

2015 Colorado State University Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

The Agricultural Experiment Station (AES) and Extension at Colorado State University are committed to excellence in basic and applied research and translation of this research through Extension programs to crop (including ornamental) and animal (including equine) agriculture. Extension will continue to emphasize non-formal education and transfer of knowledge to audiences throughout the state, based on research information from the AES, the colleges of Agricultural Sciences, Health & Human Sciences, Engineering, Veterinary Medicine and Natural Resources. Programs will emphasize best management practices in addressing issues that affect Coloradans.

4-H Youth Development

Program Goals: 4-H Youth Development empowers youth to reach their full potential by working and learning in partnership with caring adults. 4-H affects positive change in life skills (including leadership, citizenship, decision making, and communication) and in STEM (including interest, knowledge, and application of science process skills) for youth ages 5 to 18.

Extension, AES, or Integrated: Extension

New Programs, and/or Addressing NIFA Priorities: STEM priority will benefit from available and promised content and resource support from National 4-H Headquarters, Colorado State University, Extension, and county partners.

Ongoing, Consistent, and/or Successful Programs: Colorado State University Extension reaches Colorado's K-12 youth through 4-H youth development programs in 4-H clubs, after-school and school enrichment. Development of volunteers who provide much of the leadership for 4-H, and private fund-raising are associated activities. 4-H Youth Development emphasizes personal growth of young people through experiential learning with well-designed curricula and projects.

Cross-cutting or Cross-disciplinary Initiatives: Most 4-H Youth Development programs, while focusing on youth development, are built around content that may be supported by one or more college-based specialists.

Community & Economic Development

Program Goals: Community & Economic Development outreach works with municipal, county, state, and federal agencies, nongovernmental organizations, and citizens to create dynamic processes that address local and regional needs/issues. Our efforts focus on facilitating community planning processes that engage all stakeholders affected by an issue in ways that lead to better informed decisions and help communities understand and deal with change. It includes providing information and resource connections, which might include community impact analysis of economic activity or evaluation of the drivers of local economies. This work encourages collaboration to build regional economies and create entrepreneur/business friendly communities. Innovative and collaborative leadership activities/trainings are provided to engage new diverse leaders and strengthen community organizations.

Extension, AES, or Integrated: Integrated

New Programs, and/or Addressing NIFA Priorities: Community & Economic Development, is highlighted by the Vice President for Engagement and Director of Extension.

Ongoing, Consistent, and/or Successful Programs: Colorado communities are changing rapidly as a result of many factors, including loss of agricultural water, influx of retirement populations, development of

gas and oil industries, incidence of military deployment, and changes in cultural composition of residents. Communities struggle to develop and maintain resources: human, financial, physical, social, environmental, and political. They also are challenged to provide the organizational capacity to assess, plan, and implement activities to address resource development and management. These issues especially are acute in smaller rural communities. Colorado's rural communities are relatively unique in terms of sparse populations, a high natural amenity and public lands base, a transitory population, and

relatively low public service provision. Communities require knowledge to evaluate their resource base, their economic and social service alternatives, and their futures.

Cross-cutting or Cross-disciplinary Initiatives: Technologies will be provided through training and technical assistance to Extension agents, as the system views C&ED as a process rather than an issue. The goal is to intentionally integrate C&ED into all issues work.

Crop Management Systems

Program Goals: It is the goal of this Planning & Reporting Unit (PRU) for the producers of Colorado crops to adopt and implement improved, productive, and sustainable agricultural systems that will lead to the success of farms. Furthermore, these producer actions will improve the ability of farm operations to persist and thrive through successive generations of operators. Individuals, families, and communities will all benefit by having a safe, secure and sufficient food supply. Colorado crop producers will accommodate to the growth of demand for local and world crop production without compromising the natural resources upon which agriculture depends.

Extension, AES, or Integrated: Integrated

New Programs, and/or Addressing NIFA Priorities: Global Food Security and Hunger

Ongoing, Consistent, and/or Successful Programs: Molecular biology and genomics of crop plants and their pests; Integrated Pest Management.; Wheat breeding, bean breeding and potato breeding programs; Production systems in semi-arid environments with limited water availability. Communicate results through demonstration plots and field days;

Cross-cutting or Cross-disciplinary Initiatives: This is a well-organized and highly-functioning Extension unit that will maintain its structure and contribute to the NIFA priority goal of global food security.

Energy

Program Goals: (1) Empower Coloradans to make well-informed energy decisions; and (2) Promote a broad, unbiased understanding of energy issues. Promoting a broad, unbiased understanding of energy issues may result in well-informed energy decisions in the long-term. In the short-term, it may simply uplift the quality of energy dialogue in Colorado.

Extension, AES, or Integrated: Integrated

New Programs, and/or Addressing NIFA Priorities: Clean Energy

Ongoing, Consistent, and/or Successful Programs: Energy Masters, Center for Agricultural Energy (CAE)

Cross-cutting or Cross-disciplinary Initiatives: Home & Farm, K-12

Environmental Horticulture

Program Goals: The outreach efforts of the Environmental Horticulture Planning & Reporting Unit (PRU) will provide education and services to encourage the adoption of research-based best management practices (design, plant selection, establishment, and management practices) and diagnostic techniques/services by green industry professionals and the home gardener. Our goal is that professional and lay practitioners will use reasonable inputs of labor, water, fertilizers and pesticides to produce attractive, functional, cost-effective and sustainable ornamental landscapes.

Extension, AES, or Integrated: Integrated

Ongoing, Consistent, and/or Successful Programs: The primary issues addressed by Environmental

Horticulture Extension include: ornamental landscapes, diagnostic services, and volunteer engagement. Emerging issues for consideration include:

- Sustainable landscaping
- "Green" gardening
- Organic/natural landscape management
- Composting/recycling
- Water-wise/water smart gardens
- Youth Gardening
- Wildlife gardening (birds, butterflies)
- Home greenhouses
- Spanish speaking audiences

Cross-cutting or Cross-disciplinary Initiatives: Adult and youth audiences.

Family & Financial Stability

Program Goals: Financial, mental, physical, emotional and relational health are key components of

well-being. Stable and successful individuals, families, and communities are important to the growth, development and health of our society. When people are in a state of financial and relational wellness, they are in control, confident and focused. They have greater balance and stability so they can concentrate on the most important tasks at hand such a weathering difficulties and making progress toward their goals. Family and financial stability education creates strong communities.

Extension, AES, or Integrated: Extension

New Programs, and/or Addressing NIFA Priorities: Renewed engagement with CSU Department of Human Development and Family Studies provides opportunities for new programs engaging field and campus colleagues.

Ongoing, Consistent, and/or Successful Programs: Family and Financial Stability (FAFS) programs seek to provide applied research and Extension education in a coordinated set of programs related to family and financial economic stability. Financial stability of families has been the area of focus for non-nutrition FCS programming. Colorado families' financial instability includes increasing rates of bankruptcy, economic crises and loss of jobs. Family stability is important to the growth, development, and health of our society.

Cross-cutting or Cross-disciplinary Initiatives: Consumer economics and human development and family studies are vehicles that can assist 4-H in reaching positive youth development and STEM targets.

Food Systems

Program Goals: Improved technical assistance for agricultural and food producers exploring new marketing channels and alternative business approaches. Also, CSU will provide facilitation of community discussions around the interface between food and agricultural issues and broader social issues including public health, food safety, the environment and community development.

