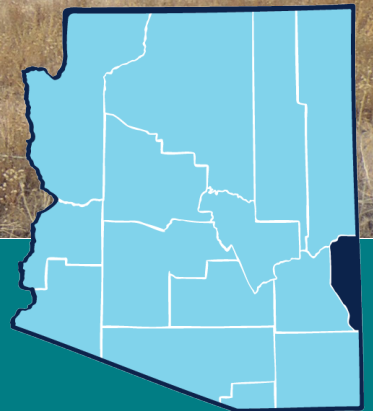




Cooperative Extension
Greenlee County



ANNUAL REPORT 2024

Greenlee County Cooperative Extension

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

Greenlee County Cooperative Extension

2024 Annual Report



Photo Credit: Savanna McReynolds, AmeriCorps

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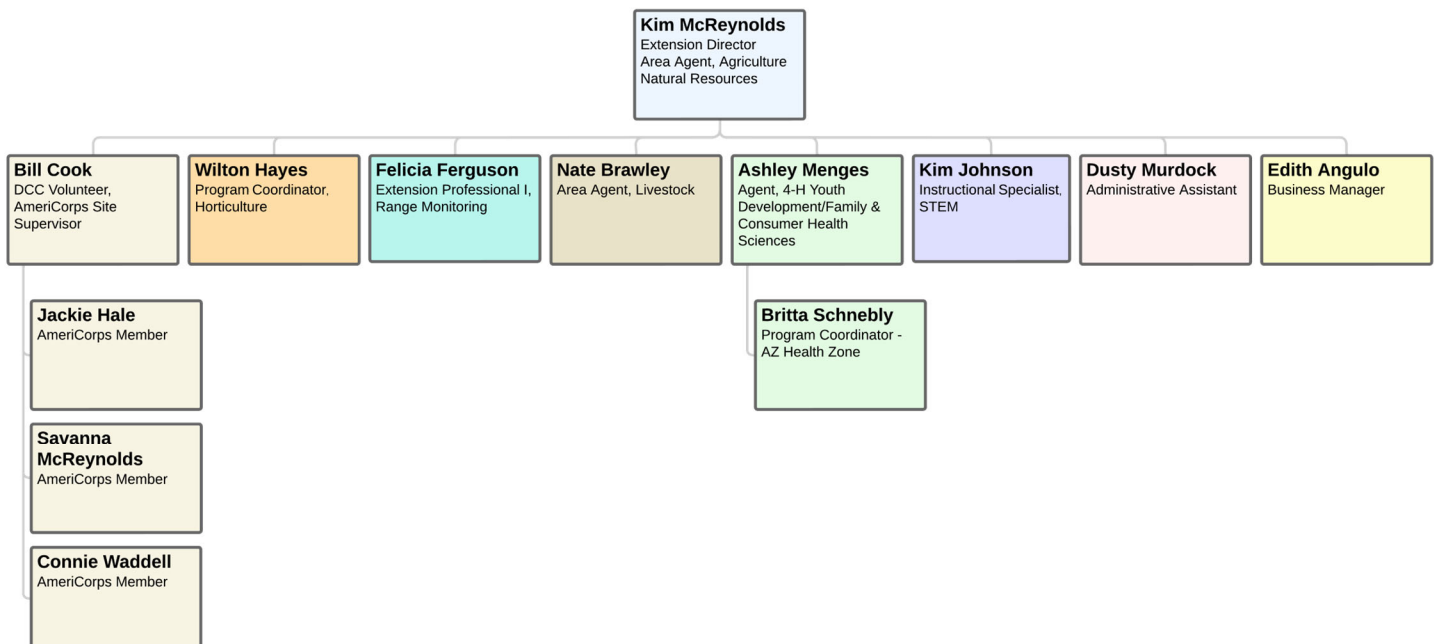
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Greenlee County Cooperative Extension Organization

Greenlee County Cooperative Extension is an Extension Unit of the University of Arizona housed under the Division of Agriculture, Life, and Veterinary Sciences and Cooperative Extension. We are located in the Greenlee County South Annex Building in Duncan.



2024 Greenlee County Cooperative Extension Organization Chart



Greenlee County Cooperative Extension Advisory Board

Per ARS Title 3, the Greenlee County Board of Supervisors appoints our Greenlee County Cooperative Extension Advisory Board members. Our Advisory Board meets three times a year. They provide essential input to help us achieve our program goals. Per University of Arizona guidance, external advisory boards are not governing bodies, but they do provide direction, and help build networks and partnerships.

