, ANR Area Assistant Agent, Apache/Navajo Cos.  
**Betsy Greene**, Extension Specialist, Equine/Horse  
**Ashely Hall**, Area Assistant Agent, Natural Resources, Gila Co.  
**Mitch McClaran**, Range Mgmt. Professor, SNRE  
**Denise Moreno**, Outreach Prog. Coordinator, UASRP  
**Monica Ramirez-Andreotta**, Assistant Professor, Soil, Water, and Environmental Science  
**Ursula Schuch**, Commercial Hort. Specialist, Plant Sciences  
**Russel Tronstad**, Distinguished Outreach Professor and Extension Specialist, Agriculture and Resource Economics  
**Kai Umeda**, Turf Specialist, Area Agent, Maricopa County

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## University of Arizona Cooperative Extension Faculty and Staff

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## University of Arizona Cooperative Extension Advisory Board

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

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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)

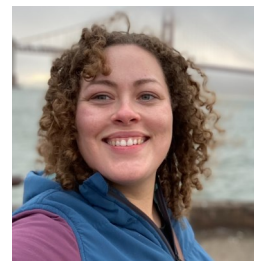
YouTube: [UAArizona Yavapai County Cooperative Extension](https://www.youtube.com/UAArizonaYavapaiCountyCooperativeExtension)

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

## Administration



## Family, Consumer and Health Sciences



## Agriculture and Natural Resources



Coming soon!  
Agriculture and  
Natural  
Resources Agent



## 4-H Youth Development



Thank you to our community collaborators  
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THE UNIVERSITY  
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