



# 2017/2018 ANNUAL REPORT



COLORADO STATE UNIVERSITY  
EXTENSION

# Contents

Extension budget FY18	1
Drought/Wildfire	2
Collaboration to save pets during disasters	3
Extension awards	4
Family Leadership Training Institute	6
Summer interns	7
New facilities	8
Rainwater harvesting educational outreach	10
New app for emerald ash borer detection	11
Senior Access Points in Larimer County	12
GRANDcares program	13
Denver Veterans to Farmers	14
Annie' Project	14
Radon detection programs	15
EFNEP	16
Eating Smart, Being Active app	16
New food preservation app	17
Engaging youth from military families with Colorado agriculture	18
Colorado 4-H at a glance	
Extension strategic plan	20

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## 2017/2018

### Colorado State University Extension Annual Report

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## Growing with Colorado

CSU Extension's programs have applied our campus's academic talent to challenges and opportunities of Colorado's rural counties, Front Range metro areas, and natural resource interests for more than a century. Today's Extension programs range from youth development 4-H, production agriculture, food system value chains, regional economic development, and Colorado's varied climates and ecologies. This Annual Report offer overviews of a few select programs as well as Extension's fiscal and organizational culture.

Our programs cover a broad spectrum of evidence-based university programs. These span campus-based expertise in rangeland ecologies and wheat breeding to Colorado's changing weather patterns consequences for the management of water resources. As one of the Office of Engagement's outward facing divisions, giving meaning to CSU's Land Grant mission, we provide the highest quality youth development programs through Colorado 4-H, and other youth organizations in STEM and citizen science.

Other programs provide resources and leadership for fire mitigation, water resources and forest management, and community development initiatives. While we serve every Colorado county, we very much want to deepen our capacity to serve.

Our locally and regionally-based Extension agents work hard to deliver what communities value. The recent survey results and comments from the county commissioner's survey indicate the success of our Extension faculty and staff. They connect campus resources – including evidence-based information and programs – to communities in a locally meaningful way. And, they help our university research and trainings stay relevant to community needs. Their expertise continues to drive CSU's success in achieving its land-grant mission.

Results from the 2017 survey of Colorado county commissioners indicate a high level of overall satisfaction with CSU Extension's quality, value, responsiveness, and level of service.

We continue the proud CSU legacy of reaching into and collaborating with Colorado's counties, rural and urban, to bring CSU's extraordinary array of talent to the challenges and opportunities of Colorado.

A handwritten signature in black ink, appearing to read "Lou Swanson".

**Lou Swanson**

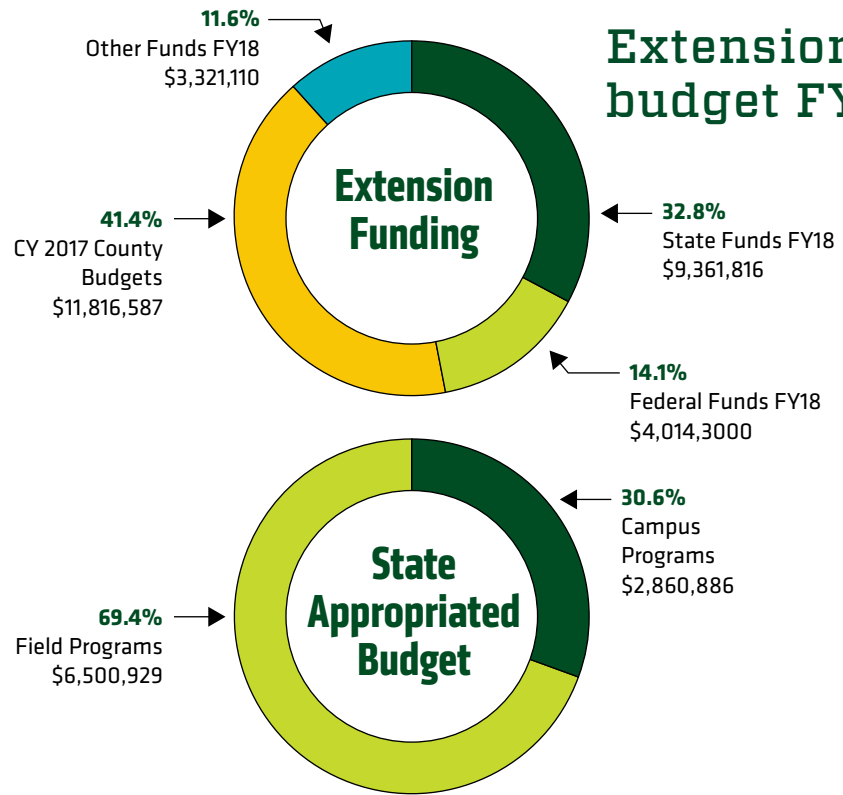
Vice President for Engagement

Download the 2017 survey results summary report.  
[col.st/8DYs0](http://col.st/8DYs0)



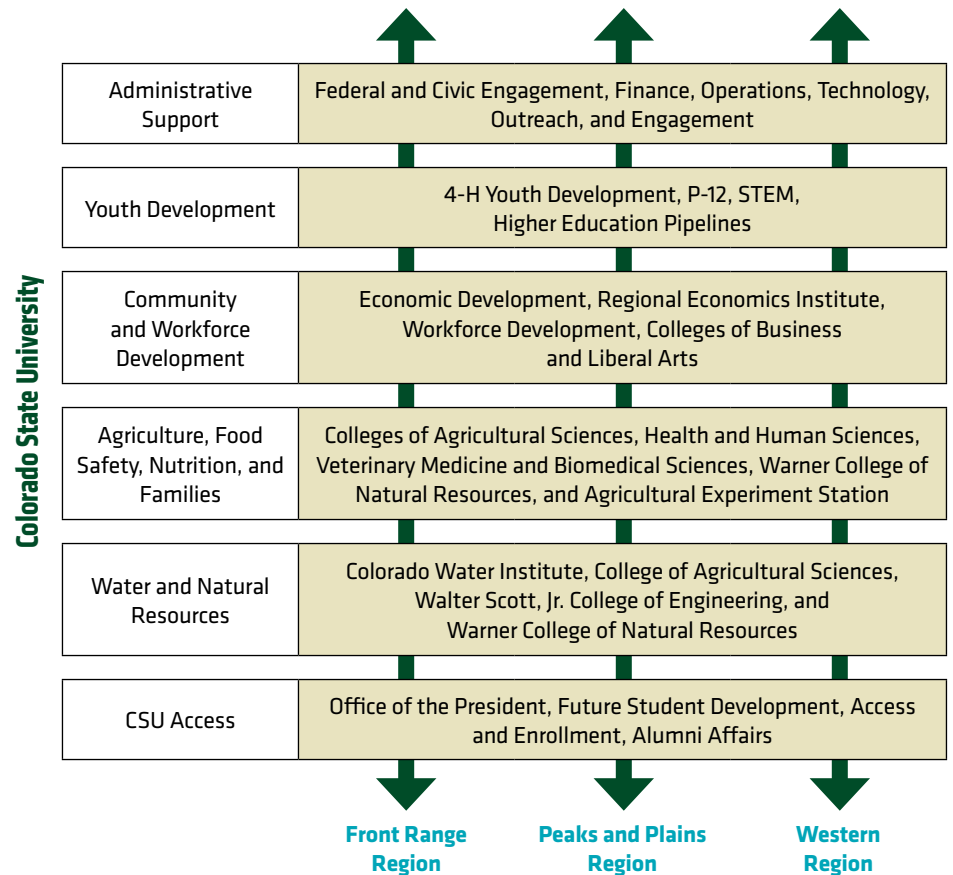


## Extension budget FY18



### Colorado State University Extension pathways to engagement

Connecting community and regional needs with University and external talents and resources (county, regional, and campus)



# Drought and wildfire

It's no surprise to snow and outdoor enthusiasts that Colorado had a drier and warmer winter than usual. Water is considered one of the most valuable resources in the Western United States. When water is in short supply, everyone in Colorado has to learn to make adjustments. People in urban areas are encouraged to be water-frugal in both personal and landscapes uses.

The lack of snow and snowpack to feed Colorado rivers and irrigate farms has prompted the U.S. Department of Agriculture to declare a natural disaster for Colorado. The USDA issued that declaration in late May for seven Colorado counties, primarily in the San Luis Valley, among the hardest hit by the lack of snowmelt. According to the USDA's Natural Resources Conservation Service, the Upper Rio Grande River, which serves six of those seven counties, is at 2 percent of snowmelt equivalent.

The USDA categorizes snowmelt equivalent as the amount of water that is contained within the snowpack. It's the depth of water that would result if the entire snowpack was melted instantly.

Extreme drought now covers most of southwestern Colorado, the San Luis Valley, and southeastern Colorado.

The disaster declaration covers Alamosa, Archuleta, Conejos, Gunnison Hinsdale, Mineral, and Rio Grande counties. All but Gunnison County are served by the Upper Rio Grande River. Gunnison County is served by the Gunnison River.

Western Slope water providers with limited storage are concerned about the demand this season and are considering possible restrictions, while Front Range water providers are developing conservation messaging.

Farmers and ranchers make adjustments to their production strategies. Land-management officials forge lease and activity arrangements that best protect the health of public land. These plans are aimed at decreasing economic loss and maintaining precious range and soil health.

