

University of Arizona Cooperative Extension

Greenlee County Annual Report 2020

Improving Lives, Communities, & the Economy



THE UNIVERSITY
OF ARIZONA

4-H Youth Development

Greenlee County Cooperative Extension provides youth members (ages 5-18) the opportunity to acquire knowledge, develop life skills, and to become productive members of society. During the uncertainties of the past year our county and state 4-H programs were able to adapt and provide programming through virtual platforms. Both extension professionals and volunteer staff provide educational activities, meetings, and competitive opportunities to further the mastery of knowledge and skills.

Despite the difficulty of 2020, Greenlee County 4-H was able to provide programming to the entire county, this included our members located on the Blue. In the past, due to distance, connecting with 4-H members on the Blue has been a challenge. During our Swine Project Meetings this past year, run by project leader Michele Najar and Junior Leader Gary Najar, we saw faces that we normally wouldn't see until fair. Each Wednesday youth members from Duncan, Morenci, and the Blue were able to interact with one another and Michele was able to provide them with necessary guidance. When we return to in person programming, we look forward to the continuation of virtual options so youth such as those on the Blue are still able to participate.

- *Greenlee 4-H youth members say that 4-H gives them the opportunity to develop confidence in themselves.*
- *4-H Leaders provided youth with the opportunity to develop life skills and become active members in their communities through service projects.*
- *55% of 4-H members identify with being comfortable speaking in front of groups.*
- *Over 70% of 4-H members feel that they are able to identify ways to meet their community's needs.*



- *Year-end evaluations showed that 4-H taught youth members how to contribute to a team.*
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2020 - By the Numbers:

- 30 youth participated in Greenlee County 4-H clubs.
- 10 certified adult volunteers.
- Four youth selected to attend Leadership Washington Focus Presidential Inauguration in Washington, D.C. Event was canceled due to COVID.
- 14 volunteers donated 300 hours of their time, worth \$8,160.

STEM - Science, Technology, Engineering, and Math

STEM literacy in Greenlee County took many new forms in 2020. Social distancing and limits on gatherings indoors forced our programming online. We adapted quickly and were able to identify and combine resources with educators around the state. Where resources did not already exist, we built our own, as in the case of the Earth Day Anniversary Virtual Escape Room. As youth began to struggle with too much online time for their school classes, we offered more unique projects to keep their interest such as the Augmented Reality Floating Farm project which utilized five different software programs working with 3-D modeling, game engines, and augmented reality apps. Teaching STEM was different this year, but ultimately the challenges helped to enrich our programs and widen our scope. We touched a greater variety of youth and offered new and unique projects.

Participants in STEM programs this year:



Photo 1: A youth volunteer works with a parent to check the code, while the student works on his Lego Mindstorms EV3 model for the Spring Break Robotics Coding Camp 2020.



Photo 2: Andres Aguilera (Harper 4th Grade) waits to see where his parachute lands on the Mars map for the project 4-H STEM Challenge Mars Base Camp 2020.

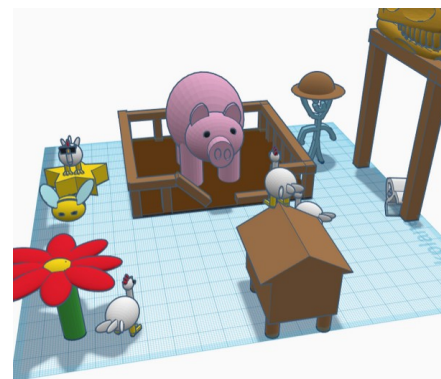


Photo 3: Gabe Clancy's (Mighty Mountain 4-H) 3-D model "Ham Bone Ranch" for the Augmented Reality Floating Farm Camp Summer 2020, using the program Tinkercad.