Members	Term Expires
Frank Downs, Chair	6/30/2025
Sabrina Dumas	6/30/2025
Shanna Holguin	6/30/2026
Martha Lujan	6/30/2026
Dean Lunt	6/30/2025
Sam Lunt	6/30/2025
Jeff Menges	6/30/2026
Tom Powers, Vice Chair	6/30/2025
Matt Reynolds	6/30/2025

Retiring Members

Steve Ahmann
Sarah Ellington
Megan Kelly
Robert Lunt



Agriculture and Natural Resources

Agriculture and Natural Resource Agents and Staff deliver research-based information to stakeholders and producers in Natural Resources, Noxious Weeds, Rangeland Management, Livestock, and Horticulture.





Noxious Weeds

The spread of state and federally listed noxious weeds on public, state trust, and private lands threatens biodiversity and native plant species, decreases forage and habitat for domestic and wild animals, and causes economic hardship for landowners. Invasive species in the United States are estimated to cause damages of \$137 billion annually, with non-native invasive weeds making up \$34 billion of that amount (Montana State University, Extension Agricultural Economics). Southeastern Arizona has relatively small infestations of noxious weeds compared to other areas in the West. This continues to give us a unique opportunity to be proactive and control weeds so that it doesn't become economically prohibitive. There are significant infestations of Russian Knapweed, Whitetop, Yellow Starthistle, Malta Starthistle, and Sandbur in Greenlee County.

Landowners who attend a noxious weed workshop or watch a video are able to identify noxious weeds that are growing in the county. Participants are trained in the proper treatment and disposal of noxious weeds, including sprayer calibration, and complying with herbicide labels.

1 Noxious Weed Workshop was held in the Spring. **100% of participants** listed one thing that they intend to implement as a result of the workshop.

Work on **3 grants** continued:

- “Integrated Weed Management Demonstration Areas at Duncan High School” engaged **26 students** in monitoring Russian Knapweed infestations following treatments. **(\$2,500)**
- “Investigating Temperature Tolerance of Stinknet Seedbanks” demonstrated that Stinknet can tolerate the cold winter temperatures found in the Duncan Valley. **(\$1,300)**
- Field trials were conducted to evaluate the efficacy of a new herbicide to use with the “Control of Sandbur Grass in Pastures Along the Gila River” grant. **(\$18,259)**

Approximately **3,000 acres** were inventoried, monitored and treated for noxious weeds by **55** landowner cooperators.

Kim McReynolds, Agriculture & Natural Resources Area Agent works with private landowners and local, state, and federal governments to address agricultural and natural resource issues in the county.



Rangeland Management

Rangelands are important to society for the goods and services they produce and for the ecological services they provide (Society for Range Management). There is a need to balance livestock grazing with natural resources. This is especially important as livestock producers have been reducing and managing herds as a result of drought conditions for the last two plus decades. Workshops are held that teach various subjects relating to rangeland management, monitoring, livestock nutrition, and other identified needs requested by clientele. Work is done collaboratively at both the local and state levels in partnership with ranchers, US Forest Service (USFS), and Natural Resources Conservation Service. USFS grazing allotments are monitored for long-term soil and vegetation trends.

Ranchers and land management agency personnel have a better understanding of rangeland management and monitoring. Long-term rangeland monitoring data is available for USFS permittees and for federal employees to use in resource analysis.

37 Sites on 7 USFS allotments were monitored. Monitoring reports were prepared for each allotment and given to agencies and ranchers. Felicia Ferguson, Range Monitoring Specialist conducts the majority of this work.

An additional **\$70,000** was obtained in a grant to support the monitoring program in southeastern Arizona.

Read and recharged **8 remote rain gauges** from Duncan to south of Alpine twice during the year and input data into my RAINge log (<https://myraingelog.arizona.edu/>).

1 regional Range Livestock Workshop was held. **2** interactive presentations were made by this Agent during the workshop, *Common Grama Grasses in Southeastern Arizona* and *Understanding Ecological Sites and State & Transition Models*.

Kim McReynolds, Agriculture & Natural Resources Area Agent works with private landowners and local, state, and federal governments to address agricultural and natural resource issues in the county.