A team of Extension specialists, and agents, along with members of the Colorado Water Institute, convened a task force in January 2018, in anticipation of weather conditions pointing toward drought in 2018.

In dry years, increased concern for wildfires is prevalent. A red flag advisory is issued by the U.S. National Weather Service when conditions are ideal for wildland fire combustion and rapid spread. These are drought, very low humidity, lightning, and high or erratic winds.

In rural communities, local fires are initially fought by volunteer firefighters, seasonally employed wildland firefighters, forest service personnel, farmers, and ranchers. Damage to acres of productive land, crops, and animals rarely garner the national attention that threats to public safety of large numbers of people do. Yet, already in 2018, multiple large grass and wildland fires have been reported in Colorado, Oklahoma, northern Texas, and Kansas.

To assist the areas of Colorado most affected by the drought and at risk for subsequent fire and flood, three free workshops were offered in the spring by Colorado State University Extension, in cooperation with the Colorado Department of Agriculture and Scott Cotton of the University of Wyoming Extension. The programs were held at Dove Creek in Dolores County, Salida in Chaffee County, and Las Animas in Bent County.

The goal of the one-day training was to prepare producers, land owners, county officials, first responders, Extension agents, and other citizens to collaborate on emergency response in their areas. The more prepared community members are for these unfortunate events, the more successfully they can respond.





## Collaboration to save pets during disasters

As part of Colorado State University's veterinary Extension team, Regan Adams helps citizens and communities in Colorado protect and care for animals. During an emergency, pets and livestock pose different challenges, but the main objective is to help communities need to plan ahead through partnerships between disaster professionals, agricultural Extension agents, veterinary health experts, and animal welfare groups.

Creating animal evacuation teams that are prepared to rescue animals safely, and to have trained volunteers and procedures in place for setting up temporary animal rescue shelters is the goal. Deploying well-meaning, but untrained volunteers, not necessarily connected with larger rescue operations, can hinder response and endanger humans and animals.

### Household pets and service animals

The policy of rescuing pets dates back to Hurricane Katrina in 2005. In New Orleans, emergency response teams were too overwhelmed by the challenge of rescuing people to save their pets as well. More than half of the people who did not evacuate stayed because they were not able to take their pets. By remaining in place, they put themselves and first responders at greater risk.

In 2006 Congress passed the Pets Evacuation and Transportation Standards Act, which amended the Stafford Disaster Relief and Emergency Assistance Act to ensure that state and local emergency preparedness plans addressed the needs of people with household pets and service animals after major disasters.

"Challenges still arise as disasters play out," Adams said. "When temporary animal shelters close, many pets that were never claimed, or whose owners can no longer care for them, are left in

need of homes." The problem is worsened by post-disaster housing shortages with fewer landlords willing to accept families with pets.

While the PETS Act specifically focuses on household pets and service animals, it does not cover many species that people think of as pets, such as snakes or tropical birds. Shelters may not be able to accommodate farm and exotic animals that their owners view as pets.

In addition, the law does not explicitly recognize emotional support animals – a relatively recent designation for animals that provide therapeutic benefits to their owners through companionship, rather than performing tasks like service animals.

Community disaster animal planning includes identifying types of animals in the community and trying to find appropriate facilities to provide for them. This could mean designating a vacant warehouse as a household pet shelter, and a fairground for horses, goats, chickens, sheep, and cattle. Plans should also include providing trained



staff and appropriate food supplies for each type of shelter.

### Rescues on the range

Emergency management prioritizes human safety above saving property, including livestock. But for livestock owners, their animals represent not only a livelihood but a way of life. Farmers and ranchers know how to prepare for unexpected emergencies and disasters because their businesses depend on the land and the weather. And they are prepared to be isolated because they operate in rural areas.

Once responders have organized fresh feed and clean water and gathered cattle in holding facilities, they evaluate them for injuries and slowly reintroduce the starving animals to a normal feeding regimen. In the ensuing weeks, ranchers carefully monitor their animals' health, clean debris from flooded pastures, and repair miles of damaged fences.

### Make your own plans

Developing a plan for family and animals in case of an emergency is key. Information is available from the Federal Emergency Management Agency, other federal agencies, and state and local emergency offices.

Over the years, CSU Extension helped many Colorado counties develop disaster plans for animals, and cope with the aftermath of disasters.

- *Saving Pets, Saving People*: a documentary that illustrates the process in two Colorado counties [youtu.be/sOZ-AJPo2YA](https://youtu.be/sOZ-AJPo2YA)  
A companion toolkit to the documentary was created to guide communities through the process: [col.st/q0A0u](https://col.st/q0A0u)
- This article was originally published in *The Conversation*. [theconversation.com/in-cities-and-on-ranches-planning-is-key-to-protect-animals-during-disasters-83202](https://theconversation.com/in-cities-and-on-ranches-planning-is-key-to-protect-animals-during-disasters-83202)

# Extension awards

Colorado State University Extension highlighted the work of professionals from across the state with six awards as part of Forum, an annual weeklong professional development opportunity. Forum is an opportunity for Extension agents and on-campus specialists to meet and discuss upcoming issues and develop strategies for tackling them.

## F.A. Anderson Award

The F.A. Anderson Award recognizes outstanding performance by a state Extension employee throughout his or her career. F.A. Anderson was a college financial administrator who served as assistant to the Extension director starting in 1921, and then as Extension director from 1929 to 1952.

**Cary Weiner**, 2017 recipient of the Anderson award, leads the Extension Energy Planning and Reporting Unit. Its educational efforts reach more than 2,000 Coloradans directly each year. His leadership has facilitated group events, individual consultations, kit loans, and assessments that extend the reach of energy education.



Weiner served as chair of the inaugural National Extension Energy Summit in 2013, with 68 attendees from 28 states. This has become a biennial event at locations across the country that brings Extension energy professionals together for professional development.

“As an active participant in the Program Leadership Team, Cary co-led the establishment of the PRU system,” said Lou Swanson, Extension director and vice president for engagement. “His perspective helped to craft shared reporting outputs for Extension educational efforts.” Weiner continues to serve on the team that is reviewing and updating the measures.



Collaborative On-Farm Test (COFT) team: Kelly Roesch, Ron Meyer, Jerry Johnson, Wilma Trujillo, Dennis Kaan, Sally Jones

## Alton Scofield Award

The Alton Scofield Award recognizes outstanding performance by an Extension professional throughout his or her Extension career. Alton Scofield was a longtime executive director of the Colorado Cooperative Council. This prestigious award by Extension for members of Extension is sponsored by the council.

This year, there were two awardees of the Scofield award; Tommy Covington and Glenda Wentworth. “Tommy and Glenda both show levels of engagement among their county clientele that is a model for others,” said Swanson. “They are valued by their communities and their willingness to serve is evidenced by their collaborative natures, selfless leadership and dedication.”

**Tommy Covington**, who recently retired as county director and Extension agent in Fremont County, was a lead team member bringing Ag Fest to the Peaks and Plains Region. Ag Fest occurs once a year, over four days, providing educational opportunities to fifth- and sixth-graders across the region. Covington has mentored many Extension agents, in addition to his work for Fremont County residents.

**Glenda Wentworth** is the county director in Eagle County, and her work in family and consumer sciences has garnered her the respect and confidence of her peers, CSU Extension administrators, county colleagues, and clientele.



Her work with the Family Leadership Training Institute, Estoy Sano Project, WIN the Rockies, Wellness in Kids, the ServSafe Food Protection Manager Certification Training for restaurant workers and various personal financial management programs, has specifically targeted the various needs of her county residents. Wentworth is highly regarded in her county, and throughout the Western region and as a strong collaborator in her PRUs at the state level.

## Team Award

The Extension Team Award recognizes a team of county, area, regional, state, and/or interdisciplinary program employees. The CSU Extension Distinguished Service Team Award goes this year to the Collaborative On-Farm Test team.

The team supports Colorado growers, who depend on Colorado State University to provide unbiased, data-driven analysis and recommendations for adoption of new crop varieties. Team members work in collaboration with participating wheat farmers, which provides real-world test results of new varieties. The Colorado Wheat Research Foundation contributes all of the seed, and Extension agents are on the ground to plant, cultivate, and monitor fields, and to harvest.

Jerry Johnson initiated the COFT program in 1996. Over the course of the past 21 years, several generations of Colorado farmers have been able to see the results of varieties in the ground and to market, to make informed choices about their planting strategies.

## Community Engagement Distinguished Service Awards

The Community Engagement Award recognizes an individual or group ex-



hibiting excellence in creating mutually beneficial and transformational relationships that address a public concern. There were four awards given out this year, in four distinct categories.

“These statewide awards were designed to recognize Extension agents and specialists working to address community need,” said associate vice president for engagement, Kathay Rennels. “Nominators submitted work in their communities, which was prompted through specific engagement opportunities.”

**Gus Westerman**, from Dolores

County, was recognized for exceptional service in the area of **resiliency**.

Since the 1990s, the county has been trying to replace the road and bridge county shop. Westerman was tasked by the commissioners to figure out how and if the project could move forward in a timely manner. The shop was originally built in the 1950s and could not accommodate new (and old) equipment nor did it have the ability to properly and safely service them. Working with the commissioners, Westerman contracted with an architect to draw up preliminary plans and cost estimates, and worked with the Department of Local Affairs to secure a planning grant for the project.

