



University of Arizona Cooperative Extension

Cochise County Annual Report 2018

◀◀ Improving Lives, Communities, & the Economy ▶▶▶



THE UNIVERSITY
OF ARIZONA

Cooperative Extension

Cooperative Extension enjoys a rich and proud history in this country. On May 8, 2014, we celebrated the Smith- Lever Act, which established the Agricultural Extension Service, known today as Cooperative Extension. Cooperative Extension is a unique educational partnership between the U.S. Department of Agriculture, the nation's land grant universities and the county governments that extends research-based knowledge through a state-by-state network of extension educators. Working together, we recognize that we achieve much more than we can alone. While the authors of the enabling legislation for Cooperative Extension could not foresee the future, the mandates implicit within the legislation, is as applicable today as in 1914:

- **Serve Agriculture and the Public** - The Smith-Lever Act gave Extension a very broad clientele base—"the people of the United States"—yet also specified that its programs should be concerned with "agriculture and home economics and subjects relating thereto."
- **Define Agriculture Broadly** - The term "agriculture" was used in a comprehensive sense in the Smith- Lever Act and subsequent legislation to include producing, processing and marketing farm and forest products, plus those businesses and industries concerned with supplying the resources needs in the production and marketing process.
- **Enhance Human Development** - The underlying mandate is to provide educational programs for individuals and families, which will enhance human development and maximize the individual's contribution to society.
- **Meet Local Problems** - Section 8 of the Smith-Lever Act establishes the need for additional assistance in areas faced with special or unusual hardships, and

acknowledges Extension's role in working with groups as well as individuals in meeting local problems.

At the heart of Cooperative Extension is the deep rooted belief that engaging people through applied research and education will improve the quality of their lives, communities and the economy. This mission is the driving force behind 100 years of Cooperative Extension in Arizona. Our ability to be relevant in the years to come is based on our ability to listen and respond to our "customers"--the people in our communities. We value our partnerships and believe community voices are critical to success.

Today, Cooperative Extension continues its important role, serving communities and families, supporting agriculture and empowering youth to be leaders. Regardless of the program, Extension expertise meets public needs at the local level through the involvement of volunteers, partners, stakeholders, and advisory committees. Extension would not be what it is today without their dedication and service. We are most grateful for their willingness to be partners in our journey to improve lives, communities and economies.

We look forward to working with you, as together we create the next chapters of our continuing history!



The University of Arizona Cooperative Extension represents a unique three-way partnership of the federal, state and county government to provide access to the Land Grant University System to local citizens. Partners include the United States Department of Agriculture, the University of Arizona and Cochise County. Regardless of the program, Extension expertise meets public needs at the local level through the involvement of volunteers, stakeholders and advisory committees. Our roots in communities help us understand local needs and put university expertise and connections where they can make a difference - both in people's lives and in their livelihoods. Increasingly, Extension serves a growing, more diverse constituency with fewer resources, utilizing methods that are timely, relevant and cost-effective. These Extension-driven programs leverage and multiply each dollar of county and state support with additional outside funding. Included in this report are a few highlights of Extension's impact on this county and its people during 2016.

Cooperative Extension, Cochise County Faculty and Staff (as of 3/18/2019)

Evelyn Whitmer, Interim Regional Extension Director, Cochise and Santa Cruz

Mark Apel, Community Resource Development Area Agent

Jan Groth, Community Horticulture, Assistant in Extension

Kim McReynolds, Natural Resources Area Agent

Randy Norton, Agriculture Area Agent

Josh Sherman, Commercial Horticulture Area Agent

Ashley Wright, Livestock Area Agent

Cynthia Aspengren, Program Coordinator, Nutrition Education

Melanie Bargo, Accountant Associate, ASPIRE Program

Andrea Bernal, Instructional Specialist, Nutrition Education

Susan Bronson, Program Aide, Oral Health

Mary Ann Capehart, Instructional Specialist Sr., Water Wise

Rebecca Dailous, Instructional Specialist Sr., Water Wise

Rhegan Derfus, Program Coordinator, Sr, Nutrition Education

Kelly Foster, Program Coordinator, Building Healthy Communities

Dustin Hancock, Research Specialist, Rangeland Monitoring

Denise Mazanek, Instructional Specialist, Nutrition Education

Hope Neelson, Instructional Specialist Coordinator, Building Healthy Communities

Joseph (Sepp) Sprietsma, Program Coordinator, Building Healthy Communities

Christine Stuth, Oral Health Professional

Natoyah Swift, Program Coordinator, School Based Dental Program

Charlotte Taylor, Program Coordinator, Sr, Building Healthy Communities

Eric Thoutt, Program Coordinator, Sr., 4-H Youth Development

Elisabeth Tyndall, Instructional Specialist, Nutrition Education; Program Coordinator, Legacy Volunteers

