2024 Report

CSU Produce Network

COLORADO STATE UNIVERSITY

Colorado Produce Overview

Colorado has a rich history of fruit, vegetable and pulse production, one that Coloradans enjoy through retailers, restaurants, institutions, and direct-to-consumer sales.

Colorado dedicates more than 120,000 acres to the production of fruits, vegetables, and pulses (dry edible beans and peas) – which contributes more than $530 million to the state's economy. Given this significant economic contribution, and the importance of these foods to nourish Coloradoans and support human health, Colorado State University supports coordinated research and Extension programs to support the production, health, safety, and sale of these crops.

We are pleased to share a slice of our 2024 work from 8 contributors in this report with each numbered title referencing authors on page 7.

CSU is proud to serve the needs of Colorado's produce farmers and welcomes input to improve its work and impact.

Learn more about the CSU Produce Network here.

By The Numbers in 2024

- Total clients reached: 2,392
- Total clients evaluated: 774
- Average % of clients reporting knowledge gained: 81%
- Average % of clients reporting intent or use of knowledge gained: 62%
- Educational events (talks/trainings/demos/webinars): 84
- Papers/reports/fact sheets published/released: 37
- Active research projects: 30
- Active Extension/engagement projects: 55
- External partners/organizations engaged: 41
- External funds (grants, donations, etc.) used on projects and programs: $2,820,807

The Power of Partnership

We collaborated or co-created projects or products with at least 41 external partners.

- 8 Non-profit organizations
- 5 Producer associations
- 7 Universities
- 2 For-profit businesses
- 5 Federal entities
- 2 Unique projects/initiatives
- 4 Local water, pest or conservation districts
- 5 State government departments/entities
- 1 County government

In 2024, Network members worked in various ways to benefit the Colorado produce industry.

This report is a snapshot of educational events, projects, research and other outputs delivered to fulfill its mission.

2,392
Clients reached in 2024

121
Total Network Outputs

41
External Partners

$2.8M
External Funds at Work in 2024

CSU Produce Network

2024 Work and Impacts

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OSPREY Takes Flight (4)

CSU Researchers launch organic vegetable seed production research

Jane Davey and Mark Uchanski (CO-PIs) along with the Organic Seed Alliance (OSA) and a consortium of research partners launched a 4-year national research project, Organic Seed Production Research on Economics and Yield (OSPREY), with the goal of advancing organic seed production practices and expanding the availability of high-quality organic seed. The project was awarded funding through the USDA- NIFA Organic Research and Extension Initiative (OREI). The OSPREY project brings together an impressive team of collaborators, including CSU, OSA, Oregon State University, Cornell University, University of Vermont, Carolina Farm Stewardship Association, SeedLinked, and Highland Economics. Key deliverables include:

- Optimizing organic vegetable seed production
- Developing economic decision-making tools
- Producing educational guides on seed cleaning, equipment, and disease management
- Delivering regional seed summits and annual field days

https://seedalliance.org/press/osprey/

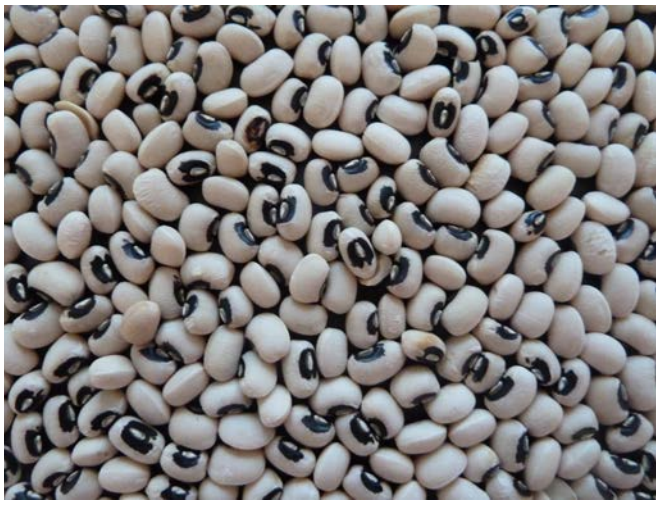
2024 Work and Impacts

Improving Alternative Crops (8)

