The University of Arizona
College of Agriculture and Life Sciences
Cooperative Extension

Backyards & Beyond

Spring 2014 | RURAL LIVING IN ARIZONA - SPECIAL CENTENNIAL EDITION | Volume 8, Number 2

Cooperative Extension

100 years

of Improving Lives, Communities, and the Economy

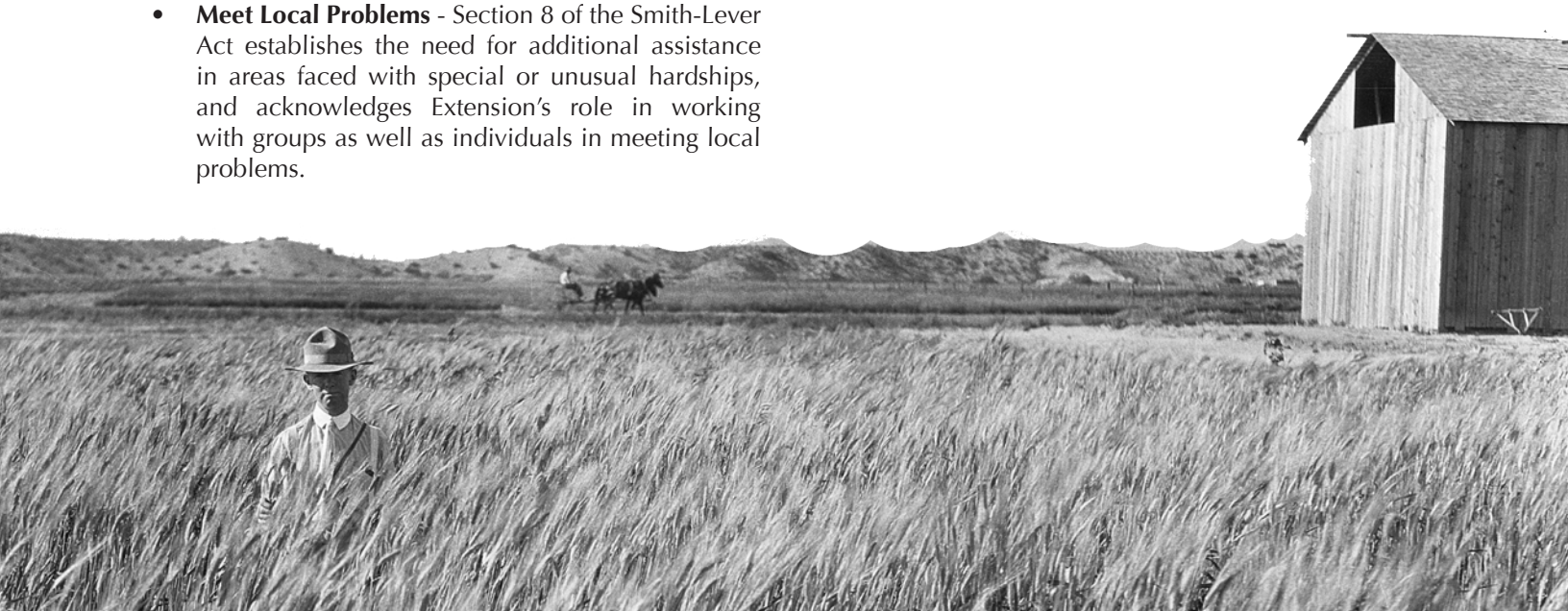
Celebrating 100 years

Cooperative Extension enjoys a rich and proud history in this country. On May 8, 2014, we celebrate 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 populations have changed with fewer Americans living on farms and in rural communities, but Cooperative Extension has constantly changed to meet the shifting needs of people. 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. Cooperative Extension listens to, learns from, and respects local knowledge. We value our partnerships and believe community voices are critical to success. We look forward to working with you, as together we create the next chapters of our continuing history.

Learn more about our Centennial Celebrations at:
http://extension.arizona.edu/centennial



Backyards & Beyond
rural living in Arizona

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Looking Back 50 years...

Editor's Note

From 1963 through 1965 a series of county stories, describing the agriculture and agricultural history of Arizona counties (14 counties – Yuma and LaPaz were still one county) was published in Progressive Agriculture. Each was written by the County Agent, or prepared under his direction. Below are a few excerpts from those stories. Complete stories can be found in the University of Arizona Campus Repository. Links directly to the stories can be found on the Backyards and Beyond website home page under other resources. **http://cals.arizona.edu/backyards**

Agriculture in Greenlee County

From: Progressive Agriculture: November-December, 1963, Volume 15, Number 6

NEAL ROBERTS of Ducan inspects an ancient water wheel which once was used to lift water form the Gila River into an irrigation canal near Clifton. This old structure still stands, although not in operational condition.

- Of the approximately 1,199,360 acre area of Greenlee County, only about 6,000 are in cultivation.
- Production of beef cattle and short staple cotton are the two major agricultural enterprises in Greenlee County. Principal farm crops are cotton, alfalfa, grain sorghum, barley, and corn.
- The Duncan Basin is known as a natural structural trough that extends northwest from the vicinity of Lordsburg, New Mexico, to the vicinity of Guthrie, Arizona. The Gila River enters this trough about 10 miles east of the town of Duncan and flows northwest through the lower end of the trough.
- Water availability has apparently always been a limiting factor in agricultural progress.
- Today, however, modern irrigation wells with gasoline or electric motors have replaced most of the surface water irrigation which relied on the undependable Gila River.

High Mountains, Fertile Valleys Mark Graham County

From: Progressive Agriculture: January-February, 1964, Volume 16, Number 1

ATTENDANCE AND INTEREST are high at Hay Day in Graham County. More than 200 farmers turned out to watch the new hay swathers in action. The demostration was scheduled cooperatively, with the county agent's office and local farm machinery dealers participating. Two years after this demonstration, more than 95 percent of the hay Graham County was cut with these swathers.

- Just two days before the adjournment of the eleventh territorial legislature, an act to create the county of Graham was passed. The territory to form it was taken from Pima and Apache Counties, and Safford was made the county seat.
- Today Graham County covers 2,063,200 acres of territory, the third smallest county in the state. Its population is approximately 15,000.
- Graham County is a farming rea and, thanks to the Gila, it has about 40,000 acres under cultivation. This produces such crops as alfalfa, cotton, grain, truck crops, pecans, and other products with a total worth of some eight to ten million dollars a year.
- Graham County is proud of its cotton products. All of the cotton is ginned by the Safford Valley Cotton Growers Co -op, owned by the farmers of Graham County.
- Graham County had one of the first 4 -H Clubs in the United States. There was a club in Pima, Arizona, in 1913.

Yavapai County, Mister, Is Great Cattle Country!

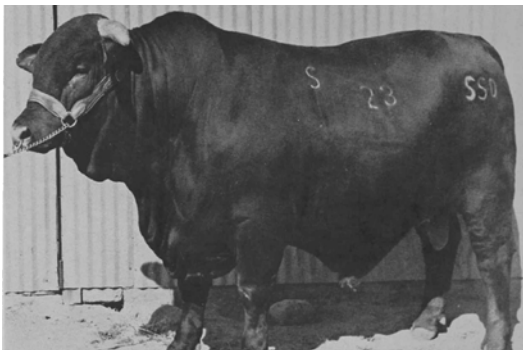
From: Progressive Agriculture: March-April, 1964, Volume 16, Number 2

BRANDING SCENE at the O U Ranch, Yavapai, owned by Mrs. Orville Hazlewood and son Earl. This scene is typical of cattle country of Yavapai County. (Photo by Carter Camera Center, Prescott)

- We have no blanket recommendations for all of Yavapai County's farmers and ranchers. This is understandable when one considers that Yavapai County's terrain varies from an elevation of 1900 feet to just under 8,000 feet on its mountain peaks.
- The discovery of artesian water in Little Chino Valley in 1930, by John A. Hatch, led to the development of Little Chino Valley as an important section of the farm economy of Yavapai County.
- Yavapai County's principal source of agricultural income is from its approximately 5,000,000 acres of cattle rangeland.
- Some 200 commercial cattle ranches produce annually over $6.25 million worth of beef cattle.
- There are about 1,200 head of dairy cattle in nine commercial herds in the county.
- There is only one commercial broiler producer in the county. This plant, located in Cornville, produces, processes, and markets about 60,000 broilers annually.
- Yavapai County is known as the Horse Capital of Arizona. It has some 3,300 head of horses and mules.