The final project included and incorporated other county offices/facilities into the project including the GIS Addressing Department, Emergency Services with an Emergency Operations Center, and a public meeting room.

**Joy Akey** was recognized for exceptional service to the Golden Plains Area in the area of **impact**.

Starting in 2004, Akey worked with the Integrated Nutrition Ed-



ucation Program coordinators from the University of Colorado Health Sciences Center to partner with Wray Elementary School teachers to provide weekly nutrition lessons. The curriculum was tied to science and literacy standards, and offered opportunities to try new foods, taught food preparation skills, encouraged teamwork through small group activities and ultimately, led to increased fruit and vegetable consumption and physical activity.

Kid PHIT is a six-week, after school program series held each fall and spring. Each week is a 90-minute program with 45 minutes of physical activity and 45 minutes of nutrition. The relationships built through these partnerships have opened other doors for collaboration as well. Extension is recognized as a valuable resource for nutrition and health information and has reached a multitude of nontraditional customers.

**Carla Farrand**, from Garfield County, was recognized for exceptional service to Garfield County in the area of **relationship outcomes**.

In October 2015, Garfield Healthy Communities Coalition (LiveWell Garfield County) was selected as one of 19 Colorado Ccommunities to participate in the Great Outdoors Colorado Inspire Initiative. Extension was one of many partners who worked together to review the submission ideas and work on the writing of a \$2.9-million grant for three years for implementation of these ideas.

The goal of the GOCO Inspire Initiative is to provide youth with the opportunity to experience a diversity of outdoor places and activities. The barriers identified in western Garfield County to youth engagement with the outdoors included underfunded parks, poverty, limited informal and formal outdoor recreational opportunities, limited infrastructure for walking and biking, and disconnects between and among programming organizations.

Each community around the high schools recruited students to be a part



of the youth advisory council. These youth council members surveyed other youths, parents, and community members to see what the need was for natural areas, parks, trails, and programming.

The youths presented the results in a community meeting. The community provided input into what the youths saw as the vision for new places, new programs and career pathway opportunities. This information was formulated into a proposal for community partners to submit their ideas for places, programs, and pathways for an implementation grant.

The benefits have been extended by Garfield County providing Garfield County CSU Extension with additional funding – \$88,000 per year with annual increases – to hire a 4-H STEM program associate and implement additional school enrichment and afterschool education.

**Morgan County Youth Safety Program**, in recognition of exceptional service to Morgan County in the area of **learning and wisdom**.

Farm machinery accidents were the most common cause of these fatalities in Morgan County.

In an effort to change this statistic, the Morgan County Extension staff developed a youth educational program that included about safety in their home and on the farm. Partnering with county elementary schools, they developed a pilot program

Farm safety programs were presented in 1993 and 1996 to all third- through fifth-grade youth in Morgan County. In 1999, the emphasis was broadened from farm safety to include general safety issues facing youth. Train, food, and sun safety workshops were added. In 2002, schools were contacted to see which workshop offerings would fit the needs of their students. New safety workshops were also added to our program when the community dealt with accidents related to train, water, and ATV safety. Ten to 15 workshops were offered at each school and continued to be offered in 2005, 2008, 2011, 2014, and spring 2017.

Youths receive information to take home to their parents and are encouraged during the workshops to share

the information they learn with siblings, parents, and extended family members.

In the 24 years since its inception, Morgan County staff has delivered 72 daylong workshops at schools (every three years) for third- through fifth-graders, reaching over 10,000 youth. Safety topics include grain entrapment, tractor rollover, power takeoff entanglement, ATV safety, chemical safety, lawn and garden safety, food safety, sun safety, water safety, train safety, seatbelt safety, and safety around animals.

Collaborators have included all Morgan County elementary schools (public and private), Morgan County FFA chapters, Morgan County REA, Morgan County Ambulance Department and EMTs, Red Cross, Jackson Lake staff, city of Brush, Colorado State Patrol, and Operation Lifesaver.

### Diversity Award

This year's Diversity Team award goes to the Children, Youth and Families at Risk, Family Leadership Training Institute, Colorado team.

FLTI is designed to bring together people from all walks of life to explore the civic process and enhance leadership competencies. Participants grow in their leadership skills through an expanded understanding of the civic tool necessary to address health and social inequities. Participants in CYFAR FLTI include parents, family members, and adult mentors and their youth partners, ages 12-14.

The team members include community and campus partners. Through their work, participants have become change agents in their communities and in the state.

## Family Leadership Training Institute

The Family Leadership Training Institute in Colorado accepts participants from diverse socioeconomic backgrounds, ages 12 and up, who want to improve systems for youth. Once accepted into the program, they participate in a 20-week curriculum that integrates personal and child development, leadership training, civic literacy, and participation skills.

Each year, the National Health Outreach Conference and the National Institute of Food and Agriculture seek nominations in four categories: individual/family program, community program, innovative program, and leadership. All nominations are peer-reviewed and evaluated based on meeting defined needs of their communities, documented positive impact, and ability to be used by other communities.

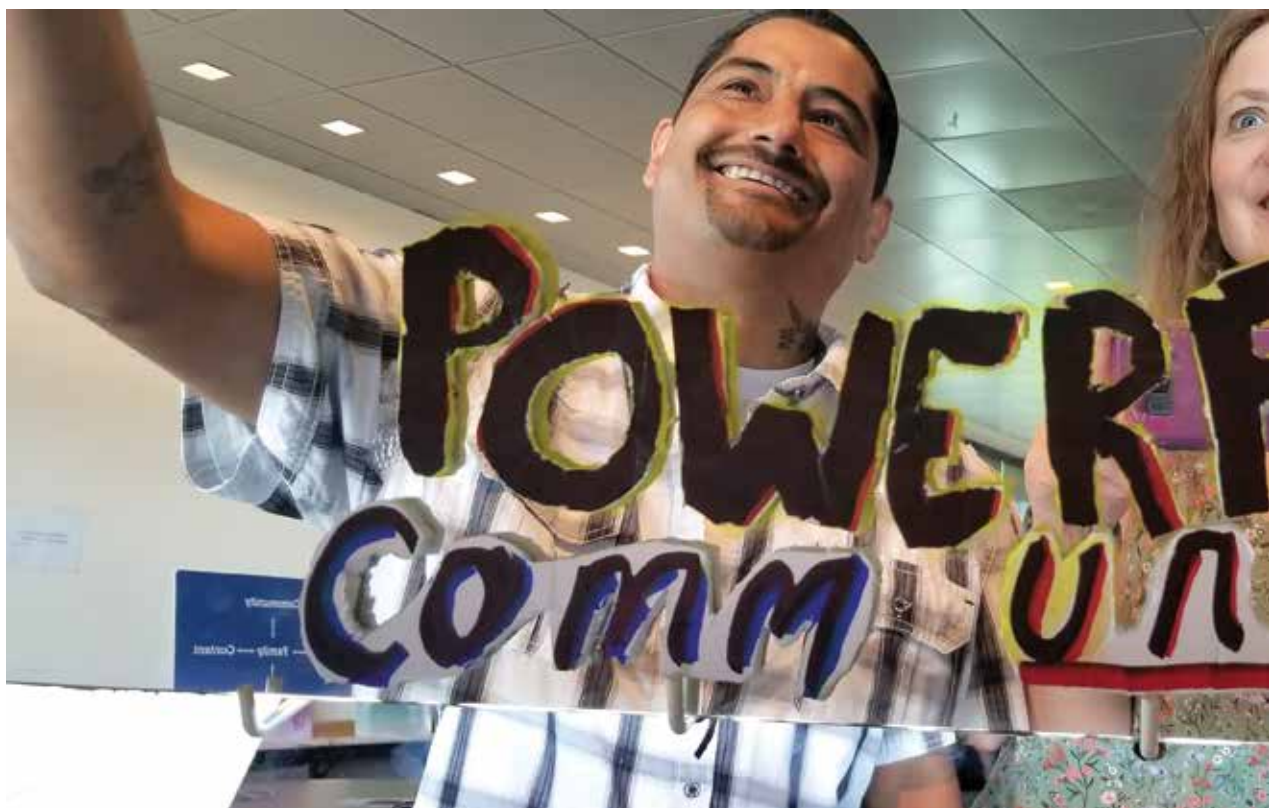
Colorado State University Extension received the 2017 Priester Community Award for its program, Family Leadership Training Institute. Carroll, Extension director of federal and civic engagement, accepted the award on behalf of her team at the 2017 National Health Outreach Conference in Annapolis, MD.

"The Family Leadership Training Institute provides opportunities for community engagement that are essential for community building and community success," said Lou Swanson, CSU vice

president for Engagement and Extension Director. "This national award is an excellent recognition to the dedication of the staff, volunteers and partners who make this program work for local communities."

The purpose of the award is to honor Extension programs that positively impact the health of people across the United States and provide leadership to expand Extension's capacity to increase the number of Americans who are healthy at every stage of life. The annual award recognizes sound and innovative health and wellness programs at the county, state and national level. The FLTI program was selected for the Community Health award. "Our FLTI team, led by Kyle Christensen, at Colorado State University, believes that when understanding and utilizing the tools of democracy, family and community leaders will positively influence policy/program change for health and well-being of children, families, and communities," said Carroll.