2020 - By the Numbers:

- 12 youth, ages 6-10, with three parent volunteers, learned Lego Mindstorms EV3 coding at an in-person spring break camp at the Clifton library, over four days, a total of 12 hours. (Pre-COVID-19)
- Created an online escape room for the 25th Anniversary of Earth Day that has been visited 47 times. This was the first in a series of five natural resources themed escape rooms (soon to launch).
- 22 youths from six different counties and FRTEP programs participated in an online, statewide Robotics CoderZ camp for 4 weeks during the summer. Three Greenlee County youth enlisted to teach their peers totaling 210 hours of participation.
- Participated in train-the-trainer workshop for Augmented Reality Floating Farm Virtual Camp, and then supported six youth leaders running the 6-week camp for 12 youths from across the state totaling 144 hours of instruction.
- Three adult educators from Greenlee County participated in a virtual train-the-trainer session to teach students an online project for 4-H STEM Challenge-Mars Base Camp, totaling 15 hours of volunteer instruction.
- 19 4th graders launched the 4-H STEM Challenge Mars Base Camp Project online and in-person at Metcalf Elementary, as the first participants in our state.

Nutrition and Physical Activity Education

In 2015, a focus group was held in Greenlee County, comprised of various community members and representatives. Educating individuals and families within the community on health, nutrition, and fitness were identified as a priority. The Supplemental Nutrition Assistance Program-Education (SNAP-Ed) is able to promote healthy nutrition and a physically active lifestyle for residents of our communities. The SNAP-Ed program works in concert with the AZ Health Zone, a public and private partnership led by the Arizona Department of Health Services (ADHS) Bureau of Nutrition and Physical Activity, which partners with the University of Arizona Cooperative Extension.

- *An active School Health Advisory Committee (SHAC) is in place at Duncan Elementary School. The committee's role is to help revise and implement their Local Wellness Policy, and to promote a healthy environment for the students and staff. The SHAC has been instrumental in starting a walking club, sponsors runs, encourages activity between subjects in the classroom, and working to improve recess and teacher wellness facilities.*
- *Direct Education takes place at the Duncan Head Start, Duncan Elementary School, and county libraries to increase knowledge on nutrition, gardening, and physical activity.*
- *The KIDZ Cooking Club, a summer program in cooperation with libraries, promotes good nutrition for youth in Clifton and Duncan. This year the program was held virtually. Participants learned new cooking skills and healthy eating habits. Participants were able to pick up supplies and cook meals at home by following tutorial video.*



2020 - By the Numbers:

- Two in-person gardening classes at Duncan Elementary, grades 3-5, approximately 65 students.
- Virtual summer Cooking with Ms. Marla classes, nine classes, total of approximately 35 youth participants.
- Two in-person physical activity lessons with grades 1-2, approximately 40 youth.
- Two school board meeting presentations.
- Two School Health Advisory Council meetings.

Program Responsibility: Marla Lunt, Ashley Jeffers-Sample, Britta Schnebly

Horticulture

Horticulture, specifically home gardening education, was identified as a need 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. Associate Master Gardeners agree to volunteer time back to the program through a variety of opportunities.

- *Area gardeners who participated in gardening classes and online instruction now have the knowledge and skills to properly care for their gardens and trees.*
- *Students in the Duncan Unified School District learned how to grow vegetables, graft fruit trees that are planted at the different school sites, and use and maintain a greenhouse used to grow plants.*
- *Up on the Blue, nine students and 10 adult community members learned to graft fruit trees and manage them for fruit production.*
- *Three AmeriCorps members provided assistance to the seed libraries, school programs, online content development and in preparation of monthly gardening classes.*
- *Production of several gardening videos that are posted to YouTube have increased the availability of educational opportunities for people who are not able to make classes in-person.*
- *Monthly newspaper articles disseminate gardening information to county residents.*



2020 - By the Numbers:

- 766 horticulture inquiries were provided gardening information.
- 1454.75 hours were recorded by volunteers, valued at \$39,569.
- 29 structured lessons were presented to 309 adults and 223 youth.

