

Colorado Food Systems Resources:

Food systems include the individuals, resources, and activities involved in getting food from the farm to the table. Because food, health, society, the environment, and the economy are interrelated, food systems have many partners, including producers, scientists, policymakers, industries, and citizens.



Some Key Features of Sustainable Community Food Systems:

- A stable base of family farms that use sustainable production practices and emphasizes local inputs
- Marketing and processing practices that create more direct links between farmers and consumers
- Improved access by all community members to an adequate, affordable, nutritious diet
- Improved living and working conditions for farm and food system labor

¹ SAREP, Agricultural Sustainability Institute: <http://extension.org/pages/18378/food-systems-introduction>

Extension's Food System Resources:

- Monthly newsletters on food systems programming and policy updates
- Support for state and local food policy councils
- Partnerships with organizations across the state
- Websites with resources for consumers, producers, educators, policymakers

CSU Extension Food Systems Online Resources:

Colorado MarketMaker:

An interactive online resource designed to connect food producers, distributors, buyers and sellers to their specific consumer markets:

- Find Colorado products, gain access to new markets, and explore the local food system:
- Use the online marketplace to:
- List products or services for sale
 - Find transportation alternatives
 - List services you may provide to other food companies (co-packing)
- Locate & map:
- Processors
 - Food retailers
 - Wholesalers
 - Restaurants
 - Farmers' markets

FOR MORE INFORMATION:
<http://comarketmaker.com>



Colorado Farm to Market:

Helping to navigate the road from farm to market:

This site was developed to familiarize Colorado food producers and food product manufacturers with federal, state, and local food licensing regulations and food safety information to help ensure that the path food travels from farm to fork is safe.

- You'll find:
- Best practices for handling and selling raw agricultural products
 - Information on processing value-added food products
 - Regulations on licensing, labeling, weights & measures, and other requirements by market channel
 - Resources for Cottage Food producers

FOR MORE INFORMATION:
<http://cofarmtomarket.com>



Colorado Farm-to-Table Food Safety:

Safe production, preparation, and consumption of food in Colorado:

- Grow:**
- Growers: GAPs/GHPs
 - Farmers' Market Vendor Best Practices
 - Home Gardeners' Food Safety
- Prepare:**
- High Altitude Food Preparation
 - Retail Food Safety
 - Cottage Foods
 - Home Kitchen Safety
 - Master Food Safety Advisor Volunteer Program
- Eat:**
- High Risk Audiences
 - Colorado Produce
 - Eating Safely Away from Home

FOR MORE INFORMATION:
<http://farmtotable.colostate.edu>



CSU's Food System Education and Outreach Programming

Colorado State University
Extension

Colorado Building Farmers Creating New Capacity and Opportunities

Project Goals:

1. Build farmer capacity among those interested in entering into production agriculture, and exploring the resources available to them
2. Build farm community through networking and farmer-to-farmer activities that build capacity of existing farmers

260 participants in 8 areas of Colorado:

- Boulder • La Plata • San Miguel • Tri-River Area • Pueblo • Larimer • Denver/Jefferson • Chaffee



Who are Colorado's Beginning Farmers & Ranchers?

New Farmers/Ranchers:

have less than 1/4 acre farm or 100 acre ranch and/or less than 1 year farming/ranching and/or intern/apprentice level experience.

Intermediate Farmers/Ranchers:

are the production/marketing manager or primary operator, greater than 1/4 acre farm or 100 acre ranch, with less than 3 years' experience.

Experienced Farmers/Ranchers:

are the production/marketing manager or primary operator, greater than 1/4 acre farm or 100 acre ranch, with 3 or more years' experience.

A Closer Look at Programs:

Ag business planning • Record keeping • Branding your product • Farmer-led business discussions on: labor, marketing, leasing land, small-scale livestock production, equipment, farm planning, agritourism, multi-dimensional farming •

Presentation of business plans

- Each session starts with a dinner so participants can network and get to know one another.
- Upon completion of their business plans, participants can apply to be mentored by an experienced farmer for one season (February – October).
- Nearly 70% of all participants completed and presented a business plan at the end of the 8-week course.

