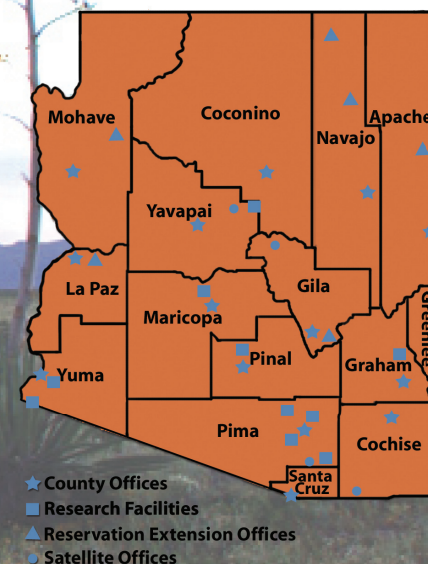


Anytime, Anywhere

Arizona Cooperative Extension online helps you find the information you need

Cooperative Extension in Arizona



Web sites and tools are another way Arizona Cooperative Extension is working to help Arizona communities find authoritative information and answers to questions and concerns—and these resources are available 24 hours a day, 7 days a week, 365 days a year for anyone who can access the Internet. The Cooperative Extension programs described in this publication, as well as many others, offer easy-to-use Web sites filled with reliable information that can be accessed “anytime, anywhere.”

FOOD AND FIBER SYSTEMS IN ARIZONA

Find out about best management practices to enhance sustainable production of plants: cals.arizona.edu/extension/cropproduction.html.

Find resources on livestock management systems for dairy, beef, aquaculture and much, much more that make up the Animal Sciences Web site: cals.arizona.edu/extension/animalscience.html.

NATURAL RESOURCE CONSERVATION AND MANAGEMENT

Looking for solutions for sustainable land management and conservation ranching? Try out the Arizona Rangelands and Rangelands West Web sites: rangelandswest.org.

Learn how to use interactive geospatial tools incorporating satellite imagery and digital maps to complement rangeland management strategies: rangeview.arizona.edu/.

Need information on desert gardening? Try the Arizona Master Gardener Manual: cals.arizona.edu/pubs/garden/mg/mg_links.html.

Find out more about statewide efforts to link climate science research to Arizona community interests: cals.arizona.edu/climate/about/csap.htm and check out Arizona Climate Summaries: www.wrcc.dri.edu/summary/climsmaz.html.

HEALTHY AND SAFE COMMUNITIES

Promoting healthy lifestyles is one of Cooperative Extension’s main initiatives. Learn more about food safety, bone building, and wellness programs cals.arizona.edu/extension/programareas/healthy/html and www.bonebuilders.org/.

Join the “Walk Across Arizona” campaign with co-workers, family, and friends to promote healthy living: cals.arizona.edu/walkacrossaz/.

Learn about environmentally-based pest management practices to minimize problems at the Urban Integrated Pest Management Web site: cals.arizona.edu/urbanipm/.

EDUCATIONAL AND YOUTH PROGRAMS

Want to involve your children in the exciting world of 4-H? Visit the Arizona 4-H site to locate a program near you: cals.arizona.edu/4-h/.

Encourage youthful livestock producers to use good management practices in establishing animal health programs through the Quality Assurance & Food Safety Program: cals.arizona.edu/extension/quality/.

Teach “agricultural literacy” in the classroom with 30 downloadable lessons and learn how to participate in AZ AG Literacy Day: cals.arizona.edu/agliteracy/.

Thinking of starting a water conservation program in your community? Check out the “Water Wise” program: cals.arizona.edu/cochise/waterwise/.

Learn how to stay safe through the “FireWise” program: cals.arizona.edu/firewise/.

eXTENSION

This national Extension database and educational Internet-based tool provides access to information on a range of subjects based on science-based information. Current topics on eXtension include consumer horticulture, parenting, dairy cattle, entrepreneurship, personal finance, horses, wildlife damage management, imported fire ants and the Extension Disaster Emergency Network (EDEN): www.extension.org/.