Extension, AES, or Integrated: Integrated

New Programs, and/or Addressing NIFA Priorities: This team was formed and issues were framed based on a couple of key assumptions that arose among team members as they saw the requests they received from community members change and evolve:

1. Current work teams do not address all the system-oriented issues that agriculture and food production play a role in.
2. There is a need for more marketing, policy and community development activities directed at food systems that vary from the conventional system used to handle high volume commodity foods.
3. Extension is being asked to play a more significant role in food system planning, including facilitating

discussions between consumers, producers and organizations interested in ag and food issues. Ongoing, Consistent, and/or Successful Programs: The Food Systems team has come together, drawing from a diverse set of personnel with backgrounds in agriculture, horticulture, food safety, nutrition, community development, and youth education. This team will work to increase literacy on food and ag issues, facilitate community discussions and assessments on ag and food issues, provide technical assistance to an increasingly diverse set of food producers and support new market opportunities. Cross-cutting or Cross-disciplinary Initiatives: To formalize and coordinate activities that require interdisciplinary approaches related to emerging issues, a new resource team on Food Systems seems warranted.

Livestock & Range

Program Goals: The Livestock and Range (L&R) Planning & Reporting Unit (PRU) strives for rangeland health, improved animal health and production, industry policy and regulation awareness, and economic sustainability using a broad array of methodologies that provides information, skills, and technology to producers and L&R Unit members. This PRU is designed for Extension Programming for livestock producers, ranchers, and rangeland managers who have, or are striving for, a significant portion of their personal income coming from the farm/ranch. These may be small farms/ranches or larger scale operations. Livestock producers may also integrate cropping production systems into their operation.

Extension, AES, or Integrated: Integrated

New Programs, and/or Addressing NIFA Priorities; Global Food Security and Hunger

Ongoing, Consistent, and/or Successful Programs: Extension outreach will span the breadth of the topics of research to assure that industry participants have practical knowledge in modern beef, dairy, and sheep production systems, biosecurity, economic and risk management, and response to policy and consumer changes. Outreach to youth involved in livestock production and judging events will continue as part of experiential learning in 4-H, FFA, and college judging. Producers will realize increased prices and

lower cost of production. Consumers will benefit from higher human nutritional values of food. AES will lead research on animal production systems and reproductive efficiency.

Cross-cutting or Cross-disciplinary Initiatives: Reorganization of Planned Programs pulls apart animal production systems and plant production systems. The work will integrate Extension education in disseminating research results. CSU Extension will:

- Deliver workshops and educational classes for producers;
- Provide individual counseling for producers and clientele on specific animal production problems.

Cross-cutting or Cross-disciplinary Initiatives: Research on animal production systems and reproductive efficiency.

Natural Resources

Program Goals: The Natural Resources Planning & Reporting Unit (PRU) members will work together to develop and implement high quality educational programs and tools to ensure a high quality of life for Colorado citizens.

Extension, AES, or Integrated: Integrated

New Programs, and/or Addressing NIFA Priorities: The Natural Resources PRU is focused on how to best manage our landscapes from the perspective of plants, animals, soils, water, and pests. Our goal is to protect these resources through our programming efforts, with special emphasis on native species.

Ongoing, Consistent, and/or Successful Programs: AES and Extension programs address the growing competition for finite water, land, and air resources in a state with a growing human population by:

- Educating agricultural and resource industry professionals;
- Researching technical and economic issues related to improved resource utilization;

- Enhancing international competitiveness.

Cross-cutting or Cross-disciplinary Initiatives: Nutrient management and odor and dust control.

Nutrition, Food Safety & Health

Program Goals: The goal of this PRU is to promote adoption of healthful eating and activity patterns and ensure an abundant and safe food supply for all. Adoption of healthful eating and activity patterns can enhance the overall health and wellbeing of children, youth, adults, and the growing senior population. Adoption of food safety knowledge and safe food handling practices will ultimately reduce the incidence of foodborne disease in Colorado, especially among the most vulnerable populations (infants, young children and individuals who are immuno-compromised through aging, medical intervention, and illness). Through various programs, CSU Extension contributes to the statewide efforts to increase fruit and vegetable consumption, increase physical activity, and decrease overweight/obesity risk in Colorado.

Extension, AES, or Integrated: Integrated

New Programs, and/or Addressing NIFA Priorities: Planned Programs are reorganized to again combine Nutrition and Food Safety work in this category.

Ongoing, Consistent, and/or Successful Programs:

- Food safety training for food service managers and employees
- Food safety education for high risk audiences, their caregivers, and health care professionals
- Food safety information for consumers including Farmers' Market vendors and their customers.
- Nutrition and Health Promotion programs provide research-based nutrition and health education to a variety of audiences across Colorado in an effort to promote healthful nutrition, activity and lifestyle behaviors.

Cross-cutting or Cross-disciplinary Initiatives: AES food safety research emphasizes pre-harvest management of livestock to prevent transmission of human pathogens in livestock production and handling and post-harvest detection and management systems to prevent contamination of meat and plant products with human pathogens.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	150.0	0.0	50.0	0.0
Actual	134.5	0.0	45.8	0.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

- Internal University Panel
- External Non-University Panel
- Combined External and Internal University External Non-University Panel

2. Brief Explanation

All projects conducted by the AES and Extension are subjected to a peer review process. Each college at

Colorado State University has adopted a process for conducting a peer review on all AES and Extension projects submitted for support by state and federal funds. Criteria, as requested by NIFA reviewers, include alignment with college priorities, resource allocation, and meeting needs of Coloradoans.

As of January, 2014, Extension specialists and agents team together in ten Planning and Reporting Units (PRUs), jointly lead by a specialist and an agent. Each PRU has completed a Logic Model, including providing a situation statement, assumptions, identification of inputs, outputs and outcomes (including learning, action, and condition), and an evaluation plan. The Plans of Work (POW) were submitted for entry into the online Colorado Planning and Reporting System (CPRS) early in 2014.

At the county level, all county Extension programs are required at a minimum to have an Extension Advisory Committee composed of constituents, partner agencies (such as the school districts, councils on aging, county health and human services, commodity groups, etc.). In addition, many counties have multiple program advisory groups that guide the county staff in identification of specific programs of emphasis. In the most recent survey of these committees, 62 Extension county programs (from 52 county offices) had a total of 112 advisory committees involving close to 2,000 individuals in the program review process. County programs are reviewed and evaluated by these county advisory groups. The primary criteria is meeting needs in the county.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public
- Other (Survey of County Commissioners regarding Extension Programs in their county.)

Brief explanation.

The AES and Extension are active participants in meetings of Advisory Committees consisting of state, county, and organizational leaders. AES and Extension programs are discussed and input is solicited on future priorities for research activities. In addition, the AES regularly participates in meetings held by CSU Extension where current and future program needs are discussed. A variety of joint research programs are conducted with USDA-ARS programs in Fort Collins, Akron, and other locations as well as collaborative programs with USDA-FS, USDA-NRCS and USDA-NASS. Numerous programs are also conducted in cooperation with individuals.

Regional listening sessions lead by the AES and Extension are held in the various regions of the state. Both AES and Extension programs are modified to reflect the input received where appropriate and feasible.

All sessions are open to the public and advertised in the local media prior to the meeting.

Critical issues addressed by multi-state and integrated activities include the following: 1) invasive plants; 2) obesity; 3) animal and municipal waste management; 4) food safety; 5)

community development; 6) water quality and environmental issues; and the emerging area of bioenergy.

2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Use Surveys
- Other (Council for Agricultural Research, Extension, and Teaching)

Brief explanation.

For CSU Extension, county needs determine programming direction. These include addressing the needs of under-served and under-represented populations. Extension participated in the first cohort of CSREES-funded Change Agents States. We have maintained the system changes implemented during the initiative, as well as the Diversity Catalyst Team (DCT). Goals for Extension diversity include increasing: diversity of employees; diversity of audiences served; and cultural competency of current Extension employees. DCT seeks to support "widening our circle" to include audiences currently under-served and/or under-represented.

The AES research program is modified based on input from stakeholders. Examples include an evaluation of oilseeds that was initiated to assess bioenergy potential based on stakeholder requests; multi-disciplinary and integrated activities are conducted on invasive plants; and the goals of wheat breeding program that reflect the needs of the wheat industry. In essence, ongoing interaction with stakeholders through formal and informal means is used to insure program relevancy.