Program Results and Outcomes

- Of those surveyed 9 months after completing the program,
 - 50% or more had made changes in their planning.
 - More than 80% indicated that their network of producer colleagues had been enhanced through participation in the program.
 - Roughly 80% can now access local resources & technical assistance to support their agricultural operations.
 - Approximately 50% said their farming operations were more economically viable and more efficient, and that their families' goals were easier to achieve and their overall quality of life on their farms has improved.

CSU Food Safety Education For Local Food Producers and Retail Workers

Understanding food handling best practices is vital to supporting a safe food system. CSU offers a variety of training options for retail food workers and local small-scale food producers.

Retail Food Handler Training:

- **CSU Extension Food Safety Works Program:**

Over 5,000 individuals in 21 counties have participated. This program helps to insure safe food service in Colorado retail establishments



- **ServSafe:** Offered by CSU Extension in face-to face classes and on-line exam proctoring

Cottage Foods:

A cottage food is a value-added food product produced in a home kitchen to be sold directly to consumers through a farmers' market, roadside stand, CSA, or from a residence.

Cottage Food Producers must be trained and certified in safe food handling



Safe food handler training for Colorado Cottage Food Producers:

- ServSafe, offered by various agencies including CSU Extension

CSU Food Entrepreneurs Course:

- Food Safety and Business Development Principles for Entrepreneurs – available on-line March 2013



Additional CSU Extension Resources for Cottage Food Producers, available from cofarmtomarket.com:

- Cottage Food Producer Checklist & Guide
- Webinar for Cottage Food Producer
- FAQs on cottage food production & business development
- Cottage Food Budgeting Example
- Cottage Food Products Fact Sheets – coming soon!



Colorado State University Extension – Nutrition Education Programs for Limited Resource Audiences

Expanded Food and Nutrition Education Program (EFNEP) Supplemental Nutrition Assistance Program Education (SNAP-Ed)

EFNEP and SNAP-Ed are nutrition education and obesity prevention programs, funded by the USDA. The mission of these programs is to improve the health and well-being of low-income families through education on basic nutrition, food safety, food resource management, and physical activity. In Colorado, EFNEP and Colorado State University Extension (CSU-E) SNAP-Ed are administered jointly by CSU Extension (CSU-E is one of three implementing agencies of SNAP-Ed in Colorado). CSU-E EFNEP and SNAP-Ed participants' behavior is assessed through a pre/post evaluation.

#'s of Coloradans Reached - In federal fiscal year 2012 (FFY12), Colorado EFNEP reached 1,582 families directly and 5,944 family members indirectly. In FFY12, CSU-E SNAP-Ed reached 720 families directly and 2,468 family members indirectly.

Food Safety – CSU-E EFNEP and SNAP-Ed focus on food safety in classes as one of the four core areas. Throughout the series of lessons participants learn to properly store and prepare foods to reduce the risk of foodborne illness. Additionally, food safety tips for special populations such as pregnant or nursing mothers and young children are taught in the series of lessons.

In FFY12:

- 67% of **EFNEP** participants showed improvement in one or more **food safety practices** (thawing and storing foods properly).
- 70% of **SNAP-Ed** participants showed improvement in one or more **food safety practices** (thawing and storing foods properly).

Food Security – CSU-E EFNEP and SNAP-Ed address food security of Colorado residents by teaching participants how to manage their food resources. Managing food resources by planning meals, using grocery lists and comparing prices, means that participants are less likely to experience food insecurity and more likely to report having access to food all month.

In FFY12:

- 85% of **EFNEP** participants showed improvement in one or more **food resource management practices** (plans meals ahead of time, compares prices at the grocery store, does not run out of food at the end of the month).
- 90% of **SNAP-Ed** participants showed improvement in one or more **food resource management practices** (plans meals ahead of time, compares prices at the grocery store, does not run out of food at the end of the month).