Livestock

Livestock production is economically important in Greenlee County. According to the Greenlee County Agricultural Economic Impact Study done in 2020 by the University of Arizona, Greenlee County “is a livestock-dominant county by value of sales, with 75% of county agricultural cash receipts from livestock”.

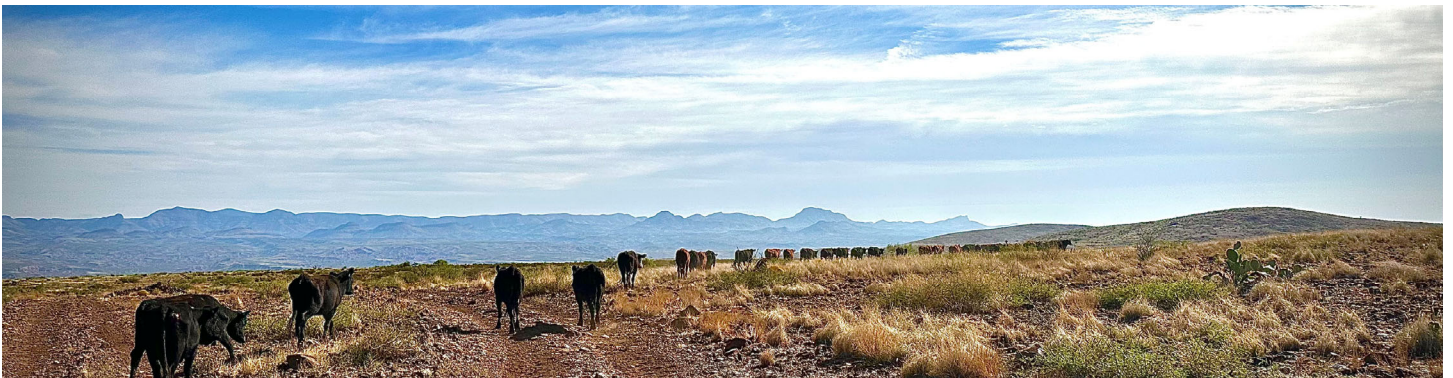
2024 was a busy year with various programs going on that directly impacted beef producers in Greenlee County. With the absence of needed Extension Specialists at the University, the livestock and range agents have had to be more active throughout the state in the different programming that is going on.

2 Artificial Insemination Clinics were held for statewide participants.

1 Beef Quality Assurance (BQA) Workshop and Certification was held at the Blue School.

1 BQA Transportation Class for statewide producer association.

Taught the **Livestock Station** for youth and adults at the Greenlee County Ag Day.



Nate Brawley, Livestock Agent focuses on livestock health and reproductive improvement primarily in beef cattle, but also assists in other classes of livestock when needed.



Horticulture

There is increasing awareness among researchers and health practitioners of the potential health benefits derived from gardening activities (Soga, M., Gaston, K. and Yamaura, Y, 2017). Previous studies have shown that gardening increases individual's life satisfaction, vigor, psychological well-being, positive effects, sense of community, and cognitive function. Reductions in stress, anger, fatigue, depression and anxiety symptoms have also been documented.

Horticulture, specifically home gardening education, was identified as a needed program in Greenlee County in 2011. This program helps to educate participants on a wide variety of horticultural topics including plant selection, pest identification, watering and irrigation systems, and general horticultural concerns.

While there was no horticulture program coordinator during the first ten months of the year, volunteers and AmeriCorps members were able to provide some programming.

3 workshops were held:

- Pruning Fruit Trees (B. Cook)
- Propagation (B. Cook)
- Seed Saving (J. Hale)

299 volunteer hours were recorded by adults and youth, **valued at \$9,589**.

11 new gardening videos were produced and uploaded to the UACE Greenlee YouTube Channel.

120+ videos had **101,861** views in 2024.

Grafting classes were held for students at Duncan High School, Cochise County Master Gardener class, and San Carlos Apache Tribal Extension.





Youth Development

Greenlee County 4-H creates developmental experiences for youth so that they become resilient, competent, and contributing citizens of our communities. Our program serves youth ages 5 to 18 through participation in clubs, specific project areas, educational and social events, service, and career exploration. Competitive opportunities arise at a county, state, and national level. The 4-H program is delivered through the traditional club program model as well as through in school programming.