Statewide Locations

County	Community	Phone
Apache	St. Johns	(928) 337-2267
Cochise	Willcox	(520) 384-3594
(Satellite)	Sierra Vista	(520) 458-8278
Coconino	Flagstaff	(928) 774-1868
Gila	Payson	(928) 474-4160
(Satellite)	Globe	(928) 425-7179
Graham	Solomon	(928) 428-2611
Greenlee	Duncan	(928) 359-2261
La Paz	Parker	(928) 669-9843
Maricopa	Phoenix	(602) 470-8086
Mohave	Kingman	(928) 753-3788
Navajo	Holbrook	(928) 524-6271
(Satellite)	Show Low	(928) 532-6139
Pima	Tucson	(520) 626-5161
(Satellite)	Green Valley	(520) 648-0808
Pinal	Casa Grande	(520) 836-5221
Santa Cruz	Nogales	(520) 281-2994
Yavapai	Prescott	(928) 445-6590
(Satellite)	Cottonwood	(928) 646-9113
Yuma	Yuma	(928) 726-3904

Reservation Extension Offices

Reservation	Location	Phone
Colorado River	Parker	(928) 669-9843
Indian Tribes		
Hopi Tribe	Kykotsmovi	(928) 734-3708
Hualapai Nation	Peach Springs	(928) 769-1284
Navajo Nation	Shiprock, NM	(505) 368-1028
	Tuba City	
	Window Rock	(928) 871-7406
San Carlos	San Carlos	(928) 475-2350
Apache Tribe		

Agricultural Centers and Research Sites

Location	Phone
Campus	(520) 621-3246
Citrus	(602) 255-3316
Maricopa	(520) 568-2273
Red Rock	(520) 621-3246
Safford	(928) 428-2432
Santa Rita	(520) 625-2121
Experimental Range	
V Bar V Ranch	(928) 646-9113
Water Resources	(520) 792-9591
Research Center	
West Campus	(520) 621-3246
Yuma (Mesa)	(928) 726-0458
Yuma (Valley)	(928) 782-3836

Return on Investment



Arizona Cooperative Extension programs are grounded in county and community needs, and developed based on feedback from the county board of supervisors and appointed advisory boards. The University of Arizona (UA), as the land-grant institution in the state, has a three-pronged mission: teaching, research and outreach. One of the most effective ways to fulfill this mission is through Cooperative Extension educational programs, designed to make science useful for people in their everyday lives. These extension-driven programs leverage over one dollar of outside funding for every state dollar. In addition, extension educational programs save dollars to consumers and clientele and promote healthy environments and lifestyles. Some select examples of these programs follow.



Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, James A. Christenson, Director, Cooperative Extension, College of Agriculture & Life Sciences, The University of Arizona.

The University of Arizona is an equal opportunity, affirmative action institution. The University does not discriminate on the basis of race, color, religion, sex, national origin, age, disability, veteran status, or sexual orientation in its programs and activities.

Integrated Pest Management (IPM) is a scientifically-based, worldwide standard for managing pests. It encourages the use of multiple and flexible strategies for the control of insects, weeds, rodents and other vertebrates and plant, animal and human diseases.

The extension model of program delivery includes developing and delivering educational programs through a statewide network of specialists, researchers and educators who work with community members to identify priorities. The goal of UA IPM programs is the development and use of safe, sustainable and effective control methods that also increase farm profitability, reduce environmental and human health risks and protect natural resources for future generations.

IPM in Schools Children are among the most vulnerable when it comes to exposure, absorption and potential harm from pesticides. The urban IPM team has helped Arizona's participating schools to reduce pesticide applications an average of 71% and pest complaints by 78%. It started small, with just a handful of students benefiting in 2001. The schools concentrated their efforts (and capital resources) on identifying the pests, finding where they came from, and preventing their entry into buildings.

There are 216 state school districts in Arizona, with a total enrollment of 1,011,959 students. 303,600 of these students are in school districts that practice IPM—representing 32



percent of the Arizona public school enrollment.

The final evaluation for the Kyrene School District showed that the three Phoenix schools reduced their pesticide applications by 90 percent and kept pest populations below 85 percent of their original levels. In one instance a single small elementary school was spending \$6,000-\$7,000 per year. This was reduced to \$700 in the first year which included the cost of external door sweeps and other structural repair costs. The Arizona IPM program for schools has become a model for developing children's environmental health programs in schools across the United States.

IPM and Agricultural Production In 1995, cotton growers sprayed with insecticides on average 12.5 times totaling 1,709,000 pounds. By 2006, cotton growers sprayed with safer compounds just 1.3 times totaling less than 80,000 pounds, a 20-fold reduction in insecticide use.

The Colorado River Basin is the winter "salad bowl" of the country, producing 90% of the winter supply of lettuce. Targeted to growers, IPM programs promote the use of reduced-risk alternatives to conventional pesticides including weed barriers and biopesticides, which are based on natural organisms or natural substances that control pests in a non-toxic manner. These strategies effectively manage vegetable diseases and insect pests while reducing potential health risks to not only produce and pesticide handlers, but the salad-eating public as well.