Santa Cruz County

From: Progressive Agriculture: May-June, 1964, Volume 16, Number 3



WINNING BULL at the Arizona National Livestock Show in Phoenix was this big Santa Gertrudis from San Cayetano Ranch. Brand numbers indicate certification by the breed association, which does not certify animals until after they are grown.

Santa Cruz County has, roughly, 795,000 acres of semi -desert rangeland.

- The county has 7,000 acres of irrigated farmland, chiefly in the Santa Cruz river valley.
- Santa Cruz County has some of the best Santa Gertrudis cattle in the country. These rugged big cherry-red cattle, genetically three-eighths Brahman and five-eighths Shorthorn, were started as a distinct breed 40 years ago on the famed King Ranch in Texas.
- The county also has one of the best Charolais herds in the nation, owned by famed movie star Stewart Granger.
- The County Extension Office in Santa Cruz County was established in 1959, although previously it had been served by Pima County Extension personnel.
- It is a county where 4-H work is actively and enthusiastically pursued, with 4-H exhibits at the county fair in Sonoita being excellent in both quality and quantity.

Here's Gila County: Copper in the Grounds, Cattle in the Hills

From: Progressive Agriculture: July-August, 1964, Volume 16, Number 4

PUREBRED HEREFORD cattle on the Bixby ranch in Gila County. This county has some of the best Herefords, and some of the most able cattlemen, in the nation.

- For many years the Globe-Miami area has been one of the most important copper producing sections of the United States.
- Gila County has pressed its political influence into the history of the state. George W. P. Hunt of Globe served in the territorial legislature, was elected the first president of the Arizona Constitutional Convention, was the first governor of Arizona, and was subsequently reelected for seven terms.
- The quality of the cattlemen in the county can best be illustrated by looking at the list of past presidents of the Arizona Cattle Growers' Association. Gila County boasts more past presidents than any other county.
- Approximately 20,000 stocker and feeder cattle are marketed annually.
- Modern advances in technology and the rapidly changing economy have resulted in requests for assistance from the Extension Service in family economics, home management, human relations, health and safety, conservation and problems of low income.

Maricopa County Agriculture

From: Progressive Agriculture: March-April, 1965, Volume 18, Number 2

TABLE GRAPES ARE increasing in importance as a cash crop in Maricopa County. Here, Charlie Condos of Arrowhead Ranch admires a cluster of Cardinal grapes.

- Here, over the last hundred years, industrious farmers and ranchers have carved out an agricultural wonderland that each year pumps more than $200 million into the economic veins of the state.
- Maricopa County is one of the nation's most important agricultural areas. According to the last census, approximately 500,000 acres or roughly 10 percent of the land in Maricopa County is under cultivation.
- Cotton, cattle, and fresh vegetables head the list of money earners. Other important crops include alfalfa – up to seven cuttings per year – barley, grain sorghum, wheat, seed crops, and last but not least, citrus fruit and dairying.
- Upwards to 90 percent of all the milk consumed in the state also is produced in Maricopa County.
- Maricopa County's poultrymen, vying with other agriculturists in efficiency, own a third of the state's laying hens and produce a third of the eggs produced for market in Arizona.
- Land values in some sections of the valley have appreciated to the point to where a farmer no longer can afford not to sell.

Averaging 50 Miles Wide and Stretching 250 Miles Down the New Mexico State Line, From the Northeast Corner is Apache County

From: Progressive Agriculture: January-February, 1965, Volume 17, Number 1

COLE CROPS GROW big in Apache County, as demonstrated by the prize winning cabbage which Cecil Naegle of Vernon exhibited at the Apache County Fair.

- Apache County is a gracious host to many visitors who come to the county to fish, hunt and enjoy the scenery.
- Beef and wool production rank as the chief sources of agricultural income in the county. Cattle numbers are estimated at around 40,000 head. Sheep, mostly on the Navajo Reservation, total about 108,000.
- The most valuable resource of Apache County is its people, there being an estimated 32,000. About two - thirds of these make their homes on the Navajo and Apache Reservations in Apache County and were here many generations ago to greet the remaining third on their arrival.
- Apache County cattlemen believe in helping themselves and each other. With this in mind, a representative "Apache County Cattle Committee" was organized to help toward solving cattle problems.
- One of the more unusual events in Apache County 4-H has been the "camp-tour."
- “Concho Beautifiers" 4-H club landscaped their school and church grounds, using native evergreens from the White Mountains together with donated and purchased plants.

Cochise County: Cotton, Cattle, Copper

From: Progressive Agriculture: July-August, 1965, Volume 18, Number 4

SOME OF THE BEST sorghum in the world is grown in Cochise County. This vast field, watered by sprinkler irrigation, is on the L.D. Small farm.

- Cochise County is truly unique and its development is full of irony. Today it ranks only fourth in total population by counties in Arizona and its people are proud of its "wide open spaces." Yet, in 1910 it was the state's most populous county.
- Some of the modern ranches here date back to original Spanish Land Grants. Beef cattle production continues to be the largest single agricultural enterprise in the county.
- Now, with modern irrigation practices in force, the same area has become a top lettuce producing area.
- Among the important vegetable crops grown in Cochise County are chili peppers. This is the only place in the state where chili peppers are grown commercially. Three hundred to four hundred acres supply both local and interstate markets.
- Girls as well as boys are active livestock raisers. And, as expected, boys are beginning to turn their talents to the foods field.
- Some 15 organized homemaker groups meet monthly for lessons on family nutrition, consumer buying and home management.
- A 4-H Leaders Council and its special committees help in policy making and planning and conducting of county events.
- A seven-man County Extension Board meets to approve each year's plan and the budget.

"Big Red" Makes Yuma County

From: Progressive Agriculture: March-April, 1965, Volume 17, Number 2

MUCH MANPOWER and modern machinery combine to speed cantaloup harvesting, since time is so important. Photo taken in 1964 on McLaren Produce Company acreage in the Yuma Valley.

- From barren sand to productive land - compliments of "Big Red." That is the biography of Yuma County. "Big Red," being the Colorado River, is responsible for the founding of the city of Yuma and for most of the $77 million crop income produced in the county.
- Present day agriculture of Yuma County consists of approximately 200,000 acres.
- It wasn't too long ago that this land was considered worthless. It was, until the Colorado River water made it bloom.
- One of the world's outstanding Brangus herds is that maintained by the Yuvalle Cattle Company in Yuma County.
- Yuma Valley is the most productive area in the county, with an average value of crops produced of $735 per acre. What grows in Yuma Valley? You name it, it's there. The major crops are alfalfa, wheat, barley, sorghum, cotton, lettuce, cantaloupes and flax. In addition are such delicacies as pecans, tomatoes, onions, cabbage, carrots, sweet corn and watermelons. Also citrus.

Rangeland Country Invaded – Mohave County Attracts Elderly, Sportsmen with Climate, Water and Sun

From: Progressive Agriculture: May-June, 1965, Volume 17, Number 3

EXTENSION SPECIALISTS from The University of Arizona help with the local program occasionally in Mohave county. Here is Mrs. Carol Doty, home economics specialist, explains the life cycle of the typical American housewife. Left to right above, Mrs. Clifford Touchette, Mrs W. J. Bailey, Mrs. Doty, Home Agent Mrs. Audrey Davies, Mrs. K. B. Johnson and Mrs. William Duncan.