Since its inception, FLTI programs have reached more than 800 people in 14 communities throughout Colorado. Results reports show 82 percent of participants improve their ability to be agents of change, 79 percent improved their self-confidence, 70 percent were able to work with professionals in their





communities and 68 percent reported engaging in at least one community action related to public health priorities.

Emerging civic leaders from around Colorado also have the opportunity to learn firsthand about the legislative process at the Colorado State Capitol.

“The Leadership Day at the Capitol is an opportunity for our participants to learn about state government, the legislative process, and current policy priorities of the legislative session,” said Patti Schmitt, FLTI of Colorado assistant project coordinator. Colorado State University Extension coordinates this annual event to provide participants the opportunity to meet their elected representatives and senators to advocate for policies that are responsive to the needs of children, youth, and families.

FLTI is a first-of-its-kind family civics program. Program graduates spend more than 120 hours over 20 weeks to develop skills needed to become effective leaders in their communities.

“The curriculum integrates personal and child development, leadership skills, civic literacy, and civic engagement”, said Christensen, FLTI project coordinator. “Diversity is a primary objective of the training and participants grow individually and collectively through interactive experiences designed to ad-

dress the most essential issues affecting our communities today.”

FLTI is supported by many local, state, and national partners which allows the course to be offered free of charge.

- Research demonstrates that FLTI leaders increase their civic knowledge when comparing pre- and post-survey results at the completion of class. Some evaluation results include:
- 86 percent of participants reported knowing how state budgets were

made, compared to only 11% before receiving FLTI training;

- 92 percent reported knowing how state laws were made, compared to 33 percent before the training;
- 82 percent reported knowing who their elected state representative was, compared to 29 percent before the training;
- 86 percent reported knowing who their local representative for city government was, compared to 29 percent before the training.

## Summer interns learn about engagement and University research in Colorado

Colorado State University Extension, in partnership with the colleges of Liberal Arts, Agricultural Sciences, and Veterinary Medicine and Biomedical Sciences, hosted summer interns at a variety of locations around the state.



“We are very excited about the opportunity to foster opportunities that promote campus/county-based Extension connections,” said Becca Jablonski, coordinator of the effort. “Our goal is to help students engage in applied research that helps communities and enriches their University experience, while elevating the great work already taking place in Extension offices across the state.” Jablonski is an assistant professor and food systems Extension economist in the Department of Agricultural and Resource Economics.

The 10-week internship combines research, program delivery, and dissemination efforts with hands-on learning at the local/county level. Work will culminate in a final poster presentation at the Extension Fall Forum, sponsored by the CSU Graduate

School, to be held the week of Oct. 22, 2018, on the CSU campus.

A 16-person committee, made up of college faculty and Extension specialists, staff, and administrators, found that a common thread throughout the process of developing this program is the understanding that internships and experiences working in county offices lead to developing future Extension staff, including enhanced understanding of what a career in Extension means.

“The applicant pool consisted of 39 rising sophomores, juniors, seniors, and graduate students,” said Jablonski. There were four students selected from Liberal Arts, five from Agricultural Sciences, and two from the Veterinary Medicine and Biomedical Sciences.



# New facilities being developed

People who live in Colorado will soon have even greater access to the resources of Colorado State University, and better opportunity to interact with the state's land-grant University, because of CSU's investment in two satellite campuses that serve research, Extension and engagement for local communities.

The CSU Western Campus will be at the University's existing facility in Orchard Mesa, while the existing center in Rocky Ford will be the location of the CSU High Plains Campus. New and revamped facilities, along with bringing together multiple areas of expertise at both regional centers, will provide better access to CSU's agricultural and natural resources research, Extension, engagement, veterinary diagnostics, and the Colorado State Forest Service.

"CSU has a strong commitment to agriculture across the state, and this is a testament to that commitment," said CSU President Tony Frank. "The support of our state legislators and county com-

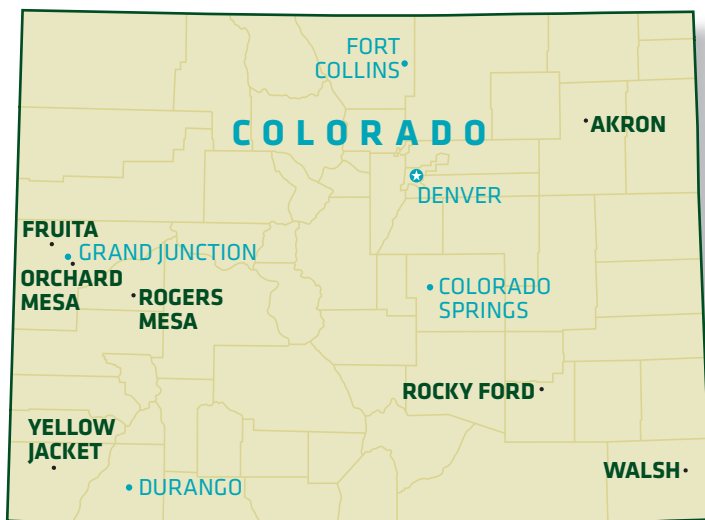
missioners has been remarkable and crucial to making these CSU centers a reality. "We are extremely grateful for their innovative engagement in coming up with ways to best use these facilities to really serve producers and the community."

**– CSU President Tony Frank**

Last spring, the Colorado Legislature approved \$875,000 in new base funding in support of CSU's vision for greater engagement in western Colorado and the Eastern Plains. This funding allows a combined \$11.65 million investment in infrastructure improvements, such as new buildings and other facilities, at the two centers, through debt financing.

"The support of local and state leaders was absolutely critical to making this happen, and we are so grateful for their vision and support as we bolster our commitment to the necessity and importance of research in Colorado," said Lou Swanson, CSU's vice president for engagement. "The state representatives and the county commissioners we've worked with have really catalyzed the

**"CSU has a strong commitment to agriculture across the state, and this is a testament to that commitment."**



state Legislature by showing that these research and engagement centers are a great idea that's worth funding because the centers will provide significant benefits to the people the Colorado."

## CSU Western Campus

The CSU Western Campus, at CSU's existing facility in Orchard Mesa, will provide administrative oversight and intellectual leadership for CSU's agricultural experiment stations throughout western Colorado. Orchard Mesa will also house the CSU Extension Western Region office, the regional Veterinary Diagnostic Laboratory, and the regional Colorado State Forest Service office. The Rogers Mesa site near Hotchkiss will also be revamped and reopened.

The CSU Western Campus will see \$9.7 million in site improvements and investments to facilities, including two new buildings: a \$3 million Veterinary Diagnostic Laboratory and a \$5 million Research and Engagement Building. The Research and Engagement Building will include office space, two conference rooms and a seminar room, and a commercial kitchen for engagement and Extension education.

Specific programs at the CSU Western Campus will include:

- **Fruita AES Programs** will focus more intensely on "Climate Smart Agriculture," emphasizing optimal





use of water amid the pressures of municipal and industrial use, drought, climate change, and shifting market demands. These efforts will be broadly collaborative with AES, CSU Extension, and the Colorado Water Institute.

- **Orchard Mesa AES Programs** will continue to focus on pomology, viticulture, management of other specialty crops of local interest, and pest management.
- **Rogers Mesa AES Programs** at the reopened site will have an increased emphasis on engagement and Extension activities, and on community partnerships. Research activities will include comparative studies of organic and conventional production systems, with trials and demonstrations of innovative management practices developed in conjunction with the Orchard Mesa, Fruita, and Yellow Jacket facilities.
- **Yellow Jacket AES Programs** will emphasize soil health and identifying crop species and varieties adapted to the high altitudes and semiarid environment of southwestern Colorado. The crops to be studied include grasses, clovers, alfalfa, field peas, corn, potatoes, dry beans, sugar beets, small grains, and vegetables. Research will be conducted on both irrigated and dryland systems.

### CSU High Plains Campus

The CSU High Plains Campus will serve the Eastern Plains from its home in Rocky Ford. The campus will house the regional Veterinary Diagnostic Laboratory, CSU Extension Southeastern Colorado regional personnel, and Otero County Extension personnel. The High Plains Campus will be the administrative home and intellectual leadership center for the agricultural experiment stations in the High Plains, including optimizing crop production systems, novel horticultural crop development, agricultural water efficiency, and agricultural water quality research.

Specific programs at the CSU High Plains Campus will include:

- **Eastern Colorado (Akron) AES Programs** that will focus on beef cattle management with attention to cattle feeding and nutrition.
- **Arkansas Valley (Rocky Ford) AES Programs** that will focus on irrigated crop production with a particular emphasis on optimal water use for specialty crops grown under irrigation, such as alfalfa, corn, dry beans, small grains, soybeans, sorghum, onions, melons, tomatoes, cucumbers, potatoes and peppers.
- **Plainsman Research (Walsh) AES Programs** that will examine full and limited irrigation using furrow, sprinkler, and subsurface drip irrigation, as well as comparisons of various approaches to tillage such as no-till, ridge-till, conventional-till, and subsoiling. Crops include wheat, grain sorghum, forage sorghum, corn, sunflower, bean, canola, and alternative crops.

At both centers, faculty and researchers from the College of Agricultural Sciences will continue to do the priority research of the Agricultural Experiment Station, along with colleagues from CSU's other colleges.