The Climate Science Applications Program (CSAP) is a Cooperative Extension program focused on bringing climate science research and applications to the people of the state of Arizona and the broader Southwest region including New Mexico, southern California, and northern Mexico. The program works to develop and coordinate outreach activities and applied research between the climate research community at the University of Arizona and a wide group of climate science user groups throughout the Southwest. This includes providing support and working through Cooperative Extension offices throughout Arizona. Partnerships with federal agencies down to individual climate science users are forged to improve the production and delivery of climate information. Research activities within CSAP include new climate product development tailored to specific user group needs and exploration into novel climate data visualization, dissemination, and analysis techniques and tools.

4-H Youth Development is the youth outreach component of Cooperative Extension. 4-H is the only youth program with direct access to technological advances in agriculture, life sciences, human development, social sciences and related areas which result from land-grant university research. 4-H Youth Development is helping young people become mature, competent adults capable of participation and leadership in their communities with valuable skills on entry into the workforce.

Arizona has formed a statewide 4-H Technology Program which is investigating learning opportunities in a number of emerging fields. These include Geographic Information Systems (GIS) and Global Positioning Systems (GPS), now being used in applications such as road construction and compiling census information and maps.

Training young people for high-tech careers has been identified as a need of the Colorado River Indian Tribes (CRIT), whose representatives wanted their young tribal members to become employable while also developing technological job opportunities on the reservation. CRIT's 4-H program that uses GPS and GIS techniques is helping to fill this need.

In Greenlee County, members of the volunteer fire department and 4-H GPS Technology Club partnered to map fire hydrants in Clifton. Ernie Mendoza, volunteer fire fighter and new 4-H GPS leader is working with six youth to collect waypoints and location information for all of Clifton's fire hydrants. The youth then created maps to share with

the fire department showing their exact locations. These maps were also displayed at the Greenlee County Fair in September as part of a National Geographic Mapping program. The next phase of the project has youth developing a database for the fire department providing locations, addresses, and distances from adjacent fire hydrants.

Rangelands are lands which, because of physical limitations such as topography, relatively low rainfall and soil type, are generally unsuited for cultivation but provide forage for grazing and domestic animals and wildlife and open space for recreation. Many rangeland plants have evolved and adapted to tolerate some level of grazing by some animal species. Range monitoring looks at plant and animal interactions and productivity rather than plants or animals in isolation.

Livestock producers depend on the health of the land and of the animals they produce. Sustainable ranching requires effective yearly and seasonally-adapted management by ranchers. Each rancher, usually in conjunction with one or more public land agencies, must determine what works on their ranch. Cooperative Extension and the College of Agriculture and Life Sciences assist ranchers and range managers through applied research projects, workshops and demonstrations at agricultural research centers and on cooperator ranches.

The range monitoring program has been active since 1978, providing hands-on training to hundreds of ranchers and natural resource agency personnel. UA faculty work with ranchers to develop site-specific range monitoring protocol, including use of historical data, local weather patterns and rangeland conditions. Well-executed

grazing systems may result in a reserve of forage (vegetation) which can mediate the effects of drought, maintain a high quality diet through much of the grazing year (with less need for expensive supplemental feeds) provide for less variation in livestock production from dry to wet years as well as forage for wildlife.

Agricultural Literacy

With increasing urbanization, children as well as adults are unaware of not only the importance of agriculture to Arizona's economy but where food and fiber actually comes from.

Farm Ag-Ventures In 1998, the first year of operation at the University of Arizona's Maricopa Agricultural Center, 1,800 teachers and school children attended the Farm Ag-Ventures educational programs. Since then, the numbers have increased to about 7,600 people on an annual basis. The educational events are adjusted to age, grade level and season. Seventeen different stations on an educational trail represent different vegetative zones of Arizona, including an area featuring information on crops grown by Native American tribes in the Southwest.

The Summer Agricultural Institute (SAI) is a five-day program designed to teach educators about food and fiber production and to help them incorporate that knowledge in the classroom. SAI combines hands-on learning about agriculture with practical curriculum development. The University of Arizona offers up to three graduate level credits for completing the program, which is held every June.

Project CENTRL, the Center for Rural Leadership, is an educational program developed by Cooperative Extension under a grant from the W.K. Kellogg Foundation. Its mission is to assist highly motivated leaders improve and expand their leadership skills to become more responsive and effective in meeting the needs of rural people in public affairs. To date 484 graduates have utilized the skills they developed through Project CENTRL to help strengthen their local communities throughout Arizona.