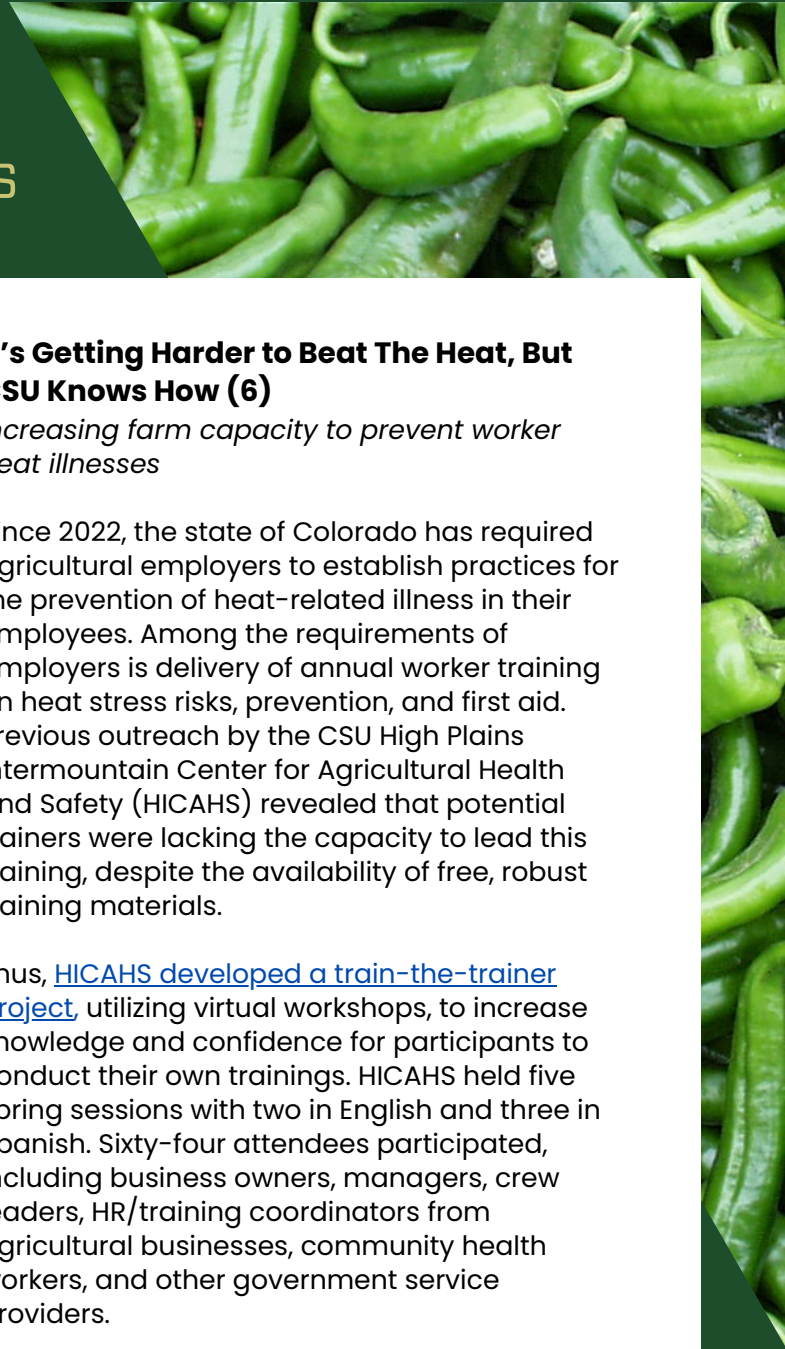
Not just for New Years Day, black eyed peas for Colorado conditions

Jason Webb, Sally Jones-Diamond, Joel Schneekloth, and Jessica Davis collaborated to research and inform producers on the benefits of growing black-eyed pea in Colorado, a low water use legume that can be added to dryland or reduced irrigation system rotations. The team worked to better understand water and fertility needs as well as population and inoculation dynamics. The team has conducted exploratory studies regarding insect species that live in the crop as well as preliminary breeding efforts in hopes of improving the native germplasm available to growers.

The team produced a fact sheet, "Black-Eyed Pea Production for Eastern Colorado" in 2024 and published a journal article "Black-Eyed Pea in the High Plains – A Mainstream Fit for an Alternative Crop" in Crops and Soils magazine. This magazine is a national publication sent to all Certified Crop Advisors. Additionally, the CSU Crops Testing program performs irrigated and dryland variety trials on black eyed peas. Those results, and results for other crops, can be found on our website csucrops.org.



2024 Work and Impacts



Networking New Produce Growers with Buyers (3)

CSU links beginning produce growers with buyers to create market opportunities.

Jessica Callen and team members Maggie Switzer, Carli Donoghue, Sara Mayer, Audrey Welsh, Dawn Thilmany, and Libby Christensen partnered with Northern Colorado Foodshed Project, Poudre Valley Community Farms, Rocky Mountain Farmers Union, and the Northwest and Rocky Mountain Regional Food Business Center to produce this event.

Many new and beginning fruit and vegetable producers begin by selling their agricultural products directly to consumers through farmers markets, CSAs, and farm stands. But, as they grow and create more products, it can be hard to transition to selling to larger local and regional food businesses and schools.

In response to this challenge, the team created and hosted the Farm2LocalBiz Networking Event on November 12th, 2024 at CSU to connect Northern Colorado producers with food businesses. At this event, 30 producers interacted with 50 attendees from various food businesses. Prior to the grower-buyer networking session was an educational session, where producer attendees were able to learn from other producers on how to sell to food business.

Evaluation results showed 88% of producers attending the pre-event educational session feel more confidence regarding how to sell to food businesses and schools and 67% are planning to sell more to food businesses and schools. Additionally, 88% of producer attendees said they made meaningful connections with food businesses and school purchasers during the grower-buyer networking session.