Establishment of the new regional centers will also result in savings. The total savings is estimated to be approximately \$39,500 each year as an additional positive outcome of CSU's enhanced commitment to rural vitality, including a contemporary focus on agricultural sciences and natural resources management.





# Rainwater harvesting educational outreach

Colorado's longtime ban on residential rain barrels has come to an end. Now, most homeowners in the state are allowed to collect precipitation for later outdoor use.

Rainwater collection, also called rainwater "harvesting," is the process of capturing, storing, and directing rainwater runoff and putting it to use. Water from roof gutter downspouts that is directed onto landscaped areas is not regarded as rainwater harvesting under this legislation.

The Colorado Legislature passed House Bill 1005, which allows a maximum of two rain barrels – with a combined capacity of 110 gallons – are allowed at each household, in 2016. A study conducted by the Colorado Stormwater Center, housed within the Department of Civil and Environmental Engineering at Colorado State University, showed that nearly all of the water would otherwise be absorbed in the ground by the downspout or in the ground in the garden, the CSU analysis indicated.

"We do not think any changes to the water cycle could be accurately quantified or measured," said Chris Olson, a researcher and program manager at the Stormwater Center. "The water is going to be infiltrated or evaporated. The only difference is the timing, a day, maybe two, before the rain barrel is emptied."

## Collection systems

Collected rainwater may be used to irrigate outdoor lawns, plants, or gardens. Untreated rainwater collected from roofs is not safe to drink.

Any container capable of collecting the rain shedding from a roof or patio can be used as a rainwater harvesting system. To comply with Colorado water law, the container must be equipped with a sealable lid. Rainwater collection systems vary from simple and inexpensive to complex and costly.

Typically, rooftop rainwater collection systems are simple – gutters, downspouts, and storage containers. Inex-

pensive rainwater storage systems commonly make use of an above-ground container such as a barrel or plastic tank with a lid to reduce evaporation and bar access for mosquitoes to breed. More sophisticated systems have "first flush" diverters that are recommended to exclude capture of the initial rain that might carry impurities from the roof.

There are several restrictions that are important to follow in order to use rain barrels legally in Colorado. These restrictions differ depending on your residential situation.

Under House Bill 1005, rain barrels can be installed only at single-family households and multifamily households with four or fewer units. A maximum of two rain barrels can be used at each household, and the combined storage of the two rain barrels cannot exceed 110 gallons. Rain barrels be used to capture rainwater only from rooftop downspouts, and the captured rainwater must be used to water outdoor lawns, plants, and/or gardens on the same property from which the rainwater was captured. Rain barrel water cannot be used for drinking or other indoor water uses.



## JUST THE FACTS

Colorado State University Extension has created a fact sheet with additional details on rainwater harvesting. Additionally, Extension agents and specialists have developed how-to videos for homeowners.

- *Do-it-Yourself Rain Barrel Guide* [youtu.be/Tqcb7Rvtn8k](https://youtu.be/Tqcb7Rvtn8k)
- *DIY Barrel Installation* [youtu.be/5weQ07CgxLo](https://youtu.be/5weQ07CgxLo)
- *How to Use Your Harvested Rainwater* [youtu.be/zAFxSZ\\_HK3w](https://youtu.be/zAFxSZ_HK3w)



# New app for emerald ash borer detection

To help Colorado homeowners determine whether trees on their property are susceptible to being killed by emerald ash borer, the Colorado State Forest Service and Colorado State University Extension have released a free app that allows people to use a mobile device to ascertain which trees are at risk and what steps to take before they are infested.

Emerald ash borer is a highly destructive, non-native insect from Asia, first detected in Colorado in 2013. The pest is fatal for all infested ash trees unless the trees have been chemically treated.

“The most important thing Colorado communities can do now is prepare for emerald ash borer’s arrival by increasing their awareness, sharing information about how to identify ash trees, and learning the symptoms of this pest,” said Keith Wood, Colorado State Forest Service community forestry program manager.

The EAB/Ash Tree ID app can be downloaded on almost any Apple or Android-based device, and is easily located in app stores by simply searching for “ash tree.”

The app offers a step-by-step process to determine if a tree appears to be a true ash or not, and offers links and other information about EAB. The app

is intended not just for homeowners, but also for business owners, school groups, or anyone concerned about the potential impacts of this pest.

The app is also intended to prompt homeowners and other landowners to consider early management options for EAB, including replacing unhealthy trees before they die, treating high-value trees with the proper insecticides, and planting new trees near ash that might ultimately succumb to the pest.

## **Pest responsible for deaths of millions of ash trees**

Emerald ash borer, which is responsible for killing tens of millions of ash trees in 30 states and two Canadian provinces, has been detected only in Boulder County within Colorado. Yet the pest has become a concern for communities all over the state because each year it can fly up to a half mile to infest new trees, and it spreads much faster through the human transport of firewood and other raw wood.

An estimated 15 percent or more of all urban and community trees in the state are ash trees.

Boulder and Longmont have been dealing with the pest’s impacts since confirming detections in September 2013 and June 2016, respectively. Many

other Colorado communities are preparing for EAB’s arrival.

The city of Denver began its “Be a Smart Ash” campaign last year to raise awareness of the threat in the metro area, where one in six trees are ash, and since then has been implementing a 15-year plan to identify, treat, and replace ash trees on city property.

The state Department of Agriculture has information about EAB in Colorado, including quarantine information.

[col.st/5aHQA](http://col.st/5aHQA)



# Senior Access Points in Larimer County

Each time older adults and their family members confront a new aging issue, they can be confused about how to identify solutions. When a crisis hits, it's often not easy to figure out where to turn. While many aging-related community services are available for seniors in Larimer County, a coordinated, county-wide outreach better connects people at various stages of life.

Over the past two years, a community resources team has been taking a hard look at the range of services available and how local residents access them. The collaboration includes members of the Partnership for Age-Friendly Communities, Larimer County Extension, and the Department of Human Development and Family Studies at Colorado State University. The goal is to determine if and how a more comprehensive and coordinated marketing approach might help improve access to resources.

Representatives from many of the agencies providing services to aging residents came together to discuss key sources and places (access points) where aging-related information might be found, displayed, and distributed. In particular, the group is interested in identifying seniors and their families who live in more isolated parts of Larimer County and who may not have access to the array of resources available online.

"Putting all the minds together in one space provided really useful suggestions for future work," said co-facilitator Sue Schneider, Extension agent in Larimer County.

The group identified some of the barriers to finding resources, including cultural norms that might limit a person seeking help, and the perception that seniors are reluctant to seek help for fear that they may lose their independence. Family dynamics can also play a role, several of the participants stated.

Allyson Brothers, co-facilitator and human development and family studies faculty member in the CSU College of

Health and Human Sciences, coordinated the distribution of a survey through many of the local organizations. The survey asked respondents questions intended to provide a clearer picture of who is seeking resources, why, which Larimer County communities they are from, and how better connections can be made.

"The findings showed that the top reasons people sought aging-related resources were declining health issues, caregiver resources and supports, and home care services," said Brothers. The most common places people looked for aging-related resources were the Larimer County Office on Aging, their doctor's office, and an online search.

Through this collaborative process, it is the hope that barriers to accessing aging-related resources in Larimer County will be reduced.

In response to survey findings and input from professionals in aging-related fields, the Senior Access Points team developed an information hub at [larimerseniors.org](http://larimerseniors.org) to help people more easily navigate resources related to aging.

"We developed an ambassador volunteer program to build outreach capacity, orient aging professionals to the new website, and disseminate Senior Access Points materials," said Schneider. "We've had a great response to this initiative."

As part of a pilot project, nine community volunteers completed training to become Senior Access Points ambassadors.

"The SAP ambassadors have worked to identify key community sites that

## AGING-RELATED RESOURCES FOR YOU AND YOUR LOVED ONES.

Are you caring for an aging loved one?  
Is maintaining your independence important?



SENIOR ACCESS POINTS  
OF LARIMER COUNTY

# LET US HELP!

ONLINE: [larimerseniors.org](http://larimerseniors.org)

CALL: 970.498.7750

EMAIL: [adrc@larimer.org](mailto:adrc@larimer.org)

A COLLABORATION AMONG



HUMAN DEVELOPMENT  
AND FAMILY STUDIES  
COLORADO STATE UNIVERSITY  
EXTENSION



Partnership for Age-Friendly Communities  
in Larimer County



Larimer County Office on Aging  
[www.lcoa.networkofcare.org](http://www.lcoa.networkofcare.org)

serve older adults and their family members," Schneider said. "We are in the process of building relationships to educate front-line workers about the many wonderful aging-related programs available to older adults in our community."





## GRANDcares program

Feeling exhausted and drained at the end of the day might be typical for many of us. But for those raising their grandchildren, balancing the demands of young children with their own self-care can be daunting.

In an effort to better help and support “grandfamilies,” Colorado State University and the University of Hawaii have been collaborating with CSU Extension and local community and agency partners on the GRANDcares Project.

The GRANDcares Project’s classes started with a five-year grant in 2015.

“Grandparents often do not focus on themselves and focus their attention on the needs of their grandchildren,” said Christine Fruhauf, CSU Extension specialist and professor in CSU’s Department of Human Development and Family Studies. “As a result of this class, grandparents have told us that, for the first time, they are taking better care of themselves and finding ways to cope with the challenges of raising grandchildren.”