Greenlee County Cooperative Extension offers STEM (Science, Technology, Engineering, and Mathematics) programming for students and other youth in partnership with Morenci Unified Schools and the Clifton and Duncan Libraries.





4-H Youth Development

Because of the Greenlee 4-H Youth Development Program:

Greenlee 4-H youth members state that through hands-on projects and activities they have learned responsibility and the importance of follow through.

Given the agricultural heritage of Greenlee County, 4-H provides an opportunity to learn the importance of animal husbandry.

Greenlee Extension hosted the 3rd annual "Ag Days" where participants learn the importance of land stewardship and how agriculture positively impacts our rural community and economy.

Agriculture reader books that the agent co-authored were distributed throughout the state. Currently reaching **15 schools**.

As a result of the 4-H program participants feel they have a supportive environment to try something outside of their comfort zone, explore new things, and find inspiration for future educational or career choices.

91% of youth who participated in state or national travel have stated that they learned about a new educational or career choice during their

trip.

4-H members identify with being comfortable speaking in front of groups.

Each 4-H member who shows at the county fair is required to do a demonstration. This year we had **42 members** deliver their demonstration in front of their peers, volunteers, and parents.

Year-end evaluations showed that over **87%** of 4-H members feel that they can identify ways to meet their community's needs.

Community Service allows members to enhance their understanding for civic leadership.

Each 4-H member is required to participate in community service.

61 youth participated in Greenlee County 4-H clubs.

We have **10** certified adult volunteers.

Volunteers donated **425 hours** of their time, worth **\$13,279**.

425 hours of community service completed by members in the program.

1 Greenlee member qualified for a National 4-H Livestock Judging Contest.

Ashley Menges, 4-H Youth Development Agent focuses on growing the 4-H program in Greenlee County, creating fun and engaging Youth Development programming, and recruiting volunteers to "Make the Best Better."

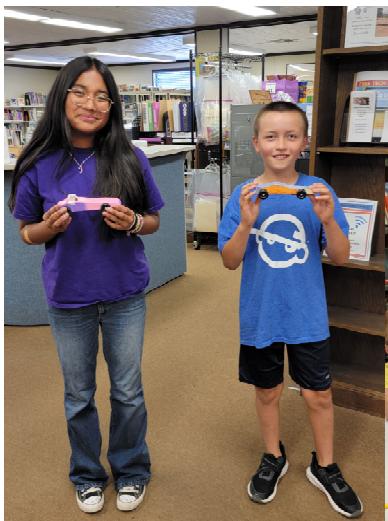


Science, Technology, Engineering, and Math (STEM)

STEM education fosters a spirit of innovation and encourages children to think outside the box. By incorporating STEM into elementary education, we equip children with the essential skills and knowledge they need to thrive in an ever-changing world. They learn to embrace challenges, experiment with new ideas, and develop creative solutions which is how we foster innovation. Early exposure to STEM concepts lays a strong foundation for future success in science, technology, engineering, and mathematics. It sparks an interest in these fields and prepares students for the demands of the modern world.

In 2024, approximately **124 Metcalf 4th grade youth** participated in **11 separate hands-on STEM activities** including a half day outdoor water festival. These activities are Animal Adaptations, Rock Cycle, Electromagnetism, Natural Disasters, Water Festival, Seismic Waves, Energy Transfer, Earth's Systems, Weather and Climate, Hurricane Towers, and Watersheds.

29 Duncan youth, ages 3-11, and 11 Clifton youth aged 8-12, participated in a summer engineering focused activity at the Duncan Public Library and the Clifton Public Library, respectively, building and competing with assorted (age appropriate) model cars.



Kim Johnson, Instructional Specialist, Sr. focuses on providing hands-on STEM lessons for 4th grade students in the Morenci School District. She also provides STEM Camps during school breaks at the Clifton and Duncan Libraries.



Family, Consumer and Health Sciences

Greenlee County Cooperative Extension's Family, Consumer and Health Sciences programs help build strong families, strong minds, and strong bodies. The Supplemental Nutrition Assistance Program-Education (SNAP-Ed) under the direction of AZ Health Zone and in partnership with the UA Cooperative Extension offers opportunities for individuals and families to increase their knowledge about healthy nutrition, gardening education, and creating a physically active lifestyle. These opportunities help to provide Greenlee County residents an overall sense of well-being.