Childhood Obesity Prevention - CSU-E EFNEP and SNAP-Ed help to combat childhood obesity by providing parents education on purchasing and preparing healthy foods and being physically active. Participants receiving EFNEP and SNAP-Ed classes report improved nutrition practices such as reading nutrition facts labels, choosing healthy foods such as fruits, vegetables and whole grains, and having their children eat breakfast.

In FFY12:

- 92% of **EFNEP** participants showed improvement in one or more **nutrition practices** (plans meals ahead of time, makes healthy food choices, prepares food without adding salt, reads nutrition labels, has children eat breakfast).
- 51% of **EFNEP** participants improved their level of **physical activity**.
- 92% of **SNAP-Ed** participants showed improvement in one or more **nutrition practices** (plans meals ahead of time, makes healthy food choices, prepares food without adding salt, reads nutrition labels, has children eat breakfast).
- 56% of **SNAP-Ed** participants improved their level of **physical activity**.

Working with Youth

Additionally, EFNEP works with youth - targeting third graders - to teach healthy eating concepts such as choosing a variety of healthy foods such as fruits, vegetables, whole grains, and low-fat dairy foods and protein foods, limiting sugary snacks and beverages, and being active. *CSU-E SNAP-Ed does not currently teach youth classes.*

- In FFY12, EFNEP reached 732 youth through a series of 5-11 weekly classes. Of those that participated,
 - 20% of youth now eat a variety of food.
 - 20% increased knowledge of the essentials of human nutrition.
 - 14% increased their ability to select low-cost, nutritious foods.
 - 18% improved practices in food preparation and safety.

What people say about CSU-E EFNEP and SNAP-Ed:

"I enjoyed this class very much. I learned how to make some good, fast meals, how much of each food group I need to eat, and I learned some new, fun ways to exercise."

"I learned techniques for stretching my monthly food budget and look forward to cooking the recipes at home."

"I learned about defrosting food and that I should not leave it out on the counter all day. When in doubt, throw it out!"

"I really learned a lot from this class. I learned that I use way too much salt on my foods and I now exercise every day. I eat a variety of fruits and vegetables."

"When I shop, I look at labels to see if milk is pasteurized and that 100 percent fruit juice is on juice labels."

"I learned that letting cooked food sit out for more than two hours can be harmful."



Healthy Babies through Infant-Centered Feeding

Healthy Babies is a multi-year USDA AFRI grant designed to evaluate direct nutrition education to low-income mothers of infants addressing appropriate solid food introduction, parenting styles and childhood obesity prevention. The long-term goal of this project is consistent with the USDA goal of improving the nation's nutrition and health by addressing childhood obesity through an effective intervention promoting the development of healthy eating habits at an early age.

Project Methods:

- Participants were taught 1-on-1, in their homes for 6 months (1 lesson per month).
 - Lessons addressed appropriate timing and process of solid food introduction, transitioning the infant from infant cereal to family foods over time, interacting/communicating with the infant during feeding times, and family meals.
- Participants were recruited during pregnancy to start participating in month 1 after their baby was born.
- Participants were evaluated both by observation of infant feeding and by questionnaire prior to the first lesson, immediately after the 6th lesson and 6 months after completing the program.
- Project investigators are just now wrapping up the last of the participant lessons and beginning data analysis. Results are pending.



