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/