Nutrition Education

5th Grade Garden Club

The 2023-24 5th Grade Garden Club at Duncan Elementary School officially began in October 2023, with most of the gardening activities and lessons occurring in 2024. The program is an in-school, optional gardening course offered to the Duncan School 5th grade students. The Garden Club is intended to be a stepping stone for any students interested in gardening or pursuing agricultural classes in junior high, high school, and beyond.

The program is comprised of in-class lessons, from the Junior Master Gardener curriculum, as well as hands-on gardening activities in the school garden. The students enhance their knowledge of agricultural and gardening concepts, anything from the importance of the water cycle to germinating seeds to seed saving. The hands-on experiences in the garden introduce the club members to a variety of gardening equipment, plus learning how care for and maintain a garden through activities such as building trellises for peas vines, laying down drip lines, and transplanting plants or sowing seeds.

The 5th Grade Garden Club members' hard work throughout the year culminated in assisting the kindergarten class in transplanting their peanut plants into the school garden during the annual Peanut Plant Project. The 2024-25 Garden Club has already had several gardening activities with more to come in 2025.

"Feed the Body, Feed the Mind"

In 2024, the program, "Feed the Body, Feed the Mind," for adults that combined literature and food through a grant obtained by the Duncan Public Library came to a conclusion. This second round of the focused on discovering and experiencing various cultures of the world through books and cuisine. The participants enjoyed reading books by authors from Italy, Thailand, Germany, Turkey (and Middle East), India, and Ethiopia, while learning how to make and sample recipes from those countries. The program was very well attended and savored by the participants.

Britta Schnebly, Program Coordinator for the SNAP-Ed Program focuses on nutrition and cooking skills for youth and adults. Her work with students incorporates nutrition lessons with hands-on learning in the school gardens.



Below are what some of the participants had to say about the program.

- “Mixing books with food helps you understand the cultures better.”
- “I had already been introduced to much of the cuisine and cultures, but in our rural area, it was nice for both to come to us.”
- “Cooking the food from other countries isn’t as complicated as I had thought. As long as you had the right ingredients and spices, it wasn’t hard at all. Don’t be afraid to try things!”
- “Using food from the books made me remember the books and get a greater appreciation for each culture; we experienced the stories.”

The program’s success prompted the participants to continue the book and cooking series after the grant came to an end. The program was renamed Cook/Book Club and has met almost every month since July with a book to discuss and food to eat, and will continue on into 2025.

Storytime Cooking

Story Time Cooking was an invitation from the Duncan Public Library to read a book during the regularly scheduled Storytime Hour to 3-5 year-old youth participants, then provide a food demo relating to the story content. The first Storytime Cooking happened in 2023, but was such a success, that it became a part of the library’s storytime rotation. The Storytime Cooking occurs 3-4 times per year, usually once a quarter, and has been a delicious delight to the young participants

as they learn about reading, stories, and characters, followed up by practicing their fine motor skills as they create fun and healthy treats.

For 2024:

3 Storytime Cooking events, **24 youth participants** (ages 3-5)

19 gardening activities at Duncan Public Schools (grades K-5), **170 students**, and **4 gardening activities** at Duncan Head Start, **18 students**

4 Kids’ Cooking Summer Day Camp sessions, **35-40 youth participants** (ages 6-12)

7 adult cooking/nutrition program opportunities (“Feed the Body, Feed the Mind” series, food preservation and knife skills workshops), **80-85 participants** (combined from all programs)

Greenlee County Cooperative Extension

Faculty & Staff List

Contact Us

Greenlee County Cooperative Extension
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Phone: 928-359-2261

Administrative Support

Edith Angulo, Business Manager
Dusty Murdock, Administrative Assistant

Faculty

Nate Brawley, Asst. Agent, Livestock
Kim McReynolds, Extension Director/ Area Agent, ANR
Ashley Menges, Assoc. Agent, 4-HYD/FCHS

Program Staff

Wilton Hayes, Program Coordinator, Horticulture
Kim Johnson, Instructional Specialist, Sr, STEM
Britta Schnebly, Program Coordinator, SNAP-Ed

AmeriCorps Member

Jackie Hale, Horticulture



Cooperative Extension
Greenlee County

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Edward C. Martin, Associate Vice President and Director of the Arizona Cooperative Extension System, Division of Agriculture, Life and Veterinary Sciences, and Cooperative Extension, The University of Arizona.