2(B). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public
- Other (Review of county Web sites to discern priorities)

Brief explanation.

The AES and Extension annually utilize multiple means of obtaining stakeholder input on programs conducted and solicit input on changes in program direction. The AES and Extension support programs in seven of the eight colleges on the Colorado State University campus as well as at nine off-campus research centers, 52 individual county offices and four area programs serving 62 of

Colorado's 64 counties.

AES: Each year, the off-campus research centers hold a public meeting where research results are presented and proposed programs are discussed. Public input is solicited on all proposed programs. It should be noted that many of the programs discussed involve faculty and staff located on the Fort Collins campus as well as at the off-campus research centers and Extension county or area offices.

CE: Each County/Area Extension program is required to have a stakeholder advisory committee, representing all programmatic and geographic areas, as well as the diversity found in the county. Evidence of the advisory committee must be documented in performance appraisals, as well as during the regularly scheduled affirmative action reviews. These advisory committees are expected to meet on a regular basis and provide guidance on programming and target audiences. Finally, a Colorado Extension Advisory Committee (CEAC), representing program recipient groups and programmatic collaborators provides oversight and input at the state level. Extension administration pays travel expenses to two meetings each year, to encourage participation.

3. A statement of how the input will be considered

- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

Brief explanation.

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AES: Each year, the off-campus research centers hold a public meeting where research results are presented and proposed programs are discussed. Public input is solicited on all proposed programs. It should be noted that many of the programs discussed involve faculty and staff located on the Fort Collins campus as well as at the off-campus research centers and Extension county or area offices.

CE: Yearly the county advisory committees review the county plans of work which are then incorporated into the statewide work team plans. These plans are reviewed by the CEAC for additional input and acceptance. There is an open call for additional Planning & Reporting Units (PRUs) so that emerging priority areas may be identified and state-wide focus provided, when appropriate. Diversity among stakeholders is expected, but as NIFA reviewers have noted, it is not documented.

Brief Explanation of what you learned from your Stakeholders

Local demand drives programming in Colorado.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
3222922	0	3538997	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	2776358	0	2937602	0
Actual Matching	2776358	0	2937602	0
Actual All Other	12481558	0	28019229	0
Total Actual Expended	18034274	0	33894433	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	2182150	0	284055	0

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	4-H Youth Development
2	Family and Financial Security
3	Nutrition, Food Safety & Health
4	Livestock & Range
5	Cropping Systems
6	Natural Resources
7	Community & Economic Development
8	Energy
9	Environmental Horticulture
10	Food Systems

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

4-H Youth Development

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	50.0	0.0	0.0	0.0
Actual Paid	64.0	0.0	0.0	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
944641	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
944641	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3835216	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Support traditional club programs by recruiting and establishing new clubs;

- Conduct after school and school enrichment programs that provide curriculum in Science,

Technology, Engineering and Math (STEM), leadership, citizenship and life skills development;

- Develop new curriculum in response to new audience needs;
- Strengthen the volunteer management system needed to implement the 4-H Youth Development program by: conducting agent trainings to develop volunteer management skills; developing tools to support volunteer management system; delivering volunteer leader training;
- Develop new funding support through individual and group solicitation, grant applications and fee-for-service programs.

2. Brief description of the target audience

For 4-H Youth Development programming - all Colorado youth, ages 5 - 19.

- For volunteers - interested adults ages 19+, parents, community members, seniors, partner agencies.
- For increased funding - potential funding entities, including grant providers.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	127881	520119	158939	209306

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events.

Year	Actual
2015	12125

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	39484

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	2837

Output #4

Output Measure

- 4. Number of kits or similar resources loaned or provided.

Year	Actual
2015	268

Output #5

Output Measure

- 5. Number of Extension-related research and assessment projects. External funding proposals, including local, state, federal.

Year	Actual
2015	101

Output #6

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	0

Output #7

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances, newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	33296

Output #8

Output Measure

- 8. Number of online posts: Web posts, hits.

Year	Actual
2015	174301

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	4H 1.1: Volunteers apply skills developed through Extension-provided training, supervision, and support to increase their effectiveness in influencing positive youth development for the audience(s) with which they work.
2	4H 2.1: 4-H Youth Development volunteers develop capacity and have a positive influence on the well-being of their communities.
3	4H 3.0: Youth become caring and contributing members of society through life skill development attained in the 4-H program. Indicators include: 4H 3.1: Youth contribute to community improvement; 4H 3.2: Youth develop goal-setting skills; 4H 3.3: Youth develop decision-making skills; 4H 3.4: Youth develop record keeping skills; 4H 3.5: Youth develop public speaking skills; 4H 3.6: Youth develop leadership skills; 4H 3.7: Youth develop responsibility.
4	4H 4.1: Colorado youth apply STEM knowledge and skills in club, community and academic projects and programs.
5	4H 5.1: Colorado K-12 youth apply content knowledge from 4-H in academic and community settings.

Outcome #1

1. Outcome Measures

4H 1.1: Volunteers apply skills developed through Extension-provided training, supervision, and support to increase their effectiveness in influencing positive youth development for the audience(s) with which they work.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	11633

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Volunteers increase the capacity of 4-H Youth Development to reach more youth with more impactful programming.

What has been done

4-H enrolled 11,633 volunteers (10,722 adults and 911 youth) to extend programming throughout the state. Studies have shown that a 4-H volunteer contributes, on average, 128 hours/year = 1,489,024 volunteer hours.

Results

\$25.68/hour is the estimated value of a volunteer's time in Colorado, according to the Independent Sector <https://www.independentsector.org/volunteer_time> = \$38,238,136 value of time contributed by enrolled volunteers in Colorado.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #2

1. Outcome Measures

4H 2.1: 4-H Youth Development volunteers develop capacity and have a positive influence on the well-being of their communities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	5758

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: For the past three years the Douglas County 4-H Agents have presented 4-H 101 for parents and leaders new to the 4-H program.

What has been done

The evening involves an overview of the requirements of the 4-H program and the many opportunities available in Douglas County 4-H. Adults are invited to come early and share a light dinner and conversation with other 4-H adults. New this year was a resource list the agents put together with names of 4-H volunteers who would be happy to receive calls or emails with questions about specific 4-H activities. Along with questions throughout the presentation, a question and answer session was held following the Power Point. Several participants mentioned on their evaluation survey that the Power Point presentation was very helpful and should be used in years to come.

Results

4H 2.1a: Volunteers increase leadership capacity in their communities. (Action) 1,075

4H 2.1b: Volunteers foster life skill development in the youth in their communities. (Action) 1,221

4H 2.1c: Volunteers increase effectiveness of Extension programs. (Action) 1,377

Thirteen evaluation surveys were received following this year's event. Of those surveys, 100% of participants felt that following 4-H 101 they would be better able to help their child make their community a better place, accept new challenges, work well with others, and develop life skills such as record keeping and goal setting. Additionally 100% felt the 4-H 101 helped them acquire knowledge of the 4-H program and contribute to an increase in the effectiveness of Extension programs. All surveys rated the event as above average in value with 85% rating the program as highly valuable.

4H 2.1d: Volunteers contribute to increased public service in their communities. (Action) 671

4H 2.1e: Volunteers generate a sense of goodwill and social well-being in their communities.

(Action) 717

4H 2.1f: Volunteers increase the social, emotional, and learning skills in the audience with which they work (Action) 697

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #3

1. Outcome Measures

4H 3.0: Youth become caring and contributing members of society through life skill development attained in the 4-H program. Indicators include: 4H 3.1: Youth contribute to community improvement; 4H 3.2: Youth develop goal-setting skills; 4H 3.3: Youth develop decision-making skills; 4H 3.4: Youth develop record keeping skills; 4H 3.5: Youth develop public speaking skills; 4H 3.6: Youth develop leadership skills; 4H 3.7: Youth develop responsibility.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	37143

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: One member joined 4-H a little later than most youth do. As a consequence, he missed out on participating in our county program for youth who want to fund-raise to attend Citizenship Washington Focus. However, due to a grant from the County 4-H Foundation, he was able to attend the conference with a delegation of 25 other youth from many Colorado counties.