Kristin Valenzuela, Extension Program Assistant, 4-H Healthy Families

Candace Weingart Selleck, Program Coordinator, Building Healthy Communities

Wendy West, Program Coordinator, Sr., 4-H Youth Development

Sharon Buono, Business Manager

Valerie Davidson, Administrative Assistant

Tricia Dunham, Administrative Assistant

Connie Forsyth, Administrative Associate

Heidy Anway, Technical Expert, Dental Assistant, on-call

Sahil Arora, Technical Expert, Dentist, on-call

Christi Clayton, Technical Expert, Dental Assistant, on-call

Mary Jean Debaca, Technical Expert, Dental Hygienist, on-call, Cochise/Santa Cruz

Claudia Garcia, Technical Expert, Dental Assistant, on-call, Santa Cruz

Mary Gilstrap, Technical Expert, Dental Hygienist, on-call, Yuma

Daisy Higuera, Technical Expert, Dental Hygienist, on-call

Ella Johnson, Technical Expert, Dental Hygienist, on-call

Cecilia Little, Technical Expert, Dental Hygienist, on-call, Santa Cruz

Alejandra Martinez, Technical Expert, Dental Assistant, on-call, Yuma

Stephanie Morris, Technical Expert, Dental Hygienist, on-call, Yuma

Patricia Quets, Technical Expert, Dental Hygienist, on-call

Jody Sharp-Webb, Instructional Specialist, Horticulture, on-call

Tatianna Siler, Technical Expert, Dental Assistant, on-call

Preslee West, Technical Expert, Dental Assistant, on-call

Linda Wright, Technical Expert, Dental Assistant, on-call; Office Assistant, on-call

AmeriCorps Members

Hal Thompson, Commercial Horticulture

Student Intern

Kristy Beerman, Nutrition Education

Extension Advisory Board

Dennis Moroney, Chair

Ron Bemis, Vice-Chair

Sandy Arevalos

Gwen Calhoun

Aaron Cardona

Barbara Clark

Julia Johnson

Alan Seitz

Patina Thompson

Nathan Watkins

Moiria White

Albert Young

Office Locations

450 S. Haskell Avenue

Willcox Arizona 85643

tel: 520.384.3594

1140 N. Colombo

Sierra Vista Arizona 85635

tel: 520.458.8278 x 2141

66 Brewery Avenue

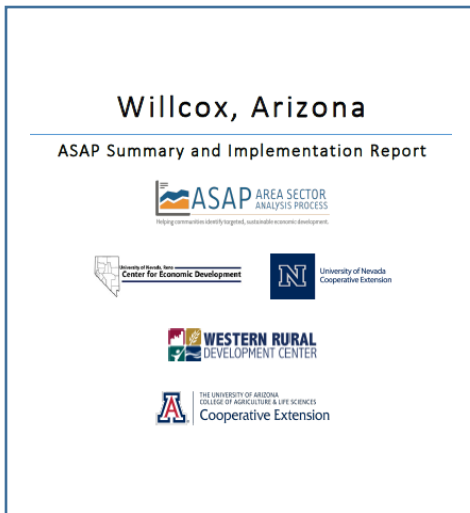
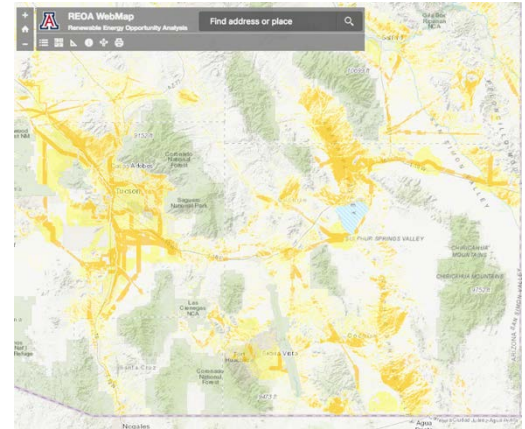
Bisbee Arizona 85603

Tel: 520.366.8148

(Friday, 9am-3pm & by appointment)

Cochise County Cooperative Extension (CCCE)'s program in **Sustainable Economic Development** helps southeastern Arizona's decision makers, planning officials, economic development interests and community organizations define and contribute to the future of their communities by becoming better informed about business and industrial sectors that are both compatible and desirable in their communities. Collaborating with the Western Rural Development Center, this program initiated the Area Sector Analysis Process (ASAP) with the communities of Willcox and Douglas in 2018. Sustainable community and economic development activities are vital to the economic and social futures of rural Arizona, and can help its residents to adapt to a changing environment.