- Mohave County is cattle country besieged by fishermen. In other words, it is range country where the population- pushed sportsman has discovered new fields to conquer. Mohave is fifth largest county in the United States 8,486,400 acres.
- It is a land of rugged mountains - yet it has more than 1,000 miles of shoreline on lakes and rivers.
- But mostly it is cattle country. The mother cow herds produce the fat yearlings which are sold to many areas.
- The county agent's efforts on behalf of cattlemen have been largely in the areas of feeding, marketing and disease control.
- Youngsters learn adult lessons early in a vigorous 4-H program in Mohave County. Some 180 boys and girls are enrolled in the program, and the fat beef sale of 4-H calves at Kingman has received national recognition, evidenced by prices paid by businessmen for the 4-H animals.
- There are five homemakers' clubs in the county. Topics of club discussion and activity, chosen by the members themselves, range from the importance of wills and estate planning to a Christmas workshop. The selection of furniture, color harmonizing for the home, making over used clothing, an upholstery workshop, foods and meal planning, all are included.

Through Cooperation, Cotton and Cattle Pinal County Thrives

From: Progressive Agriculture: September-October, 1964, Volume 17, Number 5

A TREMENDOUS INVESTMENT in the feedlot business is the feed processing mill. This one, at the Benedict feedlot, is the very latest thing in efficiency. Through its huge metal maws go over 35,000 tons of grains per year, as well as vast quatities of alfalfa.

- Pinal County's 300,000 irrigated acres and its cattle ranches put $75,000,000 into the economy annually.
- The county's 130,000 acres of upland cotton is two-fifths of the state's total, its 9,800 acres of long staple American-Egyptian cotton a fifth of the Arizona total.
- Translated for the layman, Pinal County's cotton could put a new shirt on every man in America in 1964, plus enough yardage left over for shifts for every suburban housewife. And the beef produced in Pinal County feedlots and ranches would furnish steak, hamburger or roast beef for every person in the city of Tucson–300,000 people–once a day for an entire year.
- The many activities of 4-H are valuable training experiences for both young and old.
- Great pride is taken in discipline and etiquette. Leave a clean camp; leave a good impression. Cleanliness is next to Godliness. Make the Best Better.

Pima County: Changed by Urban Growth

From: Progressive Agriculture: July-August, 1964, Volume 17, Number 4

MRS. JAMES LARSEN, A 4-H leader in Pima County, instructs her daughters, Cindy and Jody that you must determine best buys by figuring cost per egg.

- Climate Is Nearly Ideal: With marked changes in other areas, the climate of Pima County remains ideal. Sunshine is abundant with 85 percent possible sunshine in the Tucson area. There is an average rainfall of 10.9 inches.
- Increases in population have brought corresponding demands for services.
- Changes in livestock emphasis on quality rather than quantity is producing more beef per cow unit in Pima County. There has been little change in the number of cattle on the range. The change is to better cattle and better ranges.
- Competition between fibers for consumer and industrial use has forced cotton producers to utilize every resource for economical and efficient production methods.
- Over 60 percent of my phone calls and 50 percent of my time is spent in providing information to help urban and suburban people solve their home - plant -care problems.
- Accepting the Challenge - Fitting 4-H into urban and suburban situations means new projects, more area clubs that demand more and better trained leaders.
- Homemaker club programs are directed mainly toward consumer education. While they continue to give opportunity for developing homemaking skills, they include "buymanship" for family needs. Decision making is an educational process and increasingly important.

Vast, Cool, Beautiful – That's Coconino County

From: Progressive Agriculture: January-February, 1965, Volume 17, Number 1

BILL TODD, Oak Creek orchardist, shows a nice crop of Red Delicious apples. Note lower branches stripped of leaves by deer.

- Coconino County, 18,238 square miles, largest county in Arizona and second largest in the continental U. S. That's a fair piece of land in anybody's language.
- Timber isn't the only product produced in the county. Coconino County is one of the largest cattle producing areas in the Southwest, has both irrigated and dry farming, raises all kinds of deciduous fruits and berries, and has more National Parks, Monuments and scenic points than any other county in the U.S.
- Small grains are a source of winter hay in Coconino County.
- The County 4-H program is an active one. There are about 400 members in the county, with clubs in all parts of the county. Quality, rather than quantity is stressed by the county agents.
- The county homemaker program is also an active one. It consists of several clubs throughout the county.

Heritage of Three Races United in Historic Navajo County

From: Progressive Agriculture: September-October, 1964, Volume 16, Number 5

A CROP MOST ARIZONA counties do not have, but Navajo County has, is pulp wood, shown in the photo. At the Snowflake is located one of the most modern paper mills in the U. S., built in 1962.

- One of the largest cattle empires in the west was developed in Navajo County with headquarters near Holbrook. This was known as the Hashknife Outfit.
- Spanish Conquistadores, the first white men in the area, found the Apache Indians occupying the land. The Conquistadores traversed the Southwest in search of gold and glory.
- Today Navajo County has about 42,000 people. Half of these are on three Indian reservations the Apache to the south, the Hopi and Navajo reservations to the north.
- Service trades along Highway 66 and Highway 60 add greatly to the income of the county by attracting the many tourists who come through the county.
- Irrigation companies in Navajo County have cooperated with the Extension Service in tests on control of weeds along ditchbanks and in irrigation ditches.
- The Navajo County development council serves as an advisory group to the Extension Service and the other agricultural agencies in the county.
- One of the most popular programs the last three years was Operation Windbreak.
- Mrs. Ward, the home agent, has worked with low income groups in Winslow, showing how to use surplus foods.
- Navajo County has 1400 boys and girls enrolled in the 4-H Club program.

Cooperative Extension's 100th Birthday

Progressive Agriculture (Cover) July-August 1964, Vol. XVI, No. 4

Gila County 4-H Riders Greet Our Nation's Birthday July 4, 1964

Stephanie Payne & Nathan Saylor from the Spirit of Queen Creek 4-H Photographed by Lisa Stones, Chandler

50 years later Maricopa County 4-H Riders Greet Cooperative Extension's 100th Birthday May 8, 2014

1912 Arizona became a state.

1918 Tractor demonstrations conducted in Maricopa County.

1930's Cattle feeding industry began to show signs of real growth. The first feeders association in the U.S. was formed in Arizona.

1942 State 4-H Roundup was cancelled as a results of war-time travel restrictions. The war manpower shortage made leaders difficult to find.

1970's Irrigating by plant needs and not on a calendar schedule was advocated.

2014 Arizona Cooperative Extension celebrates 100 years of improving lives, communities and the economy.

1913 2013

1913 Arizona 4-H begins.

1929 Development of water on the range was given first priority by Extension staff.

1929 The phrase "4-H Club" first appeared in use

1942 Home demonstration agents emphasized programs related to victory gardens and food preservation.

1981 Project CENTRL (Center for Rural Leadership) initiated.

2000 The college name changes from the College of Agriculture to the College of Agriculture and Life Sciences.

1862 President Lincoln signs the Morrill Act, establishing land-grant colleges in each state.

1914 - 1918 Production of food from home gardens received much attention during the World War I years. With the Armistice in 1918, War Gardens became Victory Gardens and continued to receive emphasis.

1924 Agent J.J. Hamilton organized Arizona's first noxious weed control district in Yuma County.

1930's Extension home economists were busy helping families coping with the devastation of the Great Depression.

1959 Campaign launched to bring the pink bollworm under control.

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COOPERATIVE EXTENSION HISTORIC MILESTONES

1875 | 1900 | 1950 | 2000

1887 Hatch Act establishes Agricultural Experiment Stations tied to land-grant universities for the purposes of scientific research.

May 8, 1914 The Smith-Lever Act signed into law by President Woodrow Wilson

1942 The U.S. entered World War II on December 7th. All efforts were turned to wartime efforts and increasing farm production and the conservation of farm and household goods.

1983 Computers delivered for Extension use with WordStar and InfoStar software.

September 28, 1994 Improving America's School Act - land-grant status was conferred on 29 Native American colleges.

1950's Irrigation programs emphasized lining ditches with concrete.

1990's Partnerships grow as Cooperative Extension collaborates with more public and private groups; Home Economics Extension becomes Family and Consumer Sciences.

1903 Seaman A. Knapp (Extension's first demonstrator) establishes first demonstration farm in Terrell, Texas to introduce agricultural practices.