Cooking with Kids 2.0: Plus Parents and Play

Project Director: Leslie Cunningham-Sabo, PhD, RD, Colorado State University, Department of Food Science and Human Nutrition

An estimated 31.7% of U.S. children and adolescents are overweight, with an additional 17% obese. In recent years, Colorado's ranking for childhood obesity rates dramatically worsened from 3rd (most healthy) to 23rd place. *Cooking with Kids 2.0: Plus Parents and Play (CWK 2.0)* is an integrated research, extension, and education project targeting 4th-grade students and their families and schools. Its long-term goal of reducing the risk of childhood obesity will be addressed by promoting healthful food and activity environments, policies and behaviors through: 1) building and testing the efficacy of a 4th-grade comprehensive school- and family-based intervention, 2) applying it to an after-school setting to broaden its reach, and, 3) using the Community Readiness model, disseminating both versions throughout Colorado. The program is composed of 5 components to be initially tested in 8 schools in Fort Collins and Loveland.

CWK 2.0 Classroom – hands-on cooking and tasting lessons developed to enhance cooking skills and provide positive experiences with a wide variety of wholesome, healthy foods

Sports, Play, and Active Recreation for Kids (SPARK) Active Recess program – promotes quality, daily, physical activity in youth; designed to encourage maximum participation for every player, regardless of ability

CWK 2.0 Cafeteria – links the classroom lessons to healthful foods in the school cafeteria and uses a variety of strategies to encourage students to make more healthful choices

CWK 2.0 Family – designed to engage and encourage family participation and reinforce at home what students experience through the CWK 2.0 classroom, recess, and cafeteria components

About Eating – a 6-lesson, on-line healthy eating and activity resource for busy parents

CWK 2.0 will be implemented for two years, beginning fall 2013, using an asynchronous design that allows for assessment of the school-based program alone and in combination with both *CWK 2.0 Family* and *About Eating*. Changes in fruit and vegetable intake and activity levels are primary outcomes, with measured BMI as a secondary outcome. University students will gain valuable research experience and Extension educators will receive important childhood obesity prevention training. The project's long-term goal is consistent with the USDA goal of improving the nation's nutrition and health by promoting the development of healthy eating and activity habits in children.

Roles of FSHN Extension in Colorado Food Systems

A food systems framework links together all influences in the food and agricultural sciences, from on-farm production through consumers' food choices and includes subsequent impacts on health, the environment, and our society. CSU educators are using an interdisciplinary food systems approach to better understand and manage current food issues including the emergence of diet-related health problems and best practices for safe food production and handling. The food system network at CSU extends to multiple agencies across Colorado and is helping to guide innovative research, encourage new collaborative opportunities, and create outreach education resources for food producers, retailers, and consumers, including low income and high risk populations.

Food Safety Summary

Food systems outreach provided through CSU Extension Farm to Table Food Safety website:

<http://www.farmtotable.colostate.edu/>) and CDA Colorado Farm to Market website: <http://cofarmtomarket.com/>

For Ag Producers

Colorado specific Good Agricultural Practices (GAPs) and On-Farm Food Safety Plan Webinars,
Collaborations with Cornell's Produce Safety Alliance for proposed produce growers' workshops

With College of Agriculture Extension partners

Food Systems Extension Work Team

Food Systems Newsletters: <http://www.ext.colostate.edu/cis/localfood.html>

Provide support for CSU Extension Building Farmers' Programs

Provide support for Farm to School Projects

For Retail Food Producers

Coordination of Extension ServSafe Training for Retail Food Managers

Food Safety Works Program for Retail Food Handlers

Small-scale food production on-line curriculum

For Consumers

Food safety, food preparation, and food preservation information

Current grants related to Food Safety/Food Systems

(2013-2015) A Systems Approach to Improving the Safety of Cantaloupes. PI: Goodridge, L., Co-PIs: Bunning, M., Kendall, P., Sofos, J., Stallones, L., Bartolo, M., Scallan, E., Hirakata, M. USDA Specialty Crops Competitive Grant Program. \$215,000.

(2013-2015) Urban Farm to School Food Safety Project. Angelo, B., Sullins, M., Bunning, M. CSU portion: \$16,639.

(2012-2013) Colorado ELC: Food Safety Modernization Act – Integrated Food Safety Centers of Excellence (CoE), PI: Cronquist, A., Co-PIs: Scallan, E., Bunning, M. Centers for Disease Control and Prevention, \$199,813.