- 13 sectors were selected by the Willcox Steering Committee for additional research and information. Detailed descriptions and compatibility criteria were provided for each of these sectors in a preliminary report and two industry sectors were finalized by consensus as their choices to pursue for economic development: Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing; and Scientific Research and Development Service.
- As Douglas's Area Sector Analysis Process finishes up in 2019, they will have a roadmap of compatible and desirable industrial/business sectors to pursue for economic development.
- Decision makers, planners, towns, county officials, utility companies, and solar developers in Cochise County and throughout the state continue to have access to an interactive [online map](#) that identifies areas of high suitability for utility-scale solar facilities, potentially saving thousands of dollars that might otherwise be spent on costly scoping and suitability studies.



2018 – BY THE NUMBERS

- ▶ Organized and facilitated 8 workshops in Willcox and Douglas using the Area Sector Analysis Process.
- ▶ 148 Community Goals surveys were completed by residents within a 30-mile radius of Willcox, AZ during spring 2018
- ▶ 197 Community Goals surveys were completed by residents in Pirtleville, Douglas and Agua Prieta.

Contact: Mark Apel
 Area Agent, Community Resource Development
 mapel@cals.arizona.edu

Water availability is one of the most important natural resource and economic issues in Cochise County. Groundwater overdraft threatens to impact the federally protected San Pedro River National Conservation Riparian Area and the headquarters of U.S. Army Intelligence at Fort Huachuca. As the groundwater table lowers, it can impact the San Pedro River (in 2000, ecotourism contributed \$17 to \$28.3 million to the local community) and reduce missions on Ft. Huachuca which contributes an estimated \$2.68 billion to the County (Huachuca 50, 2018). The University of Arizona-Cochise County Cooperative Extension’s Water Wise Program is a key educational water conservation program in the county by providing solutions that empower citizens to conserve groundwater and helps communities and the economy remain strong.



Here’s how Water Wise helps:

- *With educational events teaching citizens about drip irrigation, rainwater systems, low water landscape plants and design, good watering practices, septic care; and annual Rainwater and Xeriscape Tours.*
- *With specialized on-site home and business visits providing specific conservation actions and follow-up.*
- *By partnering with Master Gardeners, municipalities, businesses, non-profits, citizens and schools on conservation projects.*
- *Providing water conservation resources through our [website](#).*



2018– BY THE NUMBERS

- ▶ Water Wise Community Outreach educators had 1,443 direct adult contacts
- ▶ Water Wise Youth educators had 3,798 direct youth contacts
- ▶ 330 Water Awareness Month Poster entries from Sierra Vista area schools.
- ▶ Over 200 adult and youth educational events were conducted by the Water Wise Program
- ▶ 36 residences had a site visit/consultation from Water Wise
- ▶ 88% of on-site visit recipients made some conservation change on their property
- ▶ Approximately 54,000 gallons of water will be saved per year through grants from the Upper San Pedro Partnership Retail Committee grants in 2018, administered by Water Wise

Contact: Mark Apel
 Area Agent, Community Resource Development
 mapel@cals.arizona.edu

Cochise County 4-H Youth Development is an experiential learning youth education program for Cloverbuds (children 5-8 years old) and for youth, ages 9-18. Its practical life skills education in science and technology, healthy lifestyles and citizenship can reach any kid ... anywhere ... any time through 4-H clubs, camps, after-school and summer programs, educational events, and community service. We rely heavily on volunteers to reach more youth, lead educational programs, coordinate activities, and manage clubs and groups. Through engaging, hands-on experiences, young people develop specific skills that are important for jobs and careers such as leadership skills, ability to organize and lead meetings, set and achieve goals, financial awareness, and social skills. These skills arguably lead to greater physical and emotional health and educational and occupational success.