1919 First Home Demonstration work conducted in southeastern counties.

1922 A motion picture machine was purchased for Extension work.

Late 1960's The first paraprofessionals, funded from federal grant money (EFNEP), were hired to assist the home economics program in Santa Cruz County.

1922 The first home demonstration club in Pima County was the Fort Lowell Homemakers.

1954 U.S. Secretary of Agriculture, Ezra Taft Benson, directed that all Extension employees would be under USDA. This separated Extension from the Farm Bureau and other farm groups.

1970 Arizona 4-H Youth Foundation founded with leadership from Dr. Bart Cardon.

1980 Range Task Force formed to assist in solving permittee-agency conflicts on management of public lands.

1912 College of Agriculture inaugurated the Demonstration Train. Researchers & educators gave lectures and demonstrations at each of 30 stops.

Mid 50's A period of revitalization. Extension offices were opened in Santa Cruz and Mohave Counties; home economics program extended with at least one agent in each county by 1962; State legislature increased appropriations to help meet growing demands. Mechanization on Arizona farms moved forward rapidly.

1960's 4-H increased emphasis on science. Balance of experiences in project work, personal development opportunities and leadership. The "skilled citizen" being the prime end-product.

Cooperative Extension at 100

The University of Arizona College of Agriculture and Life Sciences Cooperative Extension is a network of educators in all counties of the state and specialists on the UA campus/ experiment stations providing unbiased, research-based education programs and information to strengthen the social, economic and environmental well-being of Arizona citizens.

Extension has been educating in Arizona's local communities for 100 years. Programs may show up as after-school or 4-H youth programs, a master gardener course, or in-person education and service through webinars on personal finance; testing for animal forages or crop health; or food preservation classes.

Extension was created through the Smith-Lever act in 1914, which provided for cooperative agricultural extension work at the land-grant colleges that were established with the Morill Act of 1862. The educational partnership between the U.S. Department of Agriculture, the nation's land-grant universities, and county governments nationwide, extends research-based knowledge through a state-by-state network of Extension educators.

The original Smith-Lever charter statement remains true after 100 years, that the purpose of Extension is "better farming, better living, more happiness, more education, and better citizenship" for the "entire country."

The following stories provide examples of how University of Arizona College of Agriculture and Life Sciences Cooperative Extension translates research-based information to help people solve real, everyday problems and improve the quality of life. They highlight the impact Extension has had on Arizonans.

Cooperative Extension Boosts Bottom Line for Cattle Ranchers

Dan Graham Bell looks out over his grazing herd of Black Angus cattle as they wander the range, munching on grass and stopping for a cool drink at the watering hole. Bell's herd is at peak performance, thanks to UACE programs aimed at helping ranchers produce high-quality beef.

"Cooperative Extension has really improved our bottom line," said Bell, a third-generation rancher who operates ZZ Cattle Corp. in Santa Cruz County, along with family members. Bell's grandfather, Thomas Graham Bell, founded the ranch in the 1930s. Today, ZZ Cattle Corp. has up to 850 head of cattle on 35,000 acres north of Nogales, AZ.

"We were kind of set in our ways in terms of what we were doing on the ranch," he said. "The herd wasn't performing as well as it should have and they were able to help with genetic selection."

Helping Bell improve the quality of his cattle through the Ranch to Rail and the Beef Quality Assurance Program is Dean Fish, Santa Cruz County Cooperative Extension faculty member.

"We evaluated his cattle and studied the rate of growth and feed lot performance for eight head," Fish said. "The carcasses were rated - examining weight, tenderness and marbling. The cattle weren't performing as well as Dan might expect." Fish advised Bell on using Angus bulls to improve genetics. "Now when he goes to market he gets the best prices," Fish said.

"Everyone involved in UACE is there to help," he said. "I would recommend Cooperative Extension to anyone who is having issues. They are a good resource for ranchers out here in Southern Arizona."

Video available at source: http://extension.arizona.edu/cooperative-extension-boosts-bottom-line-cattle-ranchers

She and a Lab Named Nick Are Part of a Revolution

Kyia Lively; Guiding her own path in 4-H

A goat just wouldn't do for Kyia Lively, and neither would a pig, lamb, calf, chicken or turkey. So instead of raising a farm animal for the UACE 4-H, the member of the Maricopa County Green Team club raised a guide dog that will eventually be a lifelong companion for someone who is blind or visually impaired.

"I've done a little of everything, and I wanted to do something that would have a big impact in the community," said the 17-year-old who has been involved with 4-H since she was 5 and who helped lead 4-H National Science Day at the Phoenix Zoo. "It really means so much when you see how much impact these dogs can have in a person's life."

The project is a good example of the flexibility of 4-H, said Bryan Chadd, a Maricopa County youth development Extension agent. "It's one of the things I love about the program – that it isn't canned," Chadd said. Kyia agreed that 4-H doesn't have to be one size fits all. "4-H can be as big or little as you want," she said.

Nick the guide dog, who was named after a Marine killed in the war in Afghanistan, is with Kyia at all times. Having a dog by her side 24 hours per day – the law requires businesses and public places to allow him access – has taught the teen a lot, she said. "He goes to school. He rides the bus. He goes everywhere with me. It helps me learn tolerance. It's like having a toddler," she said.

Source: https://extension.arizona.edu/she-and-lab-named-nick-are-part-revolution

UA Cooperative Extension WaterWise - Committed to Saving Water in an Arid Environment

Del Gordon lived in Northern Virginia with lots of rain to grow just about anything that could tolerate the winter. Then he moved to arid Sierra Vista in Southern Arizona. He bought a house on two acres covered with invasive field grass. What to do? "I knew I wanted xeriscaping. I wanted to do the right thing, so I could conserve water and not put such a drain on our water resources," Gordon said. That led him to UACE and the Cochise County Cooperative Extension WaterWise program. "I believe in sustaining practices. That's the way we should go. That's what we're trying to do with xeriscape and rainwater harvesting – to lessen our impact on the environment."

By 2010, the Northrop Grumman software engineer knew he wanted to commit to rainwater harvesting. He entered the Cooperative Extension's RainScape Challenge Contest. The WaterWise program received a grant to challenge Sierra Vista and Hereford residents to turn five landscapes into rainscapes that rely totally on rain and storm water. "With rainwater harvesting there's a lot to learn. It can be intimidating and daunting. Cooperative Extension provides a lot of help and encouragement. Through their activities you can obtain education materials and go on rainwater harvesting tours. It really helps make you feel that this is something you can do." Now Gordon's yard is a showpiece for future UACE water-harvesting demonstration tours. For aesthetic reasons, an installation underground was Gordon's first choice. "Winning the contest allowed us to have a big, complex system." Without the prize money, "I would have done something – but probably not of this magnitude."

Source: http://extension.arizona.edu/ua-cooperative-extension-waterwise-committed-saving-water-arid-environment

High-Tech Farming Tools Can Aid in Greater Yield

For thousands of years, farmers have looked out over their fields and gotten a pretty good sense of how things were growing. But with the advent of high-tech tools, UACE faculty are working with farmers like Karl Button to get precise readings of yield, growth, soil properties and other factors critical to success.

Button, who manages Button & Bohnee Farming in Sacaton, south of Phoenix, collaborates with UACE faculty with the goal of improving conditions for Arizona farmers.

He has received education and advice from UACE for decades, helping to control pests that threatened to put farmers out of business. Through products like transgenic crops and advice from UACE, Button and other farmers have reduced pesticide use by 90 percent over the past 15 years.

Three years ago, Button teamed up with Pedro Andrade-Sanchez, UACE faculty at the Maricopa Agricultural Center, to see how sensor technology and precision farming could result in higher yields.

Button and Andrade use technology to monitor crops, which include cotton, wheat, barley, alfalfa and garbanzo beans as well as heirloom Hopi corn and tepary beans. Button farms on 3,700 acres on 94 square miles leased on the Gila River Indian Community.

Sensor technology allows Button to pinpoint areas that could benefit from fertilizer, as well as areas where he can afford to use less. In the case of durum wheat, Button and Andrade use sensors to determine exactly when and where to apply nitrogen to boost protein content without excessive cost.