What has been done

The conference, held in at the National 4-H Center in Chevy Chase, MD, exposes youth to the political process with a first-hand look into our country's government. After two full years of fundraising, the Pueblo County 4-H Globetrotters attended the Citizenship Washington Focus conference at the National 4-H Center in Chevy Chase, MD. Our county sent a delegation of four adults and twenty-one youth during the week of June 7, 2015. The youth worked very hard for this opportunity. They parked cars on the State Fairgrounds, they made and sold burritos at the steel mill during the early morning shift change one Friday each month, and they worked many concession stands. Overall they raised more than \$50,000 to take their group to DC.

Results

Life skills such as communication, leadership, and citizenship are emphasized and practiced. Upon his return, the young man above explained how much the trip meant to him. He really loved meeting with Senators Gardner and Bennet, working with a youth team to craft a mock bill, and visiting national landmarks such as the Washington Monument, Smithsonian Museums, the Tomb of the Unknown Soldier, the Holocaust Museum and others. He was later quoted by our local newspaper as saying that the Tomb and Holocaust Museum "were very emotional places for me. I came to appreciate my freedom as I realized that freedom is not free and many have paid the ultimate sacrifice so that I can enjoy the freedoms we have today in America."

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

4H 4.1: Colorado youth apply STEM knowledge and skills in club, community and academic projects and programs.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	4178

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: The Native American student population in Montezuma County represents the highest dropout rate in the state of Colorado. The mean income in Towaoc is at or below the poverty level of a family of three. Poverty is the best indicator of students who are at risk of dropping out of school. Students living in Towaoc, the Ute Mountain Ute Tribal Headquarters are bused each day to Cortez to attend school. Some students, living on the reservation but outside of Towaoc, are required to ride a bus for over an hour each way, each day. This is a recipe for failure. The tribe has dedicated people working with their youth to help them succeed, and because of these efforts, the graduation rate for the Native American Youth is beginning to climb. The dropout rate, however, is still staggering.

What has been done

We began working on the Ute Mountain Ute Satellite Program in 2011, collaborating with the then Education Director of the Ute Tribe. We began looking for funding for this project until he resigned his position. We put the project on hold. In 2013, two things happened to start the project forward again. I received a call from El Pomar about the STEM work in the southwest counties (Archuleta, La Plata, Montezuma, and Dolores). I told the program associate about this project. She recommended it for a \$10,000 grant. The other event is Tom Hooten set a conference call with Mr. Ernest House, Jr., the Director of the Colorado Commission on Indian Affairs, a Ute Mountain Ute tribal member, and the great-grandson of the last chief for the tribe. Mr. House introduced us to Tanya Amrine, the new Education Director for the tribe. Mr. House also heartily endorsed this project. Ms. Amrine requested that we wait until she can hire someone to be the direct contact with us. In 2014, Ms. Amrine hired Ms. Tina King-Washington, the new K-12 Education Director. With Ms. King-Washington's support, we started our initial program for K-8th grade students with activities on microgravity, careers in the field of aeronautics, air pressure/vacuum, light, and temperature fluctuations. Their favorite was "Toys in Space," a program designed by NASA astronauts on the space shuttles and the ISS. Youth played with toys, then determined how they would act in microgravity, and finally watch NASA astronauts play with the toys and explain what is happening. After this program, I divided the kit purchased with El Pomar funding into 4 kits, one for each of the four 4-H districts in the western region. The kit that remained in Montezuma County is housed in La Plata County (Gregory Felsen has room to store kits at his office). Two of Kathie Kralik's after-school programs in Summit County presented Toys in Space as an entire quarter of fun STEM learning. This demonstrates that the learning is expanding across the entire Western Region of Colorado.

Results

Overall, we have provided STEM activities and camps to 8 pre-K youth, over 60 K-5 youth, 22 middle school youth, and 9 high school youth through the Ute Mountain Ute Satellite Project. A cadre of younger students is eager when they will have their turn to build a satellite and launch it into space.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #5

1. Outcome Measures

4H 5.1: Colorado K-12 youth apply content knowledge from 4-H in academic and community settings.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	6253

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: science standards can be met with 4-H curriculum

What has been done

4-H embryology project

Results

89 students were able to apply life cycle knowledge and accurate data recording and note taking knowledge to mealworm, ladybug, butterfly and garden seed projects. "Third grade at Longfellow Elementary wants to thank Kurt Jones and the Extension Service for including us in this exciting project. We appreciate Mr. Jones's time and his generosity to answer any and all questions from the kids. He has a very kind way of clearing up misconceptions kids have no matter how credible or incredible the assumptions are! This project makes math, science and writing fun!"

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)
- Other (competing family priorities)

Brief Explanation

Families have many opportunities for youth enrichment activities.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Volunteers' capacity continues to increase; 4-H Life Skills continue to increase; STEM content is applied outside the classroom.

Key Items of Evaluation

Ute Mountain Ute satellite project

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Family and Financial Security

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	65%		0%	
802	Human Development and Family Well-Being	35%		0%	
Total		100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	0.0	0.0
Actual Paid	5.4	0.0	0.0	0.0
Actual Volunteer	0.3	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
79704	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
79704	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
278222	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Educational activities include adoption of curriculum, training for agents and other service providers, educational programs on financial and family management for individuals and families.

2. Brief description of the target audience

Colorado families, including diverse and difficult- to-reach populations.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	5770	429411	1064	998

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events.

Year **Actual**
 2015 313

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	1489

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	33

Output #4

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	0

Output #5

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances, newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	324

Output #6

Output Measure

- 8. Number of online posts: Web posts, hits.

Year	Actual
2015	62776

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	FAFS 1.1: Participants across the lifecycle will apply financial best practices.
2	FAFS 1.1.1 Participants will plan to apply financial best practices.
3	FAFS 1.2: Participants will implement best practices of healthy development and relationships across the life cycle.
4	FAFS 1.2.1 Participants will plan to implement best practices of healthy development and relationships across the life cycle.

Outcome #1

1. Outcome Measures

FAFS 1.1: Participants across the lifecycle will apply financial best practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	2230

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

narratives not available

What has been done

narratives not available

Results

narratives not available

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #2

1. Outcome Measures

FAFS 1.1.1 Participants will plan to apply financial best practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	460

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There is a concern that consumers lack a working knowledge of financial concepts and do not have the tools they need to make decisions most advantageous to their economic wellbeing. Financial decisions made by consumers affect an individual's or family's current financial wellbeing and ability. Consumers rarely have enough savings for an emergency plan let alone long-term goal savings for goals such as home ownership, seeking higher education for themselves or their children let alone, financing their retirement. In addition, the consumer decisions also play an important role in the overall economic health of the nation, as was experienced through the recent economic crisis.

What has been done

One example: An overall goal for financial education for residents in Eagle County is to ensure that everyone is equipped with the appropriate information, knowledge, and skills to make good financial decisions. In 2015, I conducted personal finance programs in Dollar Works2 and Small Steps to Health and Wealth along with presenting the "Getting Started with Savings" PowerPoint to the Family & Financial Work Team. Additionally, I trained 2 Catholic Charities Community Integration Services staff on the DollarWorks2 curriculum.

Results

*39 out of 79 participants said they would very likely or likely make a plan for spending set money goals.

*33 out of 79 participants said they would very likely or likely track their spending.

*39 out of 79 participants reported that they will likely or very likely put money in savings each month, given what they had learned in the class.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #3

1. Outcome Measures

FAFS 1.2: Participants will implement best practices of healthy development and relationships across the life cycle.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	18

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

narratives not available

What has been done

narratives not available

Results

narratives not available

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #4

1. Outcome Measures

FAFS 1.2.1 Participants will plan to implement best practices of healthy development and relationships across the life cycle.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	94

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: The training officer for the Adams County Detention Facility requested a "tailor-made" version of stress management training for his non-uniformed staff which includes food service, work release supervisors, mental health providers, and Basic Skills instructors.