- *4-H Youth are two times more likely to make healthier choices, three times more likely to make contributions to their communities, two times more likely to graduate from high school and go to college, and two times more likely to pursue a career in science (Tufts University Study, December 2013).*
- *Through engaging, hands-on experiences, young people learn the skills and abilities to become productive adults who contribute back to the health and economic well-being of their communities. Public value: 4-H increases personal responsibility that positively contributes workplace skills and to communities.*
- *"4-H has meant a family and a support system that I can rely on no matter what. It has meant finding my passion and knowing what I want to spend the rest of my life doing. I have never felt so included or so happy doing anything else, and I love how that no matter who you ask there is always something they can find in 4-H that they can enjoy in some way. I have been a part of 4-H my entire life and I have met amazing people and gotten to be a part of amazing things. 4-H has allowed me to get involved in the community and travel to amazing places, and it has made me into the person I am today."-Current 4-H Member.*



2018 – BY THE NUMBERS

- ▶ A total of 163 demonstrations conducted during the year with 37% at the project level, 58% at the club level, 4% at the county level, and 1% other level.
- ▶ 436 youth were year long club members and 3,542 youth participated in special interest, military clubs, and school enrichment programs.
- ▶ Year end evaluations of club members show 4-H provides an environment where members can explore new ideas, take on leadership roles, and develop the 5 C's of Positive Youth Development: Confidence, Competence, Character, Caring, and Connection.
- ▶ 575 youth received 6 hours of healthy living curriculum including healthy eating habits and physical activity.
- ▶ Huachuca City Summer Camp - 36 hours a week for 8 weeks summer STEM camp. 40 1st-5th graders and 12 junior mentors.

Contact: Eric Thoutt
Program Coordinator, Sr., 4-H Youth Development
ericthoutt@email.arizona.edu

Wendy West
Program Coordinator, Sr., 4-H Youth Development
wwest@email.arizona.edu

Rangelands are 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 two 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, Bureau of Land Management (BLM), US Forest Service (USFS), and Natural Resources Conservation Service. Ranches 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 and BLM 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.*



2018 – BY THE NUMBERS

- ▶ Conducted 5 workshops or gave invited presentations on rangeland related subjects to 177 ranchers, agency personnel, and students.
- ▶ 168 sites on 57 BLM allotments and 54 sites on 20 USFS allotments were monitored. Monitoring reports were prepared for each allotment and given to agencies and ranchers.
- ▶ \$102,000 was obtained in grants to support the monitoring program.
- ▶ 2 field trials were continued to look at the cost effectiveness of mesquite control using herbicides.

Contact: Kim McReynolds
Area Agent, Natural Resources
kimm@cals.arizona.edu

Commercial beef extension programs equip cattle producers to make informed decisions regarding herd health and management, cattle nutrition, genetics and stock selection, food and product safety, economics of profitability, sustainability, and the well-being of animals and public perception of the beef industry as a whole. Commercial beef production in Cochise County is primarily composed of cow-calf operations (ranches) that utilize a variety of federal, state, and private lands for grazing cattle, several feed yards, and a livestock auction yard. There are approximately 335 cattle operations in the county raising 57,000 head of cattle. As a whole, the Cochise County beef industry contributes \$34.5 million in sales to the economy. In addition to the economic contributions, ranches maintain working landscapes and healthy rangelands that also benefit wildlife and public recreation.

- *Ranchers are better equipped to make decisions that improve herd health, develop cattle that match their forage resources, increase pounds of healthy calves produced, and enhance the value of their livestock.*
- *Properly managed livestock grazing supports healthy rangelands and wildlife habitat.*
- *Public perceptions of the livestock industry are improved by increased numbers of ranchers utilizing low-stress animal handling and consumer driven guidelines from the Beef Quality Assurance program.*



2018 – BY THE NUMBERS

- ▶ Conducted 7 workshops on topics related to livestock health and production, ranch management, and risk reduction strategies to 164 ranchers, agency personnel, and industry members.
- ▶ Workshop attendees were able to list at least one new concept they learned, and 95% indicated they intended to implement at least one new practice on their operation from the information provided.
- ▶ Certified 62 new producers in Beef Quality Assurance, a national program that emphasizes producer commitments to best management practices.
- ▶ Two issues of “Arizona Range and Livestock News” were distributed to 464 readers per issue across Southeastern Arizona.

Contact: Ashley Wright
Area Assistant Agent, Livestock
awright134@email.arizona.edu

Nutrition and physical activity education programs offered through the Cochise County Cooperative Extension promote healthy nutrition and physical active lifestyles and systems change that lead to healthier individuals and families in our communities. Our SNAP-Ed (Supplemental Nutrition Assistance Program –Education) program works in concert with the Arizona Health Zone, a public and private partnership led by the Arizona Department of Health Services, Bureau of Nutrition and Physical Activity which partners with the University of Arizona Cooperative Extension. This program serves schools, families and individuals that meet SNAP eligibility. The U.S. Department of Agriculture, National Institute of Food and Agriculture, Expanded Food and Nutrition Education Program (EFNEP) is designed to assist limited-resource audiences to acquire knowledge, skills, attitudes, and to change behaviors necessary for nutritionally sound diets, and to contribute to participant’s development and the improvement of the total family diet and nutritional well-being.