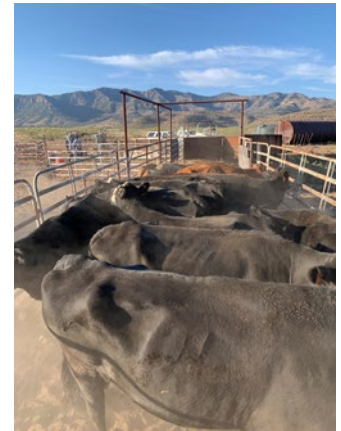
Program Responsibility: Bill Cook

AmeriCorps Members: Skylar Jones, Britta Schnebly, Paulette Dutcher

Livestock Production

Livestock production is an important aspect to Greenlee County. In fact, 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 and 25% from crops”. The beef industry has been impacted by COVID-19 and as an Extension Office we have made it our goal to positively impact the beef industry in Greenlee County.

- *Farm, Home and Ranch Day*
 - *Producers learned how the immune system reacts to vaccinations and booster shots.*
- *Range/Livestock Statewide Workshop*
 - *Producers listened to industry professionals about the latest technology available to them, along with trace minerals, vaccination protocols, and proper nutrition.*
- *Navigating the Beef Industry Amongst COVID-19 Webinar*
 - *Producers learned from Arizona Cattle Growers Association President Billy Elkins and Arizona Department of Agriculture Director Mark Killian about how the Arizona beef industry has been affected by COVID-19.*
- *2020 Monsoon and Climate Outlook*
 - *Producers were given information about the 2020 Monsoon season and what was predicted for the winter weather patterns.*
- *AZ/UT Reproductive Webinar*
 - *Livestock producers listened to professionals from the UA and Utah State University about the variables of cow reproductivity and some of the diseases that affect a cow's reproductive ability.*
- *Greenlee County Agricultural Economic Impact Study – A study done by the University of Arizona to see what impact agriculture has on the economy.*



2020 - By the Numbers:

- Over 130 producers were reached via Zoom and in-person training on various aspects of the beef industry.
- 10 ranch visits.
- Progressive changes implemented by producers including different marketing strategies.

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 and Malta Starthistle in Greenlee County.*
- *Landowners who attend a 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.*
- *Coordinated community efforts will reduce the number of acres infested with noxious weeds.*



2020 - By the Numbers:

- A video was made on the identification and control of noxious weeds and uploaded to the county Cooperative Extension YouTube Channel. 23 views in 2020.
- 1,322 acres were inventoried or monitored for noxious weeds.
- 46 cooperators treated 4,220 acres of noxious weed infestations of Russian Knapweed, Yellow and Malta Starthistle, and Whitetop with grant funded herbicide.

Program Responsibility: Kim McReynolds

Rangeland Management

Rangelands are extremely important to society for the goods and services they produce and for the ecological services they provide. 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 20+ years. Work is done collaboratively at both the local and state levels. In partnership with ranchers and the US Forest Service, allotments are monitored for long-term trend in vegetation. The nutritional value of rangeland forages has been of interest for many years. While at the UA, Dr. Jim Sprinkle conducted research in central Arizona. He found several micro nutrients to be deficient in our native forages, depending on soils derived from certain parent materials.

- *Ranchers and land management agency personnel have a better understanding of rangeland management and monitoring.*
- *Long-term rangeland monitoring data is available for US Forest Service permittees to use in management decisions and for federal employees to use in resource analysis.*
- *Healthy rangelands support livestock production, wildlife habitat and other natural resource benefits for society.*



2020 - By the Numbers

- 24 sites on six Clifton Ranger District allotments were monitored. Monitoring reports were prepared for each allotment and given to agencies and ranchers.
- Three sites on the Blue were sampled for forage nutrition analysis and precipitation measurements were read at each site.
- \$40,000 was obtained in grants to support the rangeland monitoring program.

Program Responsibility: Joshua Grace, Dustin Hancock, Kim McReynolds

Greenlee County Cooperative Extension

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

Cooperative Extension Vision: Cooperative Extension is a vital national leader in creating and applying knowledge to help people build thriving, sustainable lives, communities and economies.

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

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