What has been done

Over a three-month period a version was created and pilot tested with 29 individuals between August 24 and 27, 2015.

Results

Evaluation responses indicate that 88% of participants felt that the 4 hour training was highly relevant to their work and personal life. 90% of participants indicated they intended to implement at least one strategy introduced in the training. Further refinement will be made between September and November and another group of similar participants will attend the same dosage and duration of training. Evaluation will be ongoing.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Public policies, local, county, state, and federal initiatives, economic conditions, profound advances in human development and family studies, and financial capability research,

public perceptions, personal values and sentiments about public issues, Extension staff changes, availability of funding, changes with stakeholders and partners will affect outcomes. Most of the program efforts are multi-year activities and cumulative rather than episodic in nature.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Two FCS agents reported evaluation data. Others gave qualitative reports.

1, Glenda Wentworth - Financial Literacy:

A great number of youth take care of siblings before and after school as well as earn extra money babysitting. The high rate of working mothers and mothers wishing for recreational time leads families to hire youth to take care of young children on a frequent basis. The Babysitter Basic Training Program is educational effort to prepare youth, grades 5th - 8th, with the knowledge and skills to make them feel comfortable taking care of young children. Educating youth with knowledge of child development, first aid, and safety as well as providing the community with quality babysitters is the objective of the program.

Many of our youth take on the role of a child care provider to families or just earn extra money in the evenings and weekends. The BBTP was offered three times in 2015 with Thirty six youth, fifth through eighth grade completing the Babysitter Basics Training Program offered in Eagle, Eagle-Vail and Edwards. The program was delivered twice after school in hour and a half sessions and once in an all-day session. Healthy snacks were provided to role model easy snacks to make with young children.

The Babysitter Basics Training Program curriculum includes exploring the following topics: Responsibilities of a babysitter; Age appropriate development for Infants, Toddlers, and Preschoolers; Child Development; Guidance Strategies; and First Aid and CPR. In addition, monthly newsletters provide relevant information to babysitters on ages and stages of child development, babysitting responsibilities, discipline, and ideas and activities for young children.

At the end of the program, an evaluation was given. The participants especially enjoyed the hands on instruction for First Aid and CPR taught by the local Eagle County Paramedic Services. Other projects they enjoyed were 1) Making play dough, 2) Constructing their own first aid kit, 3) Participating in the Babysitter's Challenge Game Show, and 4) Decorating their own babysitting bag. Pre-test and Post -tests were given to demonstrate knowledge gain. The tests consisted of ten multiple choice questions. The average pretest was 84% and the average on the post-test was 93%; an increase of 9%. As a result of the Babysitting Basics Training Program, 29 participants will feel comfortable babysitting young children; 35 participants learned that they should always supervise young children while they are babysitting; 35 participants learned to never shake a baby; and 35 participants learned the basics of first aid and CPR.

2. Janet Benevente - Stress management

Key Items of Evaluation

Learning outcomes are assumed; changes in behavior are difficult to capture with fluid populations, excessive programming expectations, and resource restrictions.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Nutrition, Food Safety & Health

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
703	Nutrition Education and Behavior	30%		50%	
704	Nutrition and Hunger in the Population	5%		20%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	5%		5%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	30%		10%	
724	Healthy Lifestyle	30%		15%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	45.0	0.0	2.0	0.0
Actual Paid	37.1	0.0	2.2	0.0
Actual Volunteer	0.7	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
547597	0	323507	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
547597	0	323507	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3377297	0	2394613	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Conduct basic and applied research on nutrition and wellness.

HEALTH PROMOTION & DISEASE PREVENTION (NH) programs include:

- Strong Women, Strong Bones
- Heart Disease Awareness & Prevention
- Diabetes Awareness, Prevention and Management
- Nutrition Education for Low-income Audiences
- Nutrition and Wellness
- Multi-lesson series: Dining with Diabetes, Small Changes Make a Big Difference, Strong Women-Strong Bones, Moving Toward a Healthier You, Healthy Heart, Smart-START for a Healthy Heart
- Self-paced program - Self-Care for a Healthy Heart
- Single lessons - Workable Wellness (work site wellness).
- Youth programs: Food Friends-Making New Foods Fun for Kids, Eating Right Is Basic, Chef Combo's Fantastic Adventures in Tasting and Nutrition, Professor Popcorn

FOOD SAFETY (FSAFE) Education

- Food Safety training for consumers, high risk audiences and their caregivers.(Eat Well for Less, La Cocina Saludable, Work site Wellness, Safe Home Food Preparation and Preservation, Promotion at Farmers Markets.)
- Food Safety Training for Food Service Managers and Workers (Food Safety Works, ServSafe, Food Safety for Food Bank Workers).Some of these programs are fee-based.

Promoting Food Security

- Multi-lesson series programs-Eat Well for Less, La Cocina Saludable]
 - Single event programs targeting limited resource families
 - Newsletters-Senior Nutrition News
- Research
- Development of new technologies for improving food safety
 - Determine important relationships between diet, food composition, and health

2. Brief description of the target audience

For Nutrition, Health & Food Safety - Adults and children in Colorado, including but not limited to consumers, high- risk audiences (pregnant, immune-compromised, elderly); food handlers and their managers at retail food establishments.

For Research: - Producers and processors of plant and animal agricultural products.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	18909	1069739	4633	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	22	45	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events. NH 5) Community Meetings Convened [examples: Advisory Groups, Councils, Coalition Meetings, Boards].

Year	Actual
2015	2625

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	6543

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	61

Output #4

Output Measure

- 4. Number of kits or similar resources loaned or provided.

Year	Actual
2015	0

Output #5

Output Measure

- 5. Number of Extension-related research and assessment projects. External funding proposals, including local, state, federal. NH 9) Newsletters - This is number of newsletters, not number mailed or number of Coloradans who received them, such as Family Matters & others.

Year	Actual
2015	4

Output #6

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	22

Output #7

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances,

newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	2609

Output #8

Output Measure

- 8. Number of online posts: Web posts, hits.

Year	Actual
2015	1853251

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	NFSH A1.1a Action Outcome (Intent to Change): NFSH A1.1a The number of Coloradans that reported an intention to eat more of healthy foods.
2	NFSH A1.1b Action Outcome (Behavior Change): NFSH A1.1b The number of Coloradans that reported eating more of healthy foods.
3	NFSH A1.2a The number of Coloradans that reported an intention to eat less of foods/food components which are commonly eaten in excess.
4	NFSH A1.2b The number of Coloradans that reported eating less of foods/food components which are commonly eaten in excess.
5	NFSH A2.1a The number of Coloradans that reported an intention to increase their physical activity and/or reducing sedentary time.
6	NFSH A2.1b The number of Coloradans that reported increasing their physical activity, reducing sedentary time, or meeting the recommended amount of physical activity.
7	NFSH A3.1 Participants will adopt recommended food safety practices (including safe food production, processing, transport, preparation, preservation, consumption and storage practices).
8	NFSH A3.2. Participants will adopt skills necessary to teach others about food safety practices that reduce risk of foodborne illness.

Outcome #1

1. Outcome Measures

NFSH A1.1a Action Outcome (Intent to Change): NFSH A1.1a The number of Coloradans that reported an intention to eat more of healthy foods.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	3032

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Eating more of healthy foods is one strategy to reduce or prevent obesity.

What has been done

One Example: A Healthier Weigh is a 12-week health and fitness challenge where participants were awarded points in four areas. The first part of the program was to increase exercise by walking and other forms of physical activity. To measure this, each challenge member wore a pedometer and recorded their steps daily. The final three steps were weight loss, waist measurement, and the completion of health and nutrition lessons provided by extension.