People involved in SNAP-Ed and EFNEP Programs:

- *Establish lifelong healthy behavior patterns.*
- *Are at lower risk for obesity, reducing health care costs.*
- *Have increased moderate physical activity each day.*
- *For each \$1.00 spent on the adult EFNEP program, it produced a benefit equivalent to \$10.96.*
- *Are not running out of food at the end of the month.*
- *Promote nutrition and physical activity policy in schools.*

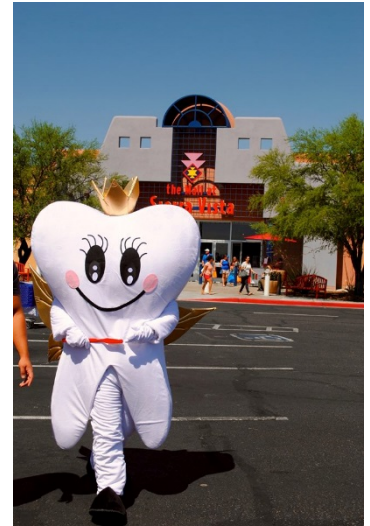


2018 – BY THE NUMBERS

- ▶ There were 14,060 youth and 475 adult participants in SNAP-Ed and EFNEP programs who received nutrition related messages.
- ▶ 222 volunteers provided 1248 hours of their time with values at an estimated \$34,352.
- ▶ \$223,249.30 in grants was obtained for SNAP-Ed and EFNEP programs for Cochise County.
- ▶ 86% of the teachers surveyed report increased student participation in physical activity and healthy eating.
- ▶ Teacher trainings have resulted in the reduction of sugary beverages in the classroom and with the help of grants, water bottle filling water fountains have been installed throughout the county.
- ▶ Collaboration among multiple organizations has resulted in the development of a county-wide system in place to assist school districts meet their wellness goals.

Contact: Evelyn Whitmer
 Area Agent, Family, Consumer and Health Sciences
 emarkee@ag.arizona.edu

To improve health outcomes for children in rural Arizona, the Cochise Cooperative Extension has developed and implemented several oral health programs. These programs are designed to educate the community on the importance of oral health, deliver preventative services and improve access to dental care. The First Smiles Oral Health Program provides oral health education, supports in-classroom tooth brushing and preventative dental screenings and fluoride varnish application for children birth to age seven. Additionally, this program provides education and prevention services to childcare providers/educators, conducts outreach to dentists and other oral health professionals, provides dental education and screening for pregnant women and coordinates referrals and care to a dental home. The Cavity Free AZ Sealant Program, running in three counties, providing oral health education and dental sealants to low-income children in the second and sixth grades, and fluoride varnish for kindergarteners. This program is school-based and operates state-wide to prevent tooth decay. The Cochise Cooperative Extension was also awarded a competitive research grant through Oral Health America, in partnership with Ronald McDonald House Charities. The Oral Health America grant is funding a two-year research study working with Head Start children. This national research study is intended to test the efficacy of an oral health model that includes oral health screenings, twice-annual fluoride varnish and the use of Cavity Free Kids parent-engagement curriculum. Fluoride and sealant prevention programs are especially important for un-fluoridated communities such as those in Cochise County. Fluoride varnish can reduce tooth decay by 37% to 63%¹ and Sealants can reduce decay in school children by more than 70%². These programs lay the foundation for a lifetime of oral health through education and prevention.



- *Children in Cochise County are receiving early prevention and intervention to reduce incidence and prevalence of tooth decay.*
- *Schools and childcare facilities are receiving education for childcare providers, children and their families.*
- *Children in the 2nd and 6th grades in low income schools are receiving dental sealants to prevent tooth decay.*
- *Children at participating childcare facilities are brushing their teeth daily. Fluoride toothpaste reduces tooth decay among children by 15% - 30%³.*

2018 – BY THE NUMBERS

- ▶ Educated 38 pregnant women, 373 adults and 1,930 children on the oral health.
- ▶ Provided 1,597 oral health screenings and administered 1,199 fluoride varnish applications.
- ▶ Provided sealants for 1,708 children in 2nd and 6th grade across 3 counties

Contact: Evelyn Whitmer
Area Agent, Family, Consumer and Health Sciences
emarkee@ag.arizona.edu

¹ Mishra P, Fareed N, Battur H, Khanagar S, Bhat MA, Palaniswamy J. Role of fluoride varnish in preventing early childhood caries: A systematic review. Dent Res J (Isfahan). 2017;14(3):169-176.