Global Positioning Systems (GPS) and lasers are also used to aid in preparing fields for planting through land leveling.

Button relies on reports from UACE to help him farm. "Everything that comes out of the UA I read like Dick & Jane. It's my primer."

He encourages other farmers to partner with UACE. "In the arid desert, as long as we have water, we can produce crops that no one else can with all of this sunshine and vast tracks of land. This is one of the breadbaskets of the world, food and fiber."

Source: http://extension.arizona.edu/high-tech-farming-tools-can-aid-greater-yield

SNAP-Ed Dishes Up Healthy Eating Habits

When Anita Culver was diagnosed with congestive heart failure, this sweet and spirited grandmother knew she needed to make some lifestyle changes.

To aid in her quest for healthy eating, Culver, 76, takes part in SNAP-Ed nutrition education classes offered through UACE in Maricopa County. The Supplemental Nutrition Assistance Education Program (SNAP-Ed) is funded through the US Department of Agriculture.

"I've learned to eat more fruits and vegetables," said Culver, a retired caregiver. "We are learning how to read food labels. I have been reading labels for years but not closely enough."

Culver takes SNAP-Ed classes at Glendale Adult Center. She visits the Center nearly every day, spending time with friends, playing Wii Bowling, dancing and dining. A steaming bowl of green chile and a plate of fruits and vegetables are a typical meal for Culver as she joins friends at the Center.

Betty S. Thompson, a UACE staff member, leads Culver's SNAP-Ed class. "Betty is a wonderful teacher," Culver said.

Thompson, who uses the Eat Smart, Live Strong program, said the goal is to promote health and reduce disease.

"I do not tell you what you shouldn't eat," Thompson said. "I raise your awareness as to the foods you should include in your diet."

While it's important for Culver to eat fruits and vegetables, she must avoid those high in Vitamin K, which can have a dangerous interaction with blood thinning medication. Through the class, she has learned which fruits and veggies to avoid and which ones to indulge in.

Culver has learned through Thompson how to reduce sodium and added sugars. She has also learned to boost her consumption of heart-healthy fats and whole-grains and to increase her physical activity.

She is committed to staying healthy. "I am going to eat the best I can," Culver said.

Source: http://extension.arizona.edu/snap-ed-dishes-healthy-eating-habits

Child Care Health Consultants

- Parents whose children are enrolled in quality early childhood programs miss fewer days of work and are more productive on the job.
- Children & Parents Develop Healthy Habits – Safety Practices
- Children who attended high-quality early childhood programs are more likely to graduate from college and less likely to use public assistance than their peers

As the owner of a small preschool and childcare center, Jethzabel Leon strives to provide excellent care to children in her hometown of Nogales, Arizona.

Helping her to reach that goal is Santa Cruz County Cooperative Extension's Child Care Health Consultation Program.

Santa Cruz County Cooperative Extension, a program of the University of Arizona, College of Agriculture and Life Sciences, works closely with 30 preschool and childcare providers that care for about 300 children in this border county.

The program is funded through First Things First. The program supports early childhood professionals in creating and sustaining healthy and safe environments for young children.

Leon, who owns Kids House Montessori Daycare and Preschool, collaborates with childcare health consultant Hannah Masangu, who visits at least once a month. Leon and Masangu brainstorm ideas on improving the business.

"Jethza and I have three goals in mind when we collaborate: to create a healthy and safe early childhood environment where children can learn; to explore ways to teach health and safety to children so that they develop life-long healthy habits and to provide information to parents to implement health and safety practices as home," Masangu said.

Leon said the partnership has helped her business to thrive.

"Hannah has helped us build our professionalism and we can offer a program of higher quality to parents and children," Leon said.

Darcy Dixon, director of Cooperative Extension in Santa Cruz County, said the program, which received $117,000 in First Things First funding in 2012, builds stronger child care programs, which in turn gives parents peace of mind, allowing them to be more productive at work.

Masangu said high-quality child care can have a lifelong impact on children.

"Research suggests that when children feel safe and are receiving the appropriate support and attention, it helps with their physical, cognitive, social and emotional development," Masangu said. "They are more likely to be successful in school and that translates to a higher graduation rate, college attendance and becoming productive citizens."

Source: https://extension.arizona.edu/child-care-health-consultants

3rd Generation Farmer Pioneers Double-crop No-till Cultivation

Ron Rayner is a pioneer of double-crop no-till irrigated agriculture in Arizona. His fields are a patchwork of alfalfa, durum wheat, cotton and sorghum. He plants alfalfa for three years, then harvests two crops in a single year – winter wheat and no-till cotton.

He knows this land and he's reaped the benefits of UACE research and expertise over the years. He remembers the days when crop-dusting planes sprayed the fields with pesticides every week during the growing season and farmers still lost cotton to a trilogy of destructive insects – pink bollworm, whitely and Lygus bug.

That was before the UA field-tested genetically engineered Bt cotton that ultimately led to the eradication of pink bollworm from Arizona, and developed other high-tech solutions that target only the menace insects, allowing all the beneficial bugs to survive.

Working with UACE faculty, Rayner and his brothers have doubled their yield while cutting water use nearly in half.

Now Rayner is excited about another new strain – Roundup-ready cotton.

That's what helps him grow two crops a year – wheat and cotton. No-till farming is common practice elsewhere – but not with irrigated crops. "It took a long time to figure out how to make it work."

Rayner, 70, pointed out that "the average age of a farmer is not much younger than me. We're at risk of losing a lot of collective knowledge." That's another benefit of working with UACE faculty and doctoral students.

Rayner, a 1964 UA graduate of the College of Agriculture and Life Sciences, received his Lifetime Achievement Award in 2002 and was named Ag 100 Council Agriculturist of the Year in 2010. His daughter's also a UA graduate. His son is enrolled now.

Source: http://extension.arizona.edu/3rd-generation-farmer-pioneers-double-crop-no-till-cultivation

Sharing a Passion for Plants

- Master Gardeners volunteered 13,725 hours in 2012, valued at more than $300,000
- 160 Volunteers fielded 934 telephone calls, made 2,137 face-to-face contacts outside of the office, 413 in-person contacts in the office and answered countless emails in 2012

Source: Jeff Schalau; Yavapai County Cooperative Extension Director

Master Gardener Steve McIntyre had an engineering puzzle to solve – can you take a parking lot that's bathed in shade for much of the day and turn it into a garden to feed the hungry? Yes, you can. McIntyre and a small army of University of Arizona, College of Agriculture and Life Sciences, Cooperative Extension Master Gardeners turned a parking lot at the Prescott YMCA into a community garden that provided nearly three-quarters of a ton of produce to the needy in 2012.

Source: https://extension.arizona.edu/sharing-passion-plants

McIntyre, a retired engineer, is one of 160 active Master Gardeners in Yavapai County. These trained volunteers spread their knowledge of gardening throughout their community.

Creating gardens, inspiring children to grow things, sharing their expertise and finding solutions to pesky plant problems are part of their calling.

"The Master Gardeners get projects done, they have fun and they are meeting a mission that is very important to them and the community," said Jeff Schalau, agriculture and natural resources agent with Yavapai County Cooperative Extension.

Schalau said the program benefits from retired professionals who bring a wealth of skills.

Schalau and the group recently helped identify Seiridium canker, a fungus that is devastating Leyland cypress. The public is now advised not to plant the variety.

Master Gardener Sue Smith recently led a team in creating the Yavapai County Native and Naturalized Plant Database. Using her skills as a former eBay programmer, Smith and the other volunteers have photographed and described 407 plants which are searchable on the site.

Volunteer coordinator Mary Barnes connects Master Gardeners with projects. "I find it rewarding. I am working with other gardeners and they are wonderful people. Every day there is some new question coming in."

Bob Gessner, a retired Illinois botany professor, was interested in learning to garden in Arizona when he took the 15-week course. He is now a dedicated volunteer, speaking to groups and answering questions.

"We are saving people money by keeping plants alive and helping people use fewer chemicals," he said.

This Farm Started a Seed-to-Table Revolution

Kids learn to eat what they grow.