Results

2015 participants reported the following behavior changes: increased vegetables in diet, drinking more water, increased daily walking and exercise, and healthier cooking.

When asked about what they thought was the greatest benefit from participating, they reported: reminding me to eat healthy, made me aware of eating and exercising habits, got me moving, made me accountable, had fun, got me into a routine, motivation, and fitness goals with friends.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #2

1. Outcome Measures

NFSH A1.1b Action Outcome (Behavior Change): NFSH A1.1b The number of Coloradans that reported eating more of healthy foods.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

NFSH A1.2a The number of Coloradans that reported an intention to eat less of foods/food components which are commonly eaten in excess.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A growing body of scientific evidence confirms the strong and unique link between soda consumption and the diabetes and obesity epidemics. The community is interested in this issue since scientists are determining that drinking as little as one to two servings a day of a sugary beverage are tied to a greater risk of heart attacks and type 2 Diabetes.

What has been done

One example: With the ever increasing studies that reveal sugary beverages are tied to significant health risks; eleven out of the thirteen nutrition related presentations presented in the community were the ReThink Your Drink presentation.

Results

Not surprisingly, after the presentation, many people expressed concern about the added sugars that sugar-sweetened beverages provide and how they want to change their behavior. Following are some of the comments from participants after observing the presentation.

*Found it enlightening to see the teaspoons of sugar per drink or can. Love the interaction and found Glenda awesome for sharing some *Will cut down, and then eliminate my soda intake.

*Will watch my calorie intake as well as my sugar intake. I learned how much sugar I should

really be taking.

*Will change the habit of eating bigger size on MyPlate.

*Have a better awareness of sugar content.

*Learned how to read labels and visualize how much sugar is in the drink. I will look closely at what I eat and drink.

*Learned a lot! I thought an iced tea was way better than soda - turns out it's not all that better for you.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #4

1. Outcome Measures

NFSH A1.2b The number of Coloradans that reported eating less of foods/food components which are commonly eaten in excess.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

NFSH A2.1a The number of Coloradans that reported an intention to increase their physical activity and/or reducing sedentary time.

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

NFSH A2.1b The number of Coloradans that reported increasing their physical activity, reducing sedentary time, or meeting the recommended amount of physical activity.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
------	--------

2015

791

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Physical activity is important in preventing or reducing obesity.

What has been done

A Healthier Weigh is a 12-week health and fitness challenge where participants were awarded points in four areas. The first part of the program was to increase exercise by walking and other forms of physical activity. To measure this, each challenge member wore a pedometer and recorded their steps daily.

Results

2015 participants reported the following behavior changes: increased vegetables in diet, drinking more water, increased daily walking and exercise, and healthier cooking. Participants reported one or more of the following health changes during A Healthier Weigh challenge: stress reduced through walking, pain decreased, better glucose, lost weight, endurance is better, making better choices while eating, gall bladder problems decreased, cholesterol better, fibromyalgia pain is less, arthritic pain less, joint pain less, more energy, sleep better, feel more confident, and blood tests improved in all areas

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #7

1. Outcome Measures

NFSH A3.1 Participants will adopt recommended food safety practices (including safe food production, processing, transport, preparation, preservation, consumption and storage practices).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	1051

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The average cost to a Retail Food Establishment of a food borne illness is \$75,000; this cost would be devastating to any local business.

What has been done

ServSafe® is a nationally recognized, comprehensive food safety training developed by the National Restaurant Association. Food service managers and Cottage Foods producers need the highest level of food safety training and certification. ServSafe Food Handler and ServSafe Manager Certification trainings were offered in partnership with local Health Departments. Food Safety Works classes teach the basics of food safety to decrease the risk of food borne illness.

Results

One example: Forty two people participated in the trainings with 35 passing the exam with an average score of 84%.

4. Associated Knowledge Areas

KA Code	Knowledge Area
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #8

1. Outcome Measures

NFSH A3.2. Participants will adopt skills necessary to teach others about food safety practices that reduce risk of foodborne illness.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Natural Disasters:

- Wild fires, power outages brought on by weather extremes (flooding, storms, tornados,) or other reasons creates the need for timely and effective food safety education during both the crisis and recovery period involving collaboration with public health and government agencies, the media, emergency response networks and others depending on the situation.

- An emergency may also result from loss of employment, therefore decreasing financial resources available to purchase foods. Whatever the situation, knowledge of food safety and storage is important.

Economy:

- Can affect food safety, nutrition and health, such as affordability and accessibility to safe and wholesome foods. Families with limited resources can benefit from information such as how to stretch food dollars to provide healthful and safe foods. Individuals seeking jobs need support with entrepreneurial efforts such as starting a Cottage Foods business.

Public policy changes:

- Can affect food safety, nutrition and health, such as affordability and accessibility to safe and wholesome foods. Examples may include changes to school wellness policies; training opportunities for school personnel and food service staff, increases in funding for childhood obesity in the state and communities.

Government regulations:

- Changes in FDA food code effect food safety training opportunities for retail food and school food service staff. Legislation changes regarding the cottage food industry may require focused effort by this PRU to develop and deliver targeted food safety education. Funding for SNAP-ED and EFNEP is provided through federal sources. Changes in funding or program guidelines are plausible. Additionally, legislation regarding the School Nutrition program and the Farm bill may influence Extension programming.

Competing Public priorities

- In today's economic climate, Extension staff and partner agencies are being asked to do more with less. Nutrition, food safety and health promotion programming may be a lower priority in some areas due to competing public priorities at both the local and state levels.

Population Changes:

- Increased numbers of Spanish speaking audiences requires greater accessibility to educational materials translated into Spanish.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- The surveys asked questions focused primarily on changes in knowledge, intent to change behavior, and reported behavior change.
- The surveys helped us measure the percentage of program participants who increased their knowledge pertaining to the program topic.
- The results of the surveys are used in writing impact statements or reports that highlight the efforts of this PRU.

- CSU Extension Website hits both State site and County sites, and other social media are used to disseminate information throughout the State.

Key Items of Evaluation

What difference did it make? CSU Extension has become a vital resource for answering questions about cottage foods and assisting persons wishing to start a cottage food business in obtaining food safety certification as required by the CO Cottage Food law. We are the only resource in Colorado with a training developed specifically to address food safety for cottage foods producers.

Economic Impact: Food safety training for cottage food producers is helping to ensure that safe food products are being produced in home kitchens for sale to the public. Cottage food sales benefit local communities by providing a low risk means for individuals to start a small scale business. Additionally, food safety education is critical in preventing the incidence of foodborne illness, where an estimated cost of foodborne illness to Colorado is \$2.3 billion (Scharff, 2010), with the average cost per case of foodborne illness estimated to be \$1814 (CDPHE 2014).

Public Value: Ensuring that individuals operating a cottage food business in Colorado have the knowledge and training to produce safe food products for sale to the public is of high public value.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Livestock & Range

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
121	Management of Range Resources	50%		10%	
301	Reproductive Performance of Animals	0%		15%	
302	Nutrient Utilization in Animals	0%		10%	
303	Genetic Improvement of Animals	0%		15%	
307	Animal Management Systems	50%		30%	
311	Animal Diseases	0%		10%	
315	Animal Welfare/Well-Being and Protection	0%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	13.0	0.0	5.0	0.0
Actual Paid	10.2	0.0	11.3	0.0
Actual Volunteer	0.5	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
150552	0	528433	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
150552	0	528433	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
547244	0	4920139	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Workshops and educational classes for producers
- Demonstration field days to showcase the results
- Individual counseling on producers' specific problems
- Conduct basic and applied research on livestock, primarily beef, dairy, sheep, and horses

2. Brief description of the target audience

Youth and adult livestock producers as well rangeland managers and ranchers.

3. How was eXtension used?

eXtension was not used.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	9304	17670	622	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015

Actual: 1

Patents listed

U.S. Patent No. 9,201,077

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	20	94	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events.