² Beauchamp, Jean et al. Evidence-Based Clinical Recommendations for the Use of Pit-and-Fissure Sealants. The Journal of the American Dental Association, Volume 139, Issue 3, 257 – 268

³ Fluoride Recommendations Work Group. Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States. Centers for Disease Control and Prevention (CDC). August 17, 2001 / 50(RR14);1-42

ASPIRE is a six state consortium that is made up from Arizona, Colorado, Montana, North Dakota, South Dakota, and Utah. Under the federal PROMISE initiative (Promoting Readiness of Minors in Supplemental Security Income), Cooperative Extension developed the curriculum and delivered programs to contribute to a 5-year case study with youth between the ages of 14 and 16 who receive Social Security Insurance through the Governor's Office. The mission of this project is to provide a number of services to disabled youth and their families and study what interventions will be most beneficial for future youth with disabilities. Cooperative Extension participates in the Arizona Component of this project and specifically worked on the self-determination aspect of this consortium. The program educates disabled youth to acquire new work and family life skills, and become the "vehicle" through which to maximize youth development through self-determination. Statewide, disabled youth attended two to six hours of training that included the topics of motivation and leadership, goal setting, making decisions, advocacy, being a good communicator and public speaking.

- *Disabled youth who experience positive youth development become adults who contribute to family, work, home and community.*
- *The PROMISE initiative offers a unique opportunity for the Western states, with diverse demographic and geographic composition, to inform federal policymakers on the results of this initiative.*



2018 – BY THE NUMBERS

- ▶ There were 119 special needs children who received the program learning self-determination skills.
- ▶ Parents were involved in the educational curriculum where we trained 72 parents.
- ▶ Hosted 107 trainings throughout the state with 214 hours of training.
- ▶ \$231,186 in grants was obtained for the ASPIRE programs for the State of Arizona.
- ▶ Parents and other adults reported that children were demonstrating the skills their children learned from the training provided to them.

Contact: Evelyn Whitmer
Area Agent, Family, Consumer and Health Sciences
emarkee@ag.arizona.edu

The Cochise Healthy Communities Initiative works to address and change the health issues throughout Cochise County. This project obtained grant funding for the next three years from the Legacy Foundation of Southeastern Arizona to specifically work on Health. Through community partnerships, leaders have developed community action "Healthy Communities" groups in each hub of the county who prioritize and resolve disparities related to health utilizing Elements of a Healthy Community that include the following: Access to health care and coverage; Affordable Quality Housing, Community Safety; Economic Opportunity; Educational Opportunity; Environmental Quality; Food Access; Healthy Community Design; Parks and Recreational Opportunities; Social and Cultural Cohesion; Social Justice; and Transportation Options. These "Healthy Communities" groups are connected to the district's School Health Advisory Councils (SHAC) to leverage resources to work together on larger health issues in the schools and their efforts. A community health assessment was developed with partner financial backing. With this assessment and through a strategic process across the county (2017) three goal areas have been identified as follows: 1. Mental Health & Substance Abuse 2. Good Jobs & Healthy Economy 3. Healthy Eating, Diabetes & Obesity.

- *Communities can make sustainable changes in their communities collectively.*
- *Leaders are advocating for environmental changes in the community to promote health, mental health/substance abuse to grow a healthy economy.*
- *Higher leadership in the county is informed and can make county decisions based on the identified needs and perspectives of these committees*



HEALTHY
COCHISE

The Cochise Healthy Communities Initiative

2018 – BY THE NUMBERS

- ▶ UACE has been awarded a grant for the next three years to fulfil the objectives of this program.
- ▶ Groups are working with the cities to further develop parks with more activity space, lighting and pathways.
- ▶ Hydration stations were strategically placed throughout Cochise County and hydration education was given out to students to increase the consumption of water.

Contact: Evelyn Whitmer
Area Agent, Family, Consumer and Health Sciences
emarkee@email.arizona.edu

The Building Healthy Community’s Project has developed citizen-led community action groups in each hub of the county who prioritize and resolve disparities related to health through sustainable policy, systems and environmental changes. These “Healthy Communities” groups are also connected to the district’s School Health Advisory Councils (SHAC) to leverage resources to work together on larger health issues in the schools and their efforts. The Federally funded hospitals (Members of the HCC) have a mandate to conduct a community needs assessment where all hospitals and other entities pooled their resources to conduct a greater assessment.