You might say Tucson Village Farm is a farm of the kids, by the kids, for the kids.

The urban agricultural oasis and UACE 4-H youth development partner spreads the word about the connection between growing and eating food. The message is aimed at kids and spread by kids, and they get to eat the results.

"All of the food we grow here ends up in the mouths of kids," said Elizabeth Sparks, a Pima County Cooperative Extension faculty member who helps run the quarter-acre veggie patch.

The farm broke ground in the spring of 2010. Since then, thousands of people of all ages have visited its "farm camps" and workshops to toil in the soil, learn, and follow their food from garden to table. At most farm gatherings, visitors prepare and eat food grown there.

"It's a total seed-to-table program," Sparks said.

Riley Marsh, a member of the Silver Spurs 4-H Club in Pima County, helped build the farm and worked at a harvest festival there in the fall of 2010. She loves the way the youth garden connects people to the source of their food.

"That's also what 4-H is about," said the high school senior.

The variety of foods grown at the farm is impressive – wheat, strawberries, tomatoes, peppers, artichokes, onions, squash, watermelons and more. The Arizona climate allows for year-round growing.

The farm has had surprising results. After one farm camp when Brussels sprouts were ready for harvest, some teens wrinkled their noses at the tiny cabbages. When they tried the ones they picked, however, they were clamoring for more, Sparks said.

It highlights a key reason the farm exists.

"When kids take part in the growing of their food, they eat it – even if it's Brussels sprouts," Sparks said.

Source: http://extension.arizona.edu/farm-started-seed-table-revolution

Managing Grazing in Riparian Areas

- $4.5 Million Gift Supports Sustainable Ranching
- Over 10,000 cattle and sheep permitted (source: U.S. Forest Service)
- Springerville Ranger District
  - o 20 permits
  - o 19 permit holders
  - o 23 allotments
  - o 5,352 head of cattle permitted
  - o 5,055 head of sheep permitted
- Alpine Ranger District

o 15 permits
  - o 15 permit holders
  - o 24 allotments
  - o 2,053 head of cattle permitted

Sustainability Concepts

- Build capacity for wildlife while maintaining working landscapes
- Improve herbaceous production
- Pay attention to regrowth and recovery
- Increase plant species diversity
- Distribute livestock grazing pressure
- Reduce habitat fragmentation

How to Manage Grazing in Delicate Riparian Areas

Once overgrazed and damaged, many acres of Arizona rangelands are lush with healthy grasses and clear creeks. The Kemper and Ethel Marley Foundation wants to keep it that way. In 2012, the foundation announced a $4.5 million endowment to the University of Arizona to support research and field work to enhance and strengthen the ecological, economic and social viability of ranching in the 21st century.

George Ruyle, Extension faculty in the School of Natural Renewable Resources, is the first recipient of the Marley Endowed Chair for Sustainable Rangeland Stewardship. The UA rangeland management specialist has led public/private collaborations to improve range management in Arizona for three decades. He said, "The $4.5 million didn't come out of the blue. It's because we're there, working with people to identify issues and find solutions."

To fence or not to fence. That was the issue.

The East Fork of the Little Colorado River runs through Wink Crigler's X Diamond Ranch in the White Mountains. Her family has owned this land since the 1890s.

More than a decade ago a federal agency issued a mandate to fence several miles of her high-elevation Alpine ranchland to keep cattle and wildlife out of that sensitive riparian area.

Crigler didn't see any sense in that. "I said here's the deal. I won't graze it and you won't fence it – until we find the science that says we need to or don't need to."

She turned to rangeland management specialist George Ruyle at the University of Arizona Cooperative Extension.

After four years of study, science showed that the area was in proper functioning condition. With a management plan to keep it that way, no fencing was necessary.

Crigler can use the East Fork water. Cattle and wildlife continue to graze there.

Ruyle said, "The big deal up here was – and still is – working with these riparian areas in the White Mountains. They are absolutely delicate and beautiful. Grazing them can be an issue.

"You have to really know how – and take a lot of measurements to monitor your use and impact. We've spent a lot of time to figure all that out."

For the past decade, Ruyle has helped ranchers introduce sustainable range management plans and monitor rangeland health. This research provides a scientific foundation for policies that allow continued public-lands ranching in Arizona.

Most ranching operations run cattle on private land plus state and federal grazing allotments. Implementing sustainable range management requires complex collaboration.

Stakeholders include ranchers, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, National Resource Conservation Service, Arizona Game and Fish, UA College of Agriculture and Life Sciences, Arizona Cattle Growers Association, National Riparian Service Team and environmental organizations.

Issues span from floods, drought and forest fires to endangered species including the Apache trout, wildlife management, the re-introduction of wolves and evaluating bunch grasses, including Arizona fescue.

Crigler recalls there were about 65 participants in the fencing issue.

To move from contentiousness to collaboration, Ruyle and Crigler began bringing people together for workshops on critical range management issues. That led to establishing the Ranching Heritage Alliance in 2008.

"We have no officers, no dues, no constitution – but we have good participation and a lot of very productive activities," Crigler said.

Sustainable range management is a lot of work, Crigler said. Her herd numbers 300. "It takes more hours on horseback. You've got to be out there and know where your cows are all the time. We see our cows every single day, sometimes twice a day."

Riding the White Mountains rangeland is proof that the science and the collaborations are working. Ranchers can attain that delicate balance between economic viability and environmental sustainability.

"This is a real success story," Ruyle said. "It takes a whole group of people working together to build trust and get these things done. That's what Cooperative Extension excels at – facilitating these processes."

Source: https://extension.arizona.edu/managing-grazing-riparian-areas-impact-story

Photo Left: This 1920s era photo shows that horse and livestock projects have long been part of Arizona 4-H. Right: Today, competing in horse competitions is a great way to learn determination. Shown here, Rosie and her horse Miss T competing at the Arizona State Fair in Phoenix.

4-H horse club inspires small business owner.

At age two, Rosie (Karrels) Lanham mastered the ocean waves. By age six, she tap-danced so much, her parents sent her outside to keep the noise down. Rose is now a small business owner with children of her own, but her mother, Mary, has not forgotten what it was like to raise an ambitious 4-H kid and the overwhelmingly positive effect the program had on Rosie's life.

Rose was a member of Arizona 4-H for nine years, from the ages of nine to 18. Her main focus was on horses, although she took part in several other activities, including the veterinary program and the dog project. Rose stuck with horses, though, and horses became her passion. "

We took Rose to riding lessons so she would be happy on a horse, and her instructor [Wendy Davis] recommended she join 4-H," said Mary Karrels. "Wendy told us that Rosie would learn much more than riding skills, and she was right!"

Rose was a member of the Tanque Verde Livestock Club in Tucson, where she learned confidence and independence. "Small tasks such as saddling your own horse or braiding their manes when you're nine can feel large," said Rose. "Parents would normally do tasks like this for young children, but the structure of 4-H causes the children to do a lot more on their own than you normally see."

For instance, there was Duchess. Duchess was Rose's horse, and Duchess was no easy ride. Duchess had not been exposed to horse shows, so in Rose's first class, she bucked three times. The horse would not stand still, so young Rose decided to set some goals: "Next time, we'll see if we can get through this without bucking." Miraculously, Duchess developed into a blue ribbon horse, but 4-H was not just about first prize.

According to Mary, "It's not the winning that's important; it's what you're doing out there. That's why we as parents supported her competing in everything she did. If you don't do it right the first time, that's okay. The key was to stay focused on doing better next time."

Thanks to the dedication and leadership skills earned in 4-H, Rose graduated from Sabino High School and received the Arizona State University Leadership Scholarship Program— a four-year full ride to ASU, where she majored in business and communications and graduated with honors. Since college, she has worked in sports marketing and with Yahoo.

Rose is not afraid of failure. She's not afraid of going it on her own, because, thanks to Duchess and 4-H, she learned falling down is an important part in getting back up. Acting as her own boss, she recently founded the unique website "a la Reg" (www.alaReg.com), an online tool that provides non-profits and small businesses an easy way to move paper forms online.