CSU portion: Establish a food systems/produce crops production data base, \$21,922.

(2012-2013) Risk Management Education and Outreach for Cottage Food Producers. Co-PIs: Bunning, M., Sullins, M., Co-investigator: Thilmany, D. Colorado Dept. of Agriculture, \$35,749.

(2011-2013) Feasibility of Commercial Processing of Olathe Sweet Corn, PI: Hammon, R. Co-PIs: Bunning, M., Sharp, R., Colorado Department of Agriculture/USDA Specialty Block Grant, \$35,813.

Pending:

(2013-2015) Does Going Green Keep You From Feeling Green? Characterizing the Food Safety Risks and Consumer Behaviors of the Local Food Movement. Bunning, M. Goodridge, L., Thilmany, D. USDA NIFA/NIFSI, collaborating with Ohio State University, \$415,000

(2013-2015) Developing Methods for Using Surplus Fluid Milk from Colorado Dairy Producers in Brewing Beer. Bunning, M., Avens, J., Callaway, J., Goodridge, L., Roman-Munbiz, N., Stone, M., Thilmany-McFadden, D., Wailes, W., Weir, T. Colorado Ag Experiment Station, \$39,775.

(2013-2014) Risk Management Training and Budgeting for the Costs of Food Safety on Colorado Farms. Sullins, M., Thilmany, D., Bunning, M. Western Center for Risk Management Education, \$49,995.

CSU Contributions to Childhood Obesity

LEAP Study (Proposal Summary): Funded by USDA AFRI

A Longitudinal Study to Assess if the Effectiveness of a Preschool Nutrition and Physical Activity Program is sustained in Elementary School

This proposal is an integrated project aimed at understanding behavioral factors and programming impacts to prevent obesity in preschoolers. With the rise in childhood overweight, it is suggested that the preschool years are a critical time for prevention efforts as they represent a time when children establish healthy eating habits and physical activity patterns. Understanding the context in which child behavioral patterns are developed is critical to developing a model to address childhood overweight.

Child behaviors, such as dietary intake and physical activity, can place children at risk for overweight and are shaped by many characteristics, including individual characteristics as well as school, family and environmental characteristics. Predictive behaviors within these environments can influence child behaviors. While many predictive behaviors have been shown to influence dietary intake, physical activity, and weight status, two additional behaviors - food preference and motor performance – need further exploration.

Two theory-based interventions - *Food Friends*® and *Mighty Moves*™ - have successfully demonstrated increases in both children's willingness to try new foods (food preference) and motor performance in preschool-aged children. To further explore the efficacy of these programs the proposed project will use a contextual model to explore: 1) the influence of *Food Friends*® and *Mighty Moves*™ on food preference and motor performance; 2) food preference and motor performance as predictors of dietary intake and physical activity; and 3) proposed influence of *Food Friends*® and *Mighty Moves*™ on child weight status. Longitudinal research will provide more convincing evidence of potential relationships proposed.

Food Friends and Mighty Moves: Funded by CO Health Foundation

In 2012, the program has reached ~29,000 preschoolers and families in 950 classrooms and 300 family child care homes. Over the 3 year grant, ~52,000 preschoolers and families have been reached in 60 of Colorado's 64 counties. PI: J. Anderson

Other Projects:

Project GROW: A collaborative project with Oregon State University to assess the environmental determinants of healthy eating and physical activity in rural communities via participatory photo mapping. We are planning on developing community profiles in 4 communities, several out in the northeast area of the state.

Cooking with Kids 2.0 (L. Cunningham-Sabo, PI): An integrated research project in 4th grade classrooms in Thompson (Loveland) and Poudre (Ft. Collins) school districts. The project will implement classroom based program, stimulate environmental changes in the cafeteria and recess, and engage families in cooking education and active lifestyles.