### One grandfamily’s story

One grandmother, who wants to be known only as “Carol” to protect her anonymity, has been raising her grandchildren for the past 11 years after social services removed the children from her daughter’s home due to excessive drug and alcohol use. While Carol accepted the children lovingly into her own home, she soon realized that simultaneously striving to be both grandparent and parent is a challenge. Carol works outside the home to financially support her family, putting aside her plans for retirement. She strives to support her grandchildren in school, helping them with homework and attending many meetings with teachers. Caring for the many needs of her grandchildren, combined with her own mounting health issues, often leaves Carol feeling utterly spent.

Carol’s experience is not unique. Grandparents across the country step up to care for their grandchildren full time; nearly 3 million children in the United States are being raised by their

grandparents. Grandparents help keep these children among family and out of the foster care system, but the situation creates vulnerabilities for both grandparents and grandchildren.

Grandparents become stressed and often depressed, and grandchildren often deal with trauma and the loss of their parents. These issues, among others, become exacerbated by the lack of resources available to support grandfamilies.

The project offers free webinars for service providers that help strengthen self-care and parenting skills in custodial grandparents, develop communication and leadership skills in grandchildren, and increase the ability of service providers to meet grandfamilies’ needs. For more information visit the GRANDcares Project website at: [grandcares.colostate.edu](http://grandcares.colostate.edu).

# Denver Veterans to Farmers

A partnership that offers veterans agriculture-based certificate programs, designed to help them assimilate effectively while exploring urban farming, has developed in Denver. Veterans to Farmers recently announced its expanded partnership with Colorado State University Extension and Denver Botanic Gardens-Chatfield Farms.

“The graduates from the farming program can make a significant impact, either growing food for their families or their communities,” says Rusty Collins, director of the CSU Extension office in Denver. “This helps create a more locally sustained food environment.”

Encouraging urban farming and local food production will help Denver as it strives to reach aggressive food goals for the Denver 2030 Food Vision. The collaboration between CSU Extension and VTF has built a strong partnership. The groups are looking forward to the graduation ceremony for the class participants.

## Three certificate programs

The Veterans to Farmers organization is a national leader in the way it works with veterans and the opportunities that are provided for agriculture and small-scale farming. This expanded partnership includes three agriculture-based certificate programs: CSU’s Colorado Building Farmers Program, Denver Botanic Garden’s Community Serving Agriculture Program, and the Veterans to Farmers Controlled Environment Agriculture Program. Through these partnerships, veterans who finish the 10-week VTF training programs will receive certificates stamped with CSU Extension’s seal of approval.

“These certificates greatly validate our work and dedication to making sure that the veterans going through our courses are receiving an education in farming skills,” says Buck Adams, founder of VTF.

The program helps veterans assimilate effectively, productively, and permanently into private life by training them in agriculture that leads to urban

farming and/or business ownership. CSU Extension’s program is both an online and hands-on course that teaches veterans about CEA and small-scale vegetable production. The Denver Botanic Gardens also provides VTF with a six-acre site at its Chatfield Farms location for outdoor gardening training.

## Began at CSU

“Our partnership began when CSU first offered the CEA class, which was made possible through the Beginning Farmer and Rancher Development Program,” said Adams. “It has now expanded into three classes and has welcomed DBG into the partnership. We are the only veterans’ program that has three

certified state University programs in the nation.”

The competitive grant program requires a partnership between a public and private entity and funds education, Extension, outreach, and technical assistance initiatives directed at helping beginning farmers and ranchers of all types.

The Veteran to Farmers’ mission is to provide American veterans with pride, education, and fulfillment through a permanent source of sustainable income, community, and contribution.

More information on Veterans to Farmers: [veteranstofarmers.org](http://veteranstofarmers.org)

More information on CSU’s curriculum: [buildingfarmers.com](http://buildingfarmers.com)

## Annie’s Project

For the past two years, Annie’s Project has provided women in Northeastern Colorado with the skills they need to provide leadership to various components of their families’ farm enterprises. In the fall of 2016, Brent Young brought the six-week course to Northeastern Junior College. The class meets for three hours each week, usually in the evenings.

The program has since expanded throughout Eastern Colorado, under the leadership of Young, CSU Extension agriculture and business management specialist. Young organized a facilitator training workshop in the fall of 2017, where roughly 25 new Annie’s Project facilitators were trained to lead six-week courses and provide education in five risk areas including: financial, human resources, legal, market and production.

The mission of Annie’s Project (a 501(c)(3) nonprofit organization) is to empower farm/ranch women to be better business operators and/or partners through networks and managing and organizing critical information.

Annie was a woman who grew up in a small town in northern Illinois. She spent her lifetime learning how to be an involved business partner with her farm husband. Together they did great things, but it wasn’t easy. Annie’s Project was designed to take her experiences and share them with farm women living and working in a complex business.

**For more information:** [www.anniesproject.org](http://www.anniesproject.org) or Brent Young at [brent.young@colostate.edu](mailto:brent.young@colostate.edu).





# Radon detection programs

Every house in Colorado is different, but one thing they could have in common is the risk of radon.

New and old homes, well-sealed and drafty homes, and homes with or without basements all have the potential to have radon issues, which could lead to significant health problems. Radon has been found to be the leading cause of lung cancer among nonsmokers in the U.S. and claims approximately 21,000 lives annually, nationwide.

Radon is a colorless, odorless, naturally occurring radioactive gas emitted from the breakdown of uranium in rocks and soil. Normally, radon gas rises up through the soil and dissipates into the air outside buildings. Air pressure inside a home is usually lower than pressure in the soil around the house's foundation. Because of this difference, the house acts like a vacuum, drawing radon in through foundation cracks and other openings. Concerns about radon arise when it accumulates in the home after seeping through openings – cracks, loose-fitting pipes, sump pits, dirt floors, slab joints, or block walls.

## Building awareness

“Measuring radon levels in the home is simple and inexpensive,” says Wendy Rice, family and consumer science Extension agent in La Plata County. “All homes in Colorado should be tested. The geology in La Plata County makes radon a particular problem there with approximately 49 percent of homes with unhealthy (greater than 4 pCi/L) radon levels.”

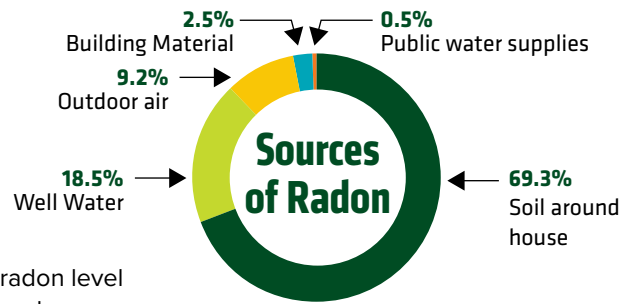
For the past eight years, Rice has been working with home and business owners as well as local residents in four counties in southwestern Colorado (La Plata, Montezuma, San Juan and Archuleta). She provides educational sessions for residents, students,

stakeholders, HOAs, builders and real estate agents.

Only individual testing can determine which buildings may have a radon problem. The radon level in one home cannot be gauged on a neighboring test result.

Extension offices throughout the state offer free educational programs on radon testing and mitigation. Five counties have received funding from the Colorado Department of Public Health and Environment to provide educational programs to homeowners and, in some cases, businesses, to help people learn to detect radon. In Larimer County, for example, agriculture and natural resources Extension agent Karen Crumbaker works with day care personnel so that they can meet health department requirements at their facilities. Children are at higher risk because their respirations per minute are significantly faster than an adult. CDPHE requires all day-care facilities in the state to conduct radon testing in their facility.

“I was asked by the Larimer County Department of Health and Environment to educate day care facility personnel on how to conduct a radon test in their facility,” Crumbaker said. The City of



Fort Collins Healthy Sustainable Homes Program supports the educational programs for childcare facilities located within the city by providing free test kits.

Extension’s outreach approach varies, depending on the needs of a community. Mark Platten, in Teller County, provides two short-term radon kits, a DVD and other handouts to participants. He has established distribution points at the county seat in Cripple Creek: at the public health department, the building and planning department, and his office.

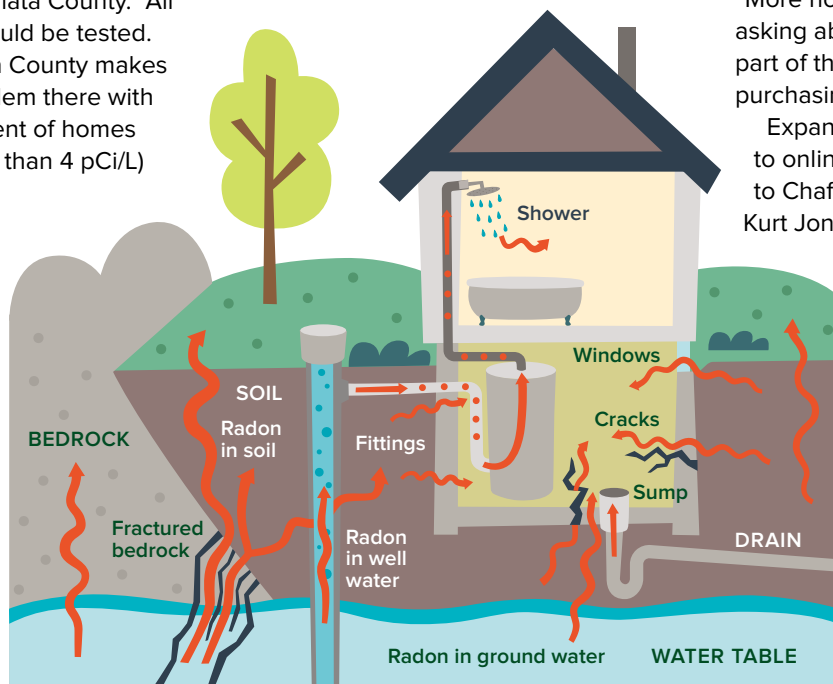
“I also help people interpret their results and provide information on installing mitigation systems,” he said. An effective outreach effort is also the classes he provides for Realtors and builders.