Year	Actual
2015	148

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	2813

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	110

Output #4

Output Measure

- 4. Number of kits or similar resources loaned or provided.

Year	Actual
2015	6

Output #5

Output Measure

- 5. Number of Extension-related research and assessment projects. External funding proposals, including local, state, federal.

Year	Actual
2015	6

Output #6

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	20

Output #7

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances, newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	36

Output #8

Output Measure

- 8. Number of online posts: Web posts, hits.

Year	Actual
2015	45

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	LR Action Outcome 1.1: Livestock and range land managers apply newly gained information, technology, or skills to improve animal health and/or animal production.
2	LR Action Outcome 1.2: Livestock and range land managers apply newly gained information, technology, or skills to improve range land health.
3	LR Action Outcome 1.3: Livestock and rangeland managers apply newly gained information, technology, or skills to improve economic sustainability.
4	LR Action Outcome 1.4: Livestock and rangeland managers develop/write a management plan (i.e. grazing plan, feeding plan, drought plan, business plan, etc.)
5	LR Action Outcome 1.5: Number of animals where health/production was affected/improved.
6	LR Action Outcome 1.6: Number of acres on which rangeland health was affected/improved.
7	LR Action Outcome 2.1: Livestock and range land managers apply newly gained information in their decision making process for following or developing new industry policies and regulations.
8	Evaluation of Genetic Beef Cattle

Outcome #1

1. Outcome Measures

LR Action Outcome 1.1: Livestock and range land managers apply newly gained information, technology, or skills to improve animal health and/or animal production.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	416

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: Pueblo County with its large agricultural base also has a growing suburban population. This suburban population contains many people whom are very involved in the local foods movement. Many desire to grow at least part of their own food. One area of particular interest year after year is backyard chickens for egg production. These animals fit well into these small acreage home sites and the interest in them continues to grow. Many of those that desire to raise chickens are limited in their experience with raising any type of animal for production purposes and for this reason we held a Backyard Chicken class.

What has been done

We had 21 participants in the class that ranged from those that already had chickens to those who were just considering getting some for the first time. In light of the recent Avian Influenza outbreak in the US a representative from USDA gave a presentation on the disease and bio-security tips on how to prevent the disease in backyard flocks. We discussed local ordinances pertaining to the raising of fowl in the city and metro area. I then went on to present information regarding the basic needs of chickens including nutritional, health and shelter. The class was a success with accurate, unbiased information presented. The intent was to neither encourage nor discourage people from raising backyard chickens, but to provide information so that they could make the best decision regarding their own situation for themselves and the animals that would be under their care.

Results

Responses following the class indicated that some who wanted to get chickens before the class had changed their mind while others were now more prepared and going to continue with their plans to raise backyard chickens. This class not only raises awareness among the people about the proper care of poultry but provides for a healthier life for both the people and the animals as well.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #2

1. Outcome Measures

LR Action Outcome 1.2: Livestock and range land managers apply newly gained information, technology, or skills to improve range land health.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	106

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

How to best manage their range lands as the drought event appears to be subsiding.

What has been done

One Example: Branson-Trinchera Conservation District Annual Meeting: 40 people attended the annual meeting. The program consisted of a presentation by Curt Russell on the Effects of Cow Size on Range Operations. Participants were provided with an in depth discussion on how cow size affects not only the economic bottom line of operations but also examined the environmental impact of cows on rangeland. This topic was especially pertinent as all operators in attendance are exploring how to best manage their rangelands as the drought event appears to be subsiding. Participants also benefited from a Climate Outlook discussion presented by Nolan Doesken, Colorado State Climatologist. Nolan explained how he, and other climatologists, utilizes data and computer modeling to forecast future weather and climate events. The audience received a detailed outlook on what to expect during the 2015/2016 winter and what might be in store for southeastern Colorado in the spring of 2016. Two topics of concern among the participants were how to manage rangelands in a manner that positions them to be impacted less in future drought events and, how much time do they have before the next severe drought event.

Results

All participants responded positively to both presentations and expressed, through conversations with most of them, appreciation for information they will be able to utilize in their decision making process through the remainder of 2015 and into 2016.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources

Outcome #3

1. Outcome Measures

LR Action Outcome 1.3: Livestock and rangeland managers apply newly gained information, technology, or skills to improve economic sustainability.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	262

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: Pueblo County has made the promotion of agriculture and agriculture products a priority in recent years. One way they have done this is through the construction of raised bed planters in front of the County Courthouse to be used to grow and highlight locally produced vegetables.

What has been done

Working with the county's Economic Development Coordinator and the Rocky Ford Research Center we were able to plant the beds in the spring with Peppers, Tomatoes, Eggplants and Basil, all locally produced crops that are important to the local economy. The raised beds produced very well this first year providing fresh picked vegetables for anyone who chose to pick them. The beds allowed us to promote the newly formed Pueblo Chile Growers Association by placing these plants in a high traffic area to be seen by the public. At the end of the growing season I took the opportunity to utilize the beds to set up demonstration plots for fall cover crops. I was able to plant 12 different single species plots as well as 6 plots with multi-species "cocktails." In doing this interviews were done with local news crews to explain the value of cover crops in all situations and promote the conservation of our natural resources. Also soil tests were pulled from each plot and will be taken again at the time of cover crop termination in order to research the value to the soil each cover crop provides.

Results

I am looking forward to the results and continuing to promote local agriculture and sustainable farming practices through the use of these beds.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources
307	Animal Management Systems

Outcome #4

1. Outcome Measures

LR Action Outcome 1.4: Livestock and rangeland managers develop/write a management plan (i.e. grazing plan, feeding plan, drought plan, business plan, etc.)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	14

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: There is a diversity of ways to manage a ranch operation. One such operation request for help was to design a corral system for a single older female so she could work her livestock by herself safely.

What has been done

After discussions with the rancher a series of corral design were offered for consideration. The designs had different attributes that could make them more appealing depending on the needs of the operator. After a time planning and designing the plans, they were compared to designs by Dr. Temple Grandin. The designs were very similar to some she had.

Results

When the final plans were shared with the operator she expressed gratitude for the variety to consider. She is now working on selecting the design that will best meet her needs. She has about 65 cow-calf pairs, 15 bulls and 15 replacement heifers annually to manage in the system.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources
307	Animal Management Systems

Outcome #5

1. Outcome Measures

LR Action Outcome 1.5: Number of animals where health/production was affected/improved.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	6649

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

2015 Range Beef Cow Symposium

What has been done

Approximately 865 people involved in the cattle industry came together in November for the 2015 Range Beef Cow Symposium, hosted by CSU Department of Animal Science and CSU Extension. Participants represented ranching, ag business, vet medicine, government agencies, and numerous Universities and Colleges. More than thirty speakers shared information on a wide variety of topics including grazing management, range management, cattle health, marketing, reproduction, nutrition, and economics. In addition to presentations, participants were able to be a part of question and answer forums which are known as "Bull Pen Sessions." CSU and CAB provided a steak dinner during the event where more than 300 attendees actively partook in a beef tasting and technology usage exercise, in which they learned about how various types of beef management and genetics can impact the eating experience.

Results

Additionally, there was a hands-on Beef Quality Assurance training where nearly 150 attendees were certified with BQA skills.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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Outcome #6

1. Outcome Measures

LR Action Outcome 1.6: Number of acres on which rangeland health was affected/improved.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	70100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One Example: Ranchers and small acreage owners are asking for help in a variety of items this spring and summer. The abundant snowfall in the winter and good spring rains have made pastures lush and green and all types of weeds, especially Canadian Thistle and Locoweed, can be seen in dense populations throughout Park County.

Land owners want help in identifying weeds, how they can control them. Unfortunately a lot of the answers require a longer period of management, sometimes years, before true results are found.