Through a strategic process across the county (2017) three-goal areas have been identified:

1. Mental Health & Substance Abuse-Create policy change to keep people with mental illness out of jails and prisons. Expand mental health wellness and substance abuse resources for everyone in Cochise County.
2. Good Jobs & Healthy Economy-Promote business growth and job opportunities throughout Cochise County. Promote tourism and cross-border partnerships and business activities for all of Cochise County.
3. Healthy Eating, Diabetes & Obesity also known as Healthy Eating-Active Living- Build and strengthen community options for healthy eating and active living. Change the cultural expectations about the definition of a good and healthy life.

- *Sierra Vista is linking transportation systems to increase medical transport, food access, shopping throughout city area.*
- *Tombstone has created their own 501-C3, they have recruited a helicopter service for emergency care, they are working on dementia education, and they have gotten AED equipment into Marshall's cars and in the tourist areas.*
- *Douglas is working with the parks department to create more city paths and lighting.*
- *Willcox is working on food access, sustainable gardens, they have written grants to sustain their gardens, they have conducted a second transportation feasibility study, and they are working on bringing back a senior nursing home.*
- *Benson is working on senior health issues, increased nutrition and physical activity resource access.*
- *Bisbee is working on affordable housing and food access.*
- *Other communities are developing strategic plans.*

- **County Committee:**
- *14 Hydration Stations Installed in 5 Sites*
- *Hydration Training for staff, youth and other adults*

2018 – BY THE NUMBERS

- ▶ Expanded from 7 community groups to 10 groups in Sierra Vista, Tombstone, Benson, Ft. Huachuca, Willcox, Douglas, Bisbee, Newly added-Huachuca City, Winchester Heights, Bowie
- ▶ Secured two million in grant funding for the next two years from The Legacy Foundation of Southeastern Arizona
- ▶ Over 45 Agencies are working together throughout Cochise County to improve health through policy, systems and environmental changes

Contact: Charlotte Taylor
 Program Coordinator, Sr.
 charlottetaylor@email.arizona.edu

Evelyn Whitmer
 Area Agent, Family & Consumer Health Science
 emarkee@email.arizona.edu

Nutrition/Oral Health Volunteer Grant Funded Program from the Legacy Foundation of Southeastern Arizona was established to increase our reach in areas that were not being reached by our other grant efforts. Volunteers were trained in nutrition outreach and with oral health skills similar to our existing programs. Nutrition and physical activity education programs and oral health education offered through the Cochise County Cooperative Extension promote healthy nutrition, physical active lifestyles and oral health that lead to healthier individuals and families in our communities. This program serves schools, families and individuals to cover more areas throughout Cochise County.

People involved in the volunteer program:

- *Promotes positive community engagement through volunteerism.*
- *Improved volunteer's mental and physical health through volunteerism.*
- *Establish lifelong healthy behavior patterns.*
- *Are at lower risk for obesity and tooth decay, reducing health care costs.*
- *Children have learned the importance of healthy eating habits, an active lifestyle, handwashing, and proper oral hygiene.*
- *Children understand the importance of hydration and choosing water over sugary drinks.*
- *Volunteers were positively engaged in the community.*

2018– BY THE NUMBERS

- ▶ There were 3,100 youth nutrition and oral health related messages using 11 different curricula.
- ▶ Volunteers provided 170 hours of their time with values at an estimated \$4,103.
- ▶ \$50,000 grant was obtained from the Legacy Foundation of Southeastern Arizona for Cochise County.

Contact: Evelyn Whitmer
Area Agent, Family, Consumer and Health Sciences
emarkee@email.arizona.edu

Tree nuts, fruit trees, and vines contribute over \$150 million to Arizona's economy on an annual basis and the production of such crops is expected to increase. There are currently more than 32,000 acres currently planted in tree nuts and vines (25,000 in pecan, 5,500 in pistachio, and 2,000 in grape). About 2,000 acres are planted annually in pecan, pistachio, and grape. To date only about half of the acreage in pecan and pistachio is in fruit-bearing production age thus future economic impact is expected to increase. Cochise County accounts for 90% of the tree nut and grapevine production in the state. The Southeast Arizona climate and soils offer the environment that is conducive to growing such crops but also presents some of its own challenges. For instance, in pistachio nut production fungal pathogens can have a significant impact on the quality and yield when it is time for harvest. Some of the most common fruit and leaf fungal diseases are the *Septoria* leaf spot and the shoot blights, *Phoma fungicola* and *Botryosphaeria* to name a couple. *Phoma fungicola* is specific to Arizona pistachios. These fungal pathogens can cause significant losses at harvest as it causes the pistachio fruit to become unmarketable. In 2016 the second American Viticulture Area (AVA) was federally recognized in Cochise County. Designated AVA's in the state of Arizona include Sonoita/Elgin and now Willcox. A viticulture educational symposium is now in production annually as a result of the increased wine grape interest. More than 80% of the state total grape production is in Cochise County, therefore, the commercial horticulture program is responsible for the coordination, organizing education, and evaluation of the viticulture needs of the grape growers. With the warming trend noticed in late winter months, weather extremes also present risk for commercial crops in Southeast Arizona. It is necessary that growers be informed when an extreme weather event may pose risk to negatively impact their crop due to timing with its development stage. Also, the demand to learn about horticulture and farm business planning has grown in Cochise, with specific interest to grow their own produce, fruits, and nuts on small acreage farms and a focus on organic agriculture and improving soil health using cover crops.