The educational program consists of twelve highly interactive seminars scheduled over two years. Class members also attend a five-day state exchange seminar at the end of the first year, which is an in-depth visit to another state with similar rural or agricultural leadership programs. Travel to Washington D.C. to attend a national seminar is the culmination of the training. All class members are required to complete an internship designed to apply leadership skills learned in CENTRL to a community-based project.

Health, Nutrition and Families

Healthier people are better able to contribute to a robust economy. Cooperative Extension programs are designed to strengthen families, promote healthy lifestyles and wise financial decisions and develop community leaders. Programs are offered at community centers, schools, churches and other venues to reach different audiences.

Small Steps to Health and Wealth Families in Arizona and nationally are experiencing financial crises because of inadequate savings, too much debt, increased fuel costs and basic lack of planning for life events. Along with financial issues, there are many parallels between factors that affect good health and those that foster financial

success. The "Small Steps to Health and Wealth (SSHW) Program" teaches 25 behavior change strategies that can be simultaneously applied to improve health and increase wealth and provides tools to track progress.

Healthy Lifestyles A major goal of the "Healthy Lifestyles Program" is to help individuals and communities attain optimal health and well-being through sound dietary and physical activity practices.

It is estimated that one out of every two women over 50 will develop osteoporosis and is the number two reason for women's admissions into nursing homes. Older men have also been identified as possibly at risk. "Bone Builders" is a partnership between Cooperative Extension and the UA College of Medicine and the Mel and Enid Zuckerman College of Public Health. The program recruits and trains community peer educators and identifies those at high risk and encourages them to get screening. In one year Bone Builders partners screened 98 women, reached 4,335 people at 305 classes; taught 220 one-on-one, and instructed 16,445 at 66 health fairs. Over one million people were reached with educational materials, displays, mass media and the Internet.

"Walk Across Arizona" uses social support networks to increase physical activity levels by developing and maintaining walking clubs. The 16-week walking program, which has been adopted by seven Arizona counties, is designed for teams of up to 10 people. The teams have a friendly competition to see who can get their pals, neighbors, co-workers and family out to build a healthy walking habit and increase fitness. In the first year, 34 teams totaling 329 registered participants walked 48,872 miles. Four years later a total of 1,908 people had registered for the program. Statewide, 219 teams reported walking 343,858 miles, an increase of 201 percent in miles walked and an increase of 242 percent in the number of teams formed.

"Healthy Active Kids" integrates children's healthy lifestyles education into classroom and current youth, family and community programs. Goals of the program include: increasing the awareness of how moderate physical activity and healthy food choices can reap health



benefits and reduce childhood obesity, and developing stronger partnerships and communication links with youth and family partners.

Nutrition Education Two federally-funded nutrition programs address the needs of low-income families and youth nationwide. The Extension Food and Nutrition Education Program (EFNEP) teaches minority families in five Arizona counties to stretch their limited food dollars, plan and prepare nutritious foods and make informed choices about food and other lifestyle issues that support family health and well-being.

In a recent two-year reporting period more than 3,249 low-income families—which included 12,650 family members and 4,060 youth—attended EFNEP classes in Arizona; 350 volunteers assisted with family nutrition education. Nearly 94 percent reported positive changes in choosing healthy items for meals. About 80 percent improved their general nutrition overall and 65 percent improved their food safety practices.

The Food Stamp Nutrition Education Program (FSNEP) promotes health and disease prevention to food stamp recipients. Three key nutrition and health themes are the focus of FSNEP educational materials which include maintaining a healthy lifestyle, physical activity, and gardening. Other messages include how to balance calorie intake from foods and beverages with calories expended; eating 5 fruits and vegetables, plus whole grains and low-fat milk or milk products every day; and how to add family physical activity to every day activities. In one year FSNEP program participants totaled 73,552; of those 60,454 were under the age of 17.

Sports Fitness Nutrition Education Athletes, coaches, athletic trainers, dietitians and other health education and fitness professionals who were seeking research-based sports nutrition information found it through a workshop and training materials developed at the UA. The workshop was also selected by the NCAA as the nutrition component of their Life Skills training program. The program has been presented annually in Tucson and as distance education via satellite telecommunication system in other Arizona cities. The distance option is popular with busy working professionals.

Three key nutrition training tips are fundamental to developing a high-performance winning nutrition plan: 1) Drink the right amount of fluids at the right time; 2) Eat the right variety and amount of foods at the right time; and 3) Use only safe, effective supplements at the right time.

575 workshop participants completed the training in a ten-year period. Six-month follow-up evaluations indicated an increase in sports nutrition knowledge. Information and materials provided by the workshop were used by participants to educate over 6,500 additional people in their communities.