“Because radon has been found to be a cancer-causing radioactive gas that you can’t see, smell, or taste, its presence in the home can pose a danger to the entire family’s health,” said Platten. “More homebuyers and renters are asking about radon levels, and radon is part of the disclosure statement when purchasing a home.”

Expanding the educational efforts to online venues has proved valuable to Chaffee County Extension Director Kurt Jones.

“I reach people through webinars, so folks can stay at home or at work,” Jones said. “By mailing the radon kits to them ahead of time, they have time during the webinar to actually set the kits out and test during the webinar.”

For more information, view the Extension fact sheet *Preventing Radon Problems in the Home*.



## EFNEP

When Nancy Moreno was a single mother on food stamps, trying to support her four young children, she prepared large meals that were often deep-fried and made with lots of salt and lard.

Then she took a free Expanded Food and Nutrition Education Program class from Colorado State University Extension and learned how to cook healthy meals and eat proper portions on a tight budget, while also learning how to be more physically active.

### A change for the better

Moreno began teaching EFNEP classes herself in 2013, and since then, her work hours have been increased from 30 to 40.

Now, when she sees students in her class who look like they are in the position she was in, she tells them what she went through.

"A lot of people don't talk much; they have to get to know you first," Moreno says. "So, I started sharing my experience. If I see that they're in need and embarrassed to ask for help, I'll tell some of my story. I try to give them something to give them hope."

### About the course

The classes, which feature everything from interactive cooking demonstrations to cardio exercises to free cookbooks, are held at schools, low-income health clinics, and county human services departments. Moreno and other instructors recruit participants by setting up tables and skilllets in front of grocery stores, where the smell of simmering food sometimes attracts prospective students.

For more information, visit [www.efnep.colostate.edu](http://www.efnep.colostate.edu).

## Eating Smart, Being Active App

A host of tools created at Colorado State University to help people lead a healthy lifestyle is now just a smartphone tap away.

A new app has been developed for Eating Smart • Being Active, curriculum developed a decade ago by a team led by CSU Extension specialist and Professor Susan Baker of the Department of Food Science and Human Nutrition. Eating Smart • Being Active targets low-income families and is widely used by nutrition education programs in 41 states, Puerto Rico, and Guam.

Baker's team developed the new smartphone application to reinforce the information and skills taught in the nine-lesson classes.

"If class attendees want to review something they learned in the classes, they can refer to the app," Baker explains, adding that eventually her team will be able to use the app to collect data on how well the information and new skills learned are maintained in the months and years after people finish the program.

### Features in the app

In addition to a daily step tracker, the app features recipes found in the Eating Smart • Being Active

*Let's Cook!* cookbook and includes shopping lists for each recipe. The app also has simple exercises taught in the classes that don't require any special equipment and can be done

anywhere. The exercises are demonstrated with simple gif animations that don't burn data, which is an important consideration for anyone on a budget. Also included in the app is a unit price calculator, to help people quickly and easily find the cost-per-ounce of a food product, so that prices can be compared at the grocery store.

"Offering shopping lists on the app is a huge thing for people who are on really tight food budgets," Baker says. "And if they get to the grocery store and realize they've forgotten their list, they can just bring up the shopping list or one of our recipes in the app on their phone."

The app is available to Colorado State University Extension Expanded Food and Nutrition Education Program class participants, but anyone can download it for free by searching for "Eating Smart Being Active" in the Apple App Store or Google Play for Android.

Eating Smart • Being Active, updated in April 2017, reflects the 2015-2020 Dietary Guidelines for Americans from the U.S. Department of Health and Human Services and the U.S. Department of Agriculture. In addition to the

guideline changes, the curriculum helps low-income individuals learn how to cook healthy and inexpensive meals at home – and incorporate more physical activity into their daily routines. The 90-minute classes, taught by CSU Extension EFNEP educators at schools, health clinics, and human services agencies, covers how to choose healthier foods, stretch food budgets, and be more physi-

cally active. Cookbooks are free to all class participants, but individual copies of the Eating Smart • Being Active *Let's Cook!* cookbook can be purchased through CSU Extension at: [csuextstore.com](http://csuextstore.com).



Moreno, right, teaching one of her classes







## New food preservation app now available

A group of Colorado State University faculty and Extension specialists have created a free food preservation app called Preserve Smart. CSU Extension uses a multifaceted approach to the challenge of providing up-to-date food preservation information to residents across the state via website materials, in-person classes, trained volunteers, and now, the Preserve Smart app.

### Team approach

Extension specialist Elisa Shackleton and CSU Extension specialist and Associate Professor Marisa Bunning of the Department of Food Science and Human Nutrition first had the idea for a food preservation app in 2011. With the help of Derek Stegelman, College of Health and Human Sciences assistant director of IT for application development; Edie McSherry, a Larimer County Extension agent; and a team of volunteers from across Colorado, the food preservation app was launched this spring.

“Overall, CSU Extension has seen a rise in website viewers using mobile devices,” said Shackleton. “But our online resources aren’t mobile-responsive, so we wanted to incorporate our food preservation fact sheet information into the app to meet that need.”

The app focuses on food preservation methods and basics. Users can choose whether they want to preserve fruits or vegetables, and then select their particular type of produce. Preservation options vary depending on the type of produce, but include freezing, canning, drying, and making spreadable preserves, such as jams and jellies.

### Elevation matters

Preserve Smart differs from any food preservation magazine or book because it allows users to set their elevation before starting the preservation process. Elevation needs to be taken into account when canning, especially in Colorado and other high-elevation locations because, if not done correctly, it can be a serious health threat.

“Canning can be dangerous if tested methods are not followed, and this

is especially true in Colorado,” said Bunning, “because adjustments often need to be made for elevation. Many canning recipes available to the public do not account for higher elevation, and that can lead to food spoilage or even contamination with botulism toxin. Although it is critically important to adjust for elevation to ensure the temperature is adequate to destroy bacterial spores, this is a science lesson that is not very well-known.”

The app has a feature on its home page that allows users to enter their elevation, and when they visit the recipe, processing times are automatically adjusted to fit their pre-set elevation.

“In Colorado, a lot of people don’t know that their elevation matters, or don’t know the elevation where they live,” Shackleton said. “Anything above 3,000 feet is considered ‘high altitude,’ and that’s all of Colorado.”

The app is available for Apple and Android devices, and a mobile-responsive online version can also be found at [apps.chhs.colostate.edu/preservesmart](https://apps.chhs.colostate.edu/preservesmart).

# Engaging youth from military families with Colorado agriculture

Colorado's Peterson Air Force Base was the unlikely location for learning the science behind food production this spring.

"AgFest is an eclectic approach to STEM education focusing on the science in food production," said Vanessa Tranel, Extension's military liaison with the base in Colorado Springs.

Elementary school students from the U.S. Air Force Academy and the base participated in a day long, hands-on learning program used science, technology, engineering, and math (STEM) activities. The goal is to help children learn about the importance of agricultural food production, while meeting Colorado Academic Standards for fifth grade. In addition to Extension and Colorado 4-H, AgFest is supported by Colorado's agricultural commodity groups, private industry, and the Colorado Department of Agriculture.

AgFest was developed by Extension agents in eastern Colorado eight years ago, but this was the second program held specifically for military-connected youth. Twenty agents are now involved in the program.

Students and educators participate in experiential learning opportunities as they rotate between stations concentrating on different scientific aspects of Colorado agriculture.

Topics included:

- Dairy Production and Butter Making
- Global Positioning Systems
- Embryology
- Water Quality and Erosion
- Microbes and Bacteria
- Plant Science and Biotechnology
- Pollination and Honey Bees
- Power and Simple Tools
- Range Land Ecology
- Beef Production and Byproducts

The students were quick to share new things they'd learned, Tranel said.



"I've never milked a cow before, said Christian, age five. "This is so cool."

"I learned you need three satellites to make a GPS work!" said Ryan, age seven.

AgFest is one of several Colorado programs designed to raise student awareness about the link between people, crops, and livestock.

"The youth were engaged and excited about the stations and topics," said Vicki Rygiel, School Age Program Coordinator with the Peterson Youth Center.

"Education and opportunities in STEM are a critical part of our mission in military youth programs." This addition to the partnership programming answers a need in the nation's educational priorities. Rygiel noted that the topics created thought-provoking questions from the student and that the hands-on activities stimulated experiential learning.

"The guest speakers were excellent representatives of their agricultural fields and their inclusion of STEM provided for a fascinating learning environment," she said.