Rose carried many life lessons with her from 4-H, including commitment, sportsmanship, and team work, but the most important learned skill? Determination. "I had many failures in the ring," said Rose, "which only meant I had uncovered areas to improve, which led to many hours of practice with my horses, which later lead to the blue ribbons. The process was just as important, if not more so, than the final result."

Rose's mother, Mary, agrees. However, she has some advice for parents with 4-H kids: "Get ready to back off. Children definitely learn independence and to stand on their own two feet." In the case of Rose and Duchess, make that four.

Source: http://extension.arizona.edu/4h

Healthy Living through Nutrition Education

- Adult obesity costs the United States as much as $150 billion in medical expenses annually
- 65% of adults are overweight and 24% are obese in Arizona
- 15% of adolescents are overweight and 13% are obese in Arizona
- EFNEP = Improved Health + Cost Savings

Abel Macias is living a healthier life, thanks to the University of Arizona, Cooperative Extension in Pinal County. The 34-year-old dairy worker ate a diet rich in high fat meat and tortillas. He quenched his thirst with whole milk and three sodas a day. He felt sluggish and suffered from indigestion. When Macias signed up for English and computer classes in rural Stanfield, he discovered that a year-long nutrition class was offered by Pinal County Cooperative Extension, a program of the UA College of Agriculture and Life Sciences. He figured he had nothing to lose. Macias attended every session of the Expanded Food and Nutrition EducationProgram – or EFNEP. The result? "I had to buy new clothes," Macias said. "I lost two sizes and 20 lbs. I have so much energy now." During the sessions taught by Pinal County Cooperative Extension nutrition educator Esmeralda Castillo, Macias learned about the benefits of eating whole grains, fruits and vegetables while reducing fat and sugar consumption. "I learned a lot from Esmeralda," said Macias, who calls Castillo his "angel." He replaced whole milk with skim and now drinks water, with an occasional diet soda. He also eats some chicken and fish, with plenty of veggies. "My life has changed so much and my family's life has changed," said Macias, who lives with his parents and sisters. His mother, who has diabetes, often cooks the family meals. Macias took home what he learned about nutrition and his mom has slimmed down the menus. "If we hadn't made these changes we would all have diabetes," Macias said. Castillo said the lessons learned in EFNEP can change lives. "We are not only teaching the importance of healthy eating, we are reducing medical problems and helping families stretch their dollars," Castillo said. Included in the curriculum are meal planning, budgeting and food safety. Cathy Martinez, family, consumer and health sciences Cooperative Extension agent in Pinal County, said EFNEP aids in the battle against obesity, resulting in a healthier and more effective workforce.

Source:
https://extension.arizona.edu/healthy-living-obesity-prevention-food-and-nutrition-education

4-H Beep Patrol – Building Life Skills and Serving the Community with Robots

An Avondale 4-H club is designing and building tiny robots to boost teamwork, leadership skills and technical savvy. And along the way, Beep Patrol members are helping their neighbors stay safe from food-borne illness.

Using kit robots made from LEGO blocks, the club competes in a world-wide competition running their kid-programmed LEGObots through pre-defined tabletop courses. In 2011, the Beep Patrol's second year, the league included more than 18,000 kids from around the globe working under the theme food safety.

In this year of FIRST LEGO League, the Beep Patrol built Beep, their robot which looks a bit like a miniature farm combine with a flat, lift-operated platform on the front. Beep can scoop and dump tiny "germs" and gather LEGO fish while maneuvering around a sort of miniature LEGO town. Scores are based not only on performance of the robot challenges, but also things like gracious professionalism and inspiration.

The Beep Patrol did well in a regional FIRST LEGO LEAGUE competition. "We recognized with second place in the challenges, and with the LEGObot design we won," said Michael Vasudev, 10.

The kids are in good hands with coaches Pavan Vasudev and Jenny Batson, both of whom are engineers. The club started as a group of home-schooled kids, then found a home with 4-H because of the principles.

"We wanted the kids to be able to mature and become leaders as they move through the program and also to be technically minded," Pavan said.

Though the club is small – just 17 kids from age 5-16 – it has had a broad impact.

The Beep Patrollers worked with the Maricopa County Environmental Services Department to create an online map listing food-borne illnesses across the Valley. The kids conceived the map using county reports of illness by address. The kids made a prototype GIS map with a grant from the computer mapping software company Esri. The county then took over, and the map is in the planning stages. When it's finished, it will allow users to see where and when illnesses happen.

Parental involvement is key to the success of the Beep Patrol, said parents and coaches alike. But, as with all 4-H clubs, ultimately it's all about the kids and what they are learning and doing.

"They're the ones reaching out to the community. It's their club. We just drive them here," said Beep Patrol parent Sharon Vasudev.

Project CENTRL Changed Her Life

Diane Joens, Mayor of Cottonwood.

Co-founder, Stewards of Public Lands.

Editor and publisher, The Verde River Almanac.

Champion of water rights, reclamation and downtown development.

Joens never imagined herself in any of these leadership roles before she was selected for Project CENTRL in 2001. Then she achieved all of them.

"Project CENTRL was a life-changing experience," she said.

Developed by UACE, Project CENTRL is an intensive two-year program that cultivates passionate leaders to serve rural communities in Arizona. This Center for Rural Leadership has graduated more than 500 over the past two decades.

"I wanted to learn to be a leader," Joens said. And learn she did.

Joens recalls a seminal seminar early in the program. "A lady talked about doing what your heart tells you to do – and that really spoke to me. It changed my decision making about what to do. Get involved in volunteer work and serve the public – that's the route I took."

She retired from her county job and rolled up her sleeves.

Her Project CENTRL internship tackled the complexities of water in the Verde Valley, where she's lived 24 years. She compiled, edited and published The Verde River Almanac, a review of Arizona water rights, water disputes, the river's history, geography, geology, hydrology and much more. She collaborated with researchers and writers and engaged financial supporters ranging from the Salt River Project and Sierra Club to local businesses and citizens.

Joens partnered with the Clarkdale police chief to establish the nonprofit Stewards of Public Lands who "lead by doing." These volunteers work across jurisdictions to clean up and stop illegal dumping to protect the Verde watershed and its aquifer. "The beautiful Verde River runs through our town. The Prescott National Forest is on one side, the Coconino on the other. Why people want to dump I do not know," she said. "In the first four or five years we took a full 40-yard dumpster of trash out of the forest every month."

Joens ran for Cottonwood city council in 2003, then mayor in 2007. She's in her second term as mayor. "The public elected me to serve. That pretty much astounded me. I would never have had the guts to do that without Project CENTRL."

Her passion for Cottonwood and the river is infectious. She rattles off accomplishments:

A $17 million recreation center. A revitalized downtown – with streetscape upgrades, wine tasting rooms, restaurants, a new hotel, antiques, a refurbished center for the arts, a popular watering hole in a onetime gas station, even the aroma of fresh-baked bread. Up next? A solar-powered reclamation plant in the riverfront park.

"When you're a mayor you can't claim anything as your own. It's really teamwork." Joens said. "We want Cottonwood to be a destination." This riparian area in Central Arizona could draw visitors for birding, cycling, hiking, kayaking and other recreation.

"I don't have an agenda. I do have a vision 20 to 25 years out there of what I want the community to look like. I see the city moving in that direction."

Project CENTRL honored Joens for her work to protect the Verde Valley watershed and selected Cottonwood as the exemplary site for its next economic development seminar.

Everett Rhodes has directed Project CENTRL since 1997. "This experience involves sharpening your tools and using them to make an impact on rural Arizona," he said. "It's an adventure, a journey – and not just for two years. It's a lifelong journey."

Source: https://extension.arizona.edu/project-centrl-changed-her-life
Project CENTRL: http://www.centrl.org/

Arizona Cooperative Extension's Centennial 1914-2014

A century of improving lives, communities and the economy

By Gabrielle Fimbres for the College of Agriculture and Life Sciences

4-H Youth Development kindergarteners harvest carrots in the garden at Tucson Village Farm, a UA Cooperative Extension program in the College of Agriculture and Life Sciences. Tucson Village Farm was recently honored as a model program for the nation by the National 4-H Council. (Photo by Judy A. Davis)

When University of Arizona Cooperative Extension set about its mission a century ago, educators traveled the state by train, sharing exhibits of livestock, produce and the latest in farm machinery, plus advice for more efficiently managing one's household.