- *Plan, implement, and evaluate effective outcome-based programs to support identified issues in horticulture crops.*
- *Integrate new science-based knowledge, technologies, decision-support systems, and best management practices for growers and stakeholders.*
- *Optimize efficient, economical, and sustainable production of horticultural crops.*
- *Strengthen local and regional food supplies.*



2018 – BY THE NUMBERS

- ▶ 10 experimental research projects were conducted which focused on various horticultural issues and objectives, including but not limited to, phenological development, mineral nutrition and physiology, pest & pathogen incidence & control, weed management, rootstock evaluation, and delaying bud-break.
- ▶ *Phoma fungicola* infection on the pistachio fruit can increase 93 – 98 % if left without fungicide treatment and the combination of Merivon and Quash fungicides, applied separately prior to harvest, had the greatest affect in control.
- ▶ 166 constituents and producers receive updates for Southeast Arizona weather extremes, a 30% increase from when this program began in 2015.
- ▶ The creation and release of arizonapecan.com, an Arizona Pecan Grower's website, was established in June. It has been clicked 10,063 times since the release, 125 stakeholders have visited the site, and 4 resource pages on average are clicked per visit.
- ▶ \$132,648 obtained in grants and in-kind gifts since 2015 for program support.

Contact: Joshua Sherman
 Area Assistant Agent, Commercial Horticulture
jdsherman@email.arizona.edu

Master Gardeners are a vital part of consumer horticulture programming and education provided to our community by the Cooperative Extension. Master Gardeners are trained volunteers who successfully complete a 16-week class series followed by 50 community volunteer hours in order to receive a certification. They support the UA Cooperative Extension by providing research-based information on environmentally responsible gardening and landscaping practices and skills to the public, through an educational demonstration garden (Discovery Gardens at UA Sierra Vista), through monthly workshops (the MG Workshops series), by answering countless questions from the public which are received in the Master Gardener office and at Farmers' Markets, and providing one-on-one consultations. Today, the need for these volunteers continues to grow with the increasing interest and demand for gardening-related advice.

Cochise County Master Gardeners:

- *Help to improve the natural environment through public education which leads to wise use of natural resources and efficient gardening practices and skills.*
- *Increase residents' access to UA Cooperative Extension through their broad and continuous public presence through workshops offered, public questions answered, and referrals to research-based information.*
- *Practice and educate community members with the latest horticultural information from the University of Arizona, about environmentally friendly landscapes which lead to wise water use, reduced pesticide use, and successful desert landscapes.*



2018 – BY THE NUMBERS

38 Active Master Gardener volunteers reported 3,820 volunteer hours valued at \$23.57/hour for a total of \$90,037.

25 Students completed the Master Gardener 16-week class series.

128 People attended the 25th Annual High Desert Gardening & Landscaping Conference in March which is the longest running 2-day gardening conference of its kind in the Southwest U.S., featuring numerous talks and workshops by a variety of speakers from academia and the horticulture industry.

Master Gardeners had 11 public speaking engagements for Rotary, Kiwanis, high school teachers, etc.

610 questions were answered from public phone calls made to the Master Gardener office.

28 home visits were made to private homes to assist in plant and disease identification.

Master Gardeners initiated a 3-hour education school field trip program in April and hosted 560 K-12 students through the end of the 2018 school year.

Master Gardeners have produced a monthly newsletter for 29 years, reaching more than 2,000 readers.

Spring and Fall Master Gardener Plant Sales: Educational outreach with 75-minute pre-sale plant talk; Fund-raiser to support ongoing development and maintenance of the Discovery Gardens at UA Sierra Vista.

Contact: Jan Groth
Assistant in Extension, Horticulture
jangroth@email.arizona.edu