The CSU Extension 4-H Military Partnership has reached military-connected youth, staff, and families in Colorado for over 20 years. 4-H clubs are available worldwide on military installations through the national partnership, with 4-H programming built upon four essential elements. This ensures that youth feel a sense of belonging in a safe environment, develop independence in both group and individual work, share with others in the community through generosity, and develop a sense of mastery that continues throughout life as they practice and share what they have learned with others.

These life skills are invaluable in developing resiliency in youth as they transition through frequent moves and experience challenges surrounding deployment and reintegration.

"AgFest was extremely successful in using STEM education to show our military youth where their food comes from, other than the grocery store," Tranel said. "Our military partners are excited about expanding AgFest programs to additional Air Force and Army installations."



# Colorado 4-H at a glance

What began as a way to give rural youth new agricultural skills has grown into America's largest youth development organization.

4-H grows young people with essential life skills such as confidence, courage, resilience, and curiosity, who are empowered and prepared for life today and tomorrow.

**COLORADO 4-H FOUNDATION** is proud to raise and distribute funds providing positive youth development and education in Colorado. 2017 brought continued growth, valued partnerships, and new supporters.

#### Fundraising activities included:

Ford F-150 Truck Raffle	\$142,000
Paul and Jean Hoshiko Memorial Golf Tournament	\$39,815
Pedal the Plains	\$7,000

#### Funds distributed to:

Scholarships totaling \$55,200 were awarded to 50 high school seniors. Youth participation in the National Western Roundup, Colorado State 4-H Conference, National 4-H Congress, Citizen Washington Focus, and the National 4-H Conference

**Race and Ethnicity data** collected and combined from federal reporting information (E5237), in the areas of ethnicity and race. Ethnicity is broken into two categories, "Hispanic or Latino and Not Hispanic or Latino" and race is an additional choice selected once ethnicity has been provided. This results in numbers that exceed 100 percent.

#### Colorado 4-H Enrollment

Organized 4-H Clubs	13,042
School Enrichment	49,954
Short Term/Special Interest	34,213
After-School Programs	14,383
Camping Programs	1,903

**Total 4-H Enrollment 113,495**

#### Place of Residence

Central Cities	31,439
Suburbs	27,371
Towns (10k-50k)	22,355
Towns (under 10k and rural non-farm)	18,625
Farms	13,705

#### Volunteer 4-H Leader Enrollment

Adult Volunteers	11,023
Youth Volunteers	1,432

#### Race and Ethnicity of 4-H Youths

	Colorado 4-H	Colorado 2010 Census
White	96,023-85%	84%
Hispanic	23,321-20%	21%
Black	5,964-5.3%	5%
Asian	2,655-2.3%	2.8%
More than one race	6,238-5.5%	3.4%

**Nationally, where do 4-H kids live?**

**1,800,000+ Cities**

**1,600,000+ Towns/Suburbs**

**2,600,000 Rural**



#### HEALTHY LIVING

Recalling its agricultural roots, 4-H has a long history of promoting healthy living among youths and their families.



#### SCIENCE

The need for science, engineering, technology, and math education is essential for today's young people.



#### AGRICULTURE

4-H programs engage and excite young people in agricultural science topics such as veterinary science, biotechnology, raising and training animals, and forestry.

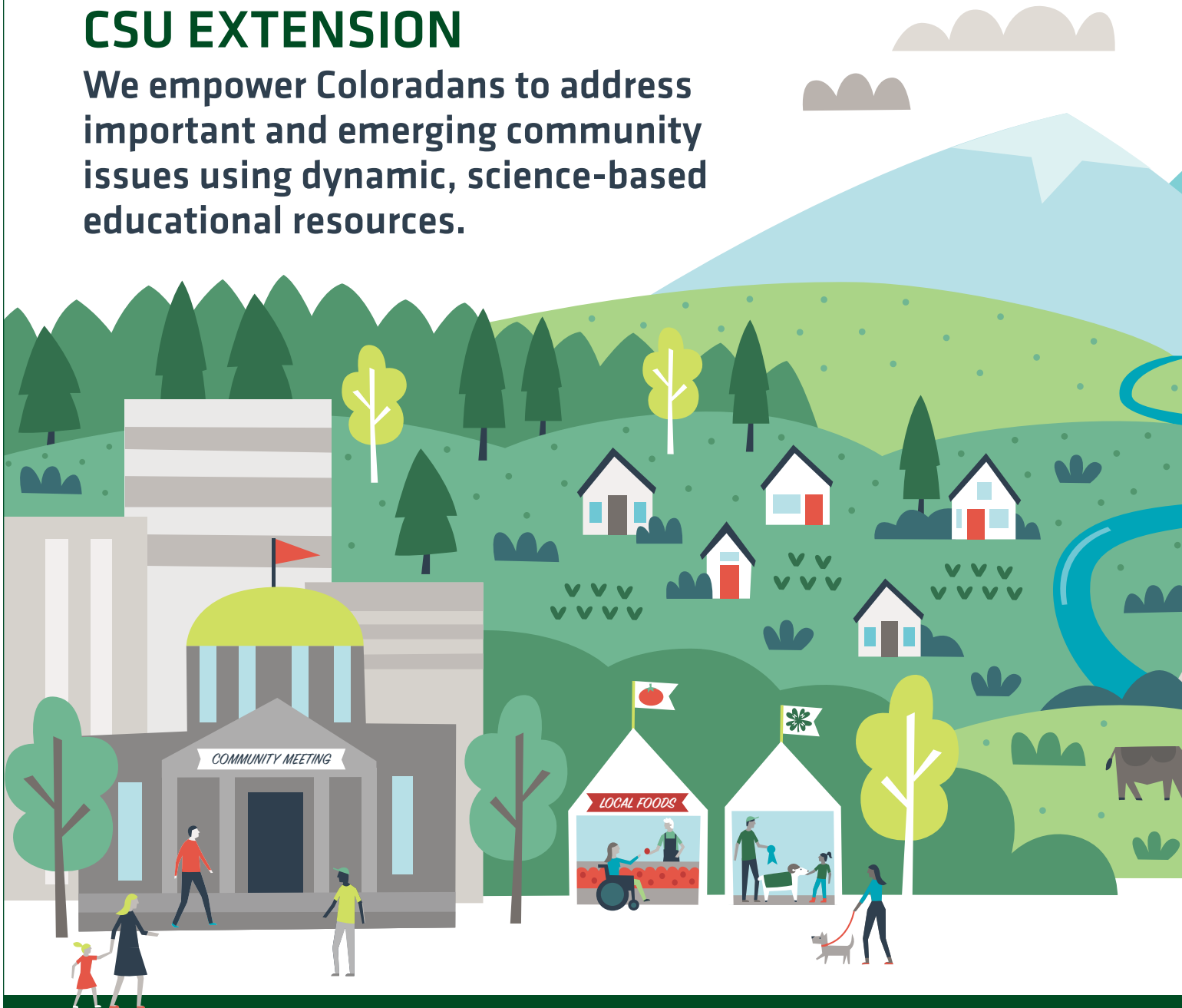


#### CITIZENSHIP

Since its inception, 4-H has placed emphasis on the importance of young people being engaged, well-informed citizens.

# CSU EXTENSION

We empower Coloradans to address important and emerging community issues using dynamic, science-based educational resources.



TRUSTED | COMMUNITY | SCIENCE-BASED | INTEGRITY | INCLUS





## Strategic plan

Over the past two years, Ashley Stokes, assistant vice president for engagement and Extension deputy director, Coloradans embarked on a strategic planning process for Extension.

“Driven by strong, locally relevant input from employees throughout the state, key priorities and goals were established,” Stokes said. “The emerging themes were personnel, marketing and communications, programming and partnerships, and resources development.” Key priority areas were identified, and within those the following goals emerged:

- Enhance Extension’s great employees through best hiring practices and provide improved professional development and other retention efforts;
- Improve visibility and demonstrate Extension’s value as a relevant and important education resource across Colorado’s communities;
- Provide Extension programming that is locally relevant, high quality and research based; that meets diverse stakeholder needs; and that advances effective partnerships across CSU and beyond;
- Grow and manage partnerships, volunteers, and funding resources to enhance opportunities throughout Extension.

“Extension employees throughout the state collaborated with energy specialist Cary Weiner, to shape our new mission, vision, and core values to truly reflect the evolving Extension landscape throughout Colorado,” Stokes said. Work continues as Extension throughout the state advances these goals across Colorado and their local communities.

### Mission Statement

Empower Coloradans to address important and emerging community issues using dynamic, science-based educational resources.

### Vision Statement

CSU Extension is highly valued for inclusive, impactful community engagement in support of our land grant university mission.

### Core Values

- Trusted
- Community-based
- Science-based
- Integrity
- Inclusive

SIVE



COLORADO STATE UNIVERSITY  
EXTENSION

# See What's Possible

**Our mission is to empower Coloradans to address important and emerging community issues using dynamic, science-based educational resources.**

- Yard & Garden
- Insects
- Agriculture
- Natural Resources
- Food Systems
- Food Safety
- Leadership Development
- Nutrition & Health
- Sustainable Energy
- Water Quality & Safety
- 4-H Youth Development
- Community & Economic Development
- Personal Finance & Financial Literacy

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