The Extension Train – packed with hogs, cattle, sheep, plows, fruits and vegetables – was a traveling classroom, bringing knowledge to the people of the brand new state of Arizona.

That mission remains strong today, as Cooperative Extension celebrates 100 years of improving the lives of Arizonans—through innovative research and vital educational programs. The delivery of information and science, however, looks a bit different.

While Extension agents, specialists, staff and volunteers continue to share knowledge in classrooms and homes, on fields and farms, technology allows Cooperative Extension to connect with people, through news you can use on YouTube, Twitter, Facebook, Pinterest and mobile apps.

As Extension enters its second century, there's a continuing opportunity to identify Arizona's greatest challenges and offer solutions, said Jeff Silvertooth, director of Arizona Cooperative Extension and Associate Dean for Economic Development in the College of Agriculture and Life Sciences—or CALS.

"Improving lives, communities and the economy—it's what we have done for 100 years and what we will continue to do for the next 100 years," said Linda Houtkooper, Associate Director of Programs for UA Cooperative Extension.

The signing of the Smith-Lever Act on May 8, 1914 by the U.S. Congress established the Cooperative Extension Service as a national priority, creating a unique educational partnership between the U.S. Department of Agriculture and the nation's land-grant universities that extend research-based knowledge through a state-by-state network of extension educators.

When what was then the Arizona Cooperative Extension Service was established formally at Arizona's land-grant institution – the UA – on July 1, 1914, it had one full-time employee and work was already under way in every county in the state. But even before this Congressional action, many states were already using the Extension model of using research to improve people's lives. 4-H began in Arizona in 1913—a full year before Extension was created.

A century later, UA Cooperative Extension operates in all 15 Arizona counties, on five reservations and four military bases and has faculty based in every department in CALS. The organization employs nearly 500 people and approximately 70 percent are funded on external dollars.

"Cooperative Extension leverages all allocated funds at a rate of 2.9, which means for every dollar invested, Extension increases that funding through external sources," Silvertooth said. "Therefore, Cooperative Extension provides a direct and positive economic impact that creates jobs and local cash flow."

Arizona Cooperative Extension is part of a national educational network of scientists and educators who help people solve local problems and put knowledge to use. Cooperative Extension is continually addressing new challenges in all areas it serves: Family, Consumer and Health Sciences; Agriculture and Natural Resources; and 4-H Youth Development.

"The entire state is our campus," said Kirk Astroth, assistant CALS Dean and Director of Arizona 4-H Youth Development. In 2013, more than 478,000 Arizonans took part in programs, with 190,405 young people participating in 4-H and other youth development programs.

"The work of Extension is never done," Astroth said. "As soon as one problem is addressed, new challenges arise which require the application of science, research and practical education to find solutions."

In addition to long-standing, traditional production agriculture programs, agents help farmers battle new varieties of agricultural pests, provide support for grandparents raising grandchildren, combat rising obesity rates in children and adults and develop leadership skills for the children of deployed members of the military.

The original intent of land-grant institutions was to further science and education in agriculture and engineering. While those goals hold true today, equally as important is providing information and support to nurture healthy individuals and families.

"Our problems have changed and our public has changed dramatically in the past 100 years, but we continue to bring education to the people and bring science to bear on practical problems and find solutions," Silvertooth said. "That is what we are here to do and I think we do it better than anyone else at a land-grant institution."

Examples of the benefits of Cooperative Extension programs in people's lives are included at extension.arizona.edu

Peter Ellsworth (right) specialist in entomology with UA Cooperative Extension at the Maricopa Agricultural Center, part of the UA College of Agriculture and Life Sciences, examines whitefly damage on cotton late in the season with a scientist from Colombia and others. The cotton integrated pest management (IPM) plans developed in Arizona have been exported for use in California, Texas, northern Mexico, Australia and Latin America. The Arizona cotton industry has supported the state's economy with as much as $700 million in economic activity and sustained 9,000 jobs annually (Photo, Maricopa Agricultural Center).

A University of Arizona cropping systems specialist and county agents share results of plant damage on cotton production with local farmers at the Maricopa Agricultural Center, part of the UA College of Agriculture and Life Sciences. (Photo by Peter Ellsworth)

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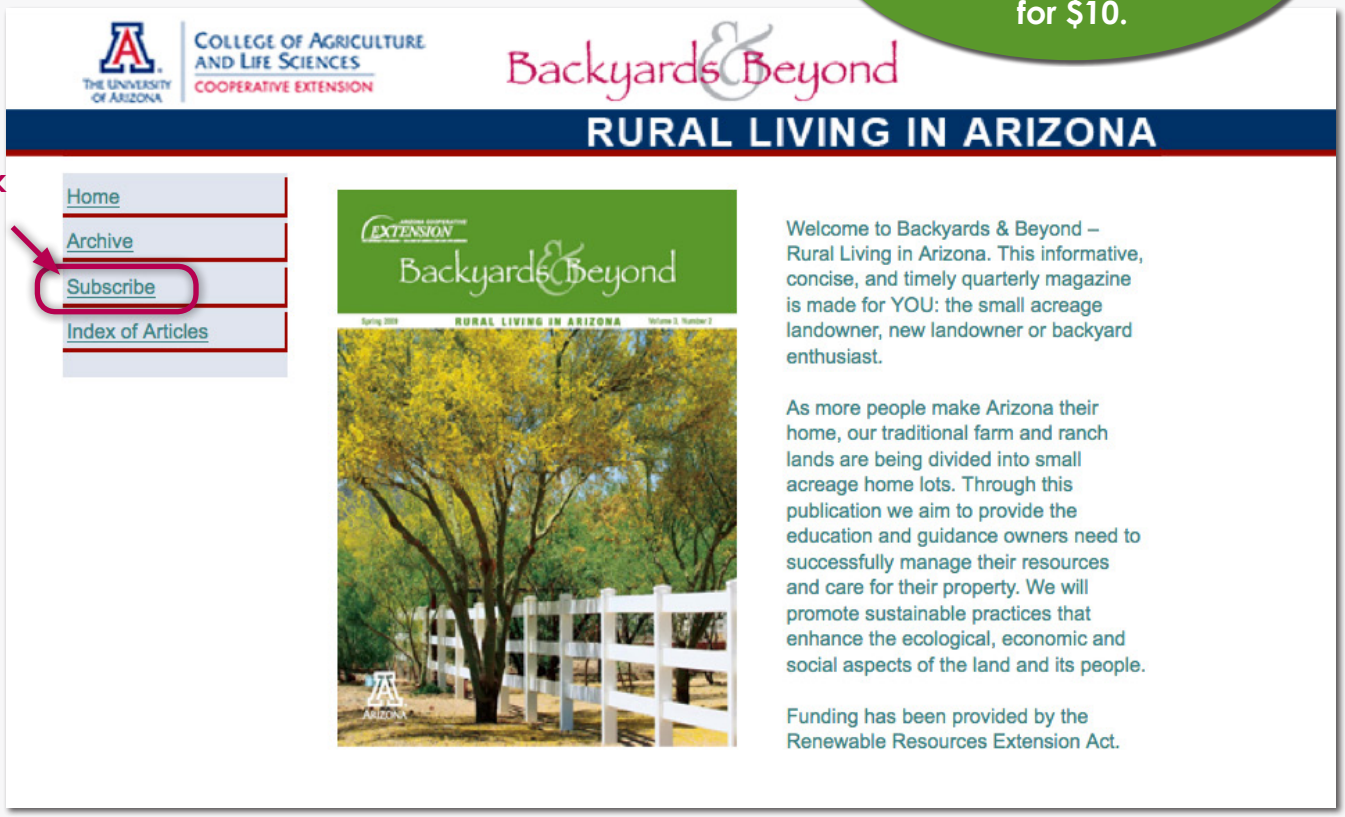

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