It's Getting Harder to Beat The Heat, But CSU Knows How (6)

Increasing farm capacity to prevent worker heat illnesses

Since 2022, the state of Colorado has required agricultural employers to establish practices for the prevention of heat-related illness in their employees. Among the requirements of employers is delivery of annual worker training on heat stress risks, prevention, and first aid. Previous outreach by the CSU High Plains Intermountain Center for Agricultural Health and Safety (HICAHS) revealed that potential trainers were lacking the capacity to lead this training, despite the availability of free, robust training materials.

Thus, HICAHS developed a train-the-trainer project, utilizing virtual workshops, to increase knowledge and confidence for participants to conduct their own trainings. HICAHS held five spring sessions with two in English and three in Spanish. Sixty-four attendees participated, including business owners, managers, crew leaders, HR/training coordinators from agricultural businesses, community health workers, and other government service providers.

Thirty-one of the participants completed a post event evaluation with 77% reporting increased knowledge of Colorado's heat illness prevention regulation and 74% reporting increased comfort to lead a training. Eleven attendees went on to use the workshop materials to lead training for at least 750 agricultural workers in Colorado. Additionally, focus groups were held among farm workers at two farms. Workers expressed their satisfaction with the style and quality of training they received from a trainer who attended one of the HICAHS workshops.

This project was led by HICAHS staff, Whitney Pennington and Morgan Valley, and graduate research assistant, Yessica Martinez.

2024 Work and Impacts

Thinking Outside the Pea (1)
Taste testing young black-eyed peas for marketability

CSU staff and faculty from CSU SPUR (Martha Calvert), Western Colorado Research Center (Bill Szasz, Jim Fry, and Michael Lobato), and CSU Extension (Perry Cabot, Todd Ballard, and Katie Alexandar) explored consumer preference for different varieties of black-eyed peas: plump and still fresh in a green pod vs. dried that must be soaked and cooked.

The Southern Sweet Pea Project found one experimental variety, CA Type 5, preferred of three varieties trialed across three taste testing sites at the Fruita Farmers' Market, Montrose Farmers' Market and the CSU Sensory Laboratory at SPUR. Pods with maturity signs of color change from green to yellow or purple were less desired by consumers. This effort to expand crop market options for low water use fresh vegetables will continue in 2025 with further exploration of pods in developmental stages younger than what was used in this study.

Colorado Potatoes Studied for New Markets (7)
Spuds in smaller sacks and organic showed promise

Dawn Thilmany and Rebecca Hill advised CSU Masters student Coryn Davidson on an economic contribution report for the Colorado and San Luis Valley potato industry. Funded by the Northwest and Rocky Mountain Regional Food Business Center, this project explored new market opportunities. With guidance from several potato producers, and Nancy Meraz from Farm Fresh Direct, the team estimated the economic contribution of the sector.

They also evaluated the potential for Colorado potato growers to increase sales by using smaller potato sacks or by increasing organic production and marketing and both showed significant potential growth for the sector if Colorado potato growers pursue those opportunities.

2024 Work and Impacts

Tackling Sweet Corn Invaders (2)
Olathe Sweet Corn growers faced an invigorated insect enemy and CSU joined the fight

Colorado summers are truly incomplete without locally grown sweet corn, yet a hybrid pest threatens the economic viability of Western Colorado sweet corn production. In 2023, crop losses totaled $2.7 million from corn earworm (Helicoverpa zea). While the market allows for earworms in up to 3% of ears, more than a quarter of all acres abandoned were above this threshold.

In the wake of these losses, Adrian Card, Micky Eubanks, Mel Schreiner and Melissa Franklin collaborated with the sweet corn growers in a project combining field and lab components understand the genetics, insect behavior, insecticide resistance and best practices for crop protection.

With the support of $163,000 in Federal and State resources, the team met monthly by video to share information and craft a plan to answer key questions and help inform management decisions for both growers and aerial sprayers. While definitive answers await, the 2024 season showed a 40% increase in marketable sweet corn (ears with worm damage below the 3% threshold) compared to 2023. Partners include the Colorado West Sweet Corn Administrative Committee, Colorado Fruit and Vegetable Growers Association, Tuxedo Farms, Mountain Quality Marketing, Mountain Fresh, Soil Health Services, and Olathe Spray Services.

Reducing Food Safety Risk of Colorado Cantaloupes (5)
The cherished summer fruit from Rocky Ford gets research support for improved safety

To support the continued viability and safety of cantaloupe production in Colorado, a CSU team led by Eduardo Gutierrez-Rodriguez, launched a collaborative effort to revise best practices for cantaloupe growing, harvesting, and postharvest handling. This work addresses ongoing food safety challenges critical to production.

In partnership with cantaloupe growers in the Rocky Ford area, they conducted meetings to discuss production practices and refine a new draft document outlining updated guidelines. The top three food safety priorities discussed for the upcoming seasons were: water quality, preharvest field inspections, and field/packinghouse sanitation.

This project increased awareness of food safety standards among all participating growers and laid the groundwork for longer-term improvements in production systems, resource conservation, and contamination prevention in Colorado's cantaloupe industry.

Work in 2025–2026 will further refine growing and handling guidance with a focus on eliminating the need for washing, improving soil health, and reducing water use.

2024 Work and Impacts

2024 Report Contributors:

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