What has been done

I try to find natural ways for them to deal with their weeds and predators. In the case of a family that has pasture and 30 llamas on it, I recommended intense grazing in pastures of 5-10 acres by cattle instead of trying to bale their overgrown pastures.

Results

Most of the questions come from people who do not have an agricultural background, but enjoy the agricultural mountain lifestyle.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources

Outcome #7

1. Outcome Measures

LR Action Outcome 2.1: Livestock and range land managers apply newly gained information in their decision making process for following or developing new industry policies and regulations.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agriculture is the second largest economic driver in Colorado, with more than \$7.7 billion in agricultural income receipts, according to the 2013 USDA-NASS Colorado Agriculture Overview. Yet, many Colorado residents have little to no understanding of where their food and fiber comes from or how it is produced.

What has been done

In March of 2015, Colorado State University hosted a Summit titled 'Advancing the Agriculture Economy through Innovation'. The summit was a collaboration between Engagement, Extension, AES, and various industry stakeholders from all over the world.

The world is wholly dependent on leadership within the agricultural supply chain to continually innovate so we can have a reliable source of nutrition. Yet those who are managing this vast industry are up against tremendous challenges in the form of policy and regulation, consumer trends, access to capital, climate variability and so much more.

Results

Livestock and Rangeland managers reported applying newly gained information in their decision making process for following new industry policies and regulations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
121	Management of Range Resources
307	Animal Management Systems

Outcome #8

1. Outcome Measures

Evaluation of Genetic Beef Cattle

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Economically relevant traits (ERT) will be reviewed to identify those that represent either revenue or cost streams in all sectors of the beef industry to help with the development of new genetic evaluation and selection tools for these ERT in the form of expected progeny differences (EPD) and economic EPD indexes. The development of computational methods for national cattle evaluation for both purebred and crossbred databases to assist in routine genetic evaluations for beef breed associations and other producer groups.

What has been done

We developed a multi-breed stayability genetic evaluation for the incorporation of heterosis and founder breed effects. Heterosis values for stayability to two, three, four, and five years of age were calculated. Results of this study showed that a first cross animal has a 5.4%, 9.2% 10.9% and 12.2% greater chance of remaining in the herd until 3, 4, 5 and 6 years of age, respectively.

Results

The CSU Center for Genetic Evaluation of Livestock (CSU-CGEL) is continually working to develop, improve and implement largescale genetic evaluations for various livestock populations through incorporating study results into a multi-breed stayability evaluation that included all animals in the breed association registry, regardless of breed percent. The CSU-CGEL has close working relationships with various beef cattle breed associations as well as individual producer groups to provide sire selection tools in the form of expected progeny differences (EPD) and corresponding accuracies for over 17 different beef cattle traits.

4. Associated Knowledge Areas

KA Code	Knowledge Area
303	Genetic Improvement of Animals

307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges

Brief Explanation

Livestock and range outcomes are dependent on public policies/regulations, climate, disease outbreaks for forages and livestock, and episodic natural disasters such as drought, flooding, blizzards, and wildfire. Additionally, changes in the stock market as well as increasing input costs (e.g. fuel costs) will affect livestock and range outcomes. These external factors will be addressed when possible in education and research efforts, but their influence on outcomes is likely to continue into the future.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Rangeland Rejuvenation Projects are becoming of interest in the area specifically targeting wildlife and livestock. Continued determination of range site from moribund vegetation and noxious weeds resulting in poor production of graze-able forage:

The Steamboat permit is characterized by heavy infestations of cheat grass and noxious weeds.

Treatments using a combination of disk, leveling and use of Round-Up herbicide to establish Round-Up-ready alfalfa was very successful. Future treatments are planned.

The West Creek site utilizes brush beating for a control on heavy infestations of sage. Sage in this area is characterized with moss and likins under the safe and little forb and grass outside the sage canopy.

A third site by the Meeker airport looked at brush beating to promote forb and grass in old sage communities.

Forth site located on Nine Mile is looking at established Round-up-ready alfalfa site to promote forage and hay production.

Production results will be made available. Several ranchers have visited the site and have found visible results very interesting. One test illustrates the success of alternate row planting instead of a mixed planting. Encana oil and gas company and CDOW are interested in the sites for potential adaption.

Key Items of Evaluation

Seminar attendees continue to give rave reviews.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Cropping Systems

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	58%		15%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		20%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		20%	
213	Weeds Affecting Plants	0%		20%	
216	Integrated Pest Management Systems	35%		25%	
601	Economics of Agricultural Production and Farm Management	7%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	12.0	0.0	26.0	0.0
Actual Paid	15.3	0.0	23.0	0.0
Actual Volunteer	2.5	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
225828	0	1496771	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
225828	0	1496771	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
919033	0	13047058	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Conduct basic and applied research in plant productions systems.
- Workshops and educational classes for producers.
- Utilize demonstration plots and field days to communicate program results.
- Use individual counseling with producers and clientele on specific plant production problems.

2. Brief description of the target audience

Individual agricultural producers, homeowners, agribusinesses, and commodity organizations.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	6635	13958

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	12	249	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events.

Year	Actual
2015	424

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	14018

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	72

Output #4

Output Measure

- 4. Number of kits or similar resources loaned or provided.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- 5. Number of Extension-related research and assessment projects. External funding proposals, including local, state, federal.

Year	Actual
2015	92

Output #6

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	12

Output #7

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances, newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	2111

Output #8

Output Measure

- 8. Number of online posts: Web posts, hits.

Year	Actual
2015	358335

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	CS Outcome 1.1: Participants apply research-based techniques for improving soil quality and productivity, protecting and making the best uses of water resources, managing crop nutrients, and/or enhancing plant yields and quality in their farm fields.
2	CS Outcome 1.2: Participants use research-based knowledge of integrated pest management systems for the crops and cropping systems in their farmed fields and/or their adjacent landscapes within their property and right-of-ways.
3	CS Outcome 1.4: Participants write estate & farm transition plans with the intent to transfer farm management & eventual ownership to subsequent generations inside or outside families.
4	Improvement of Quality and Performance of Colorado wheat
5	Colorado Potato Breeding Program

Outcome #1

1. Outcome Measures

CS Outcome 1.1: Participants apply research-based techniques for improving soil quality and productivity, protecting and making the best uses of water resources, managing crop nutrients, and/or enhancing plant yields and quality in their farm fields.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	108

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Impact of Wheat Field Days on Growers in the Front Range of Colorado

What has been done

The Roggen Wheat Field Day was held on Monday, June 15, 2015 at 4:00 pm at the Cooksey Farms located southeast of Roggen, CO. approximately 7 miles east of Prospect Valley on Highway 52. The GPS Coordinates are: N 40.0716 W 104.2817. Seventy five wheat producers attended this event. Speakers at the event included Scott Haley, CSU who covered wheat breeding and variety characteristics; Jerry Johnson, CSU who talked about crop testing and Collaborative on Farm Trials; Ken Barbarick, CSU who talked about the application of biosolids to dryland winter wheat and Darrell Hanavan of CWAC/CAWG/CWRF.

Results

A survey instrument with five questions was developed and administrated by Dr. Thaddeus Gourd to measure past and present impact at this year's wheat field day. We received back 60% of the surveys. Results indicate that producers do use the information gathered at the past field days and put it to good use. An example is that 96% of those surveyed do plant more than one wheat variety on their farm. Yield still is the top criteria for selecting a variety at 51% followed by drought resistance with 21% and then herbicide resistance at 16%. The impact of extension and CSU research could be seen in the question that asked [What value do you feel you have gained in the past by using knowledge learned at wheat field days]? A weighted average of a 3.3 bushel increase per acre gained from knowledge implemented after attending previous wheat field days. If you use this figure and multiple it by acres of dryland wheat grown in your county or for the whole state of Colorado, it represents a significant impact that Colorado State University

Research and Extension has on the economy of the state.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

Outcome #2

1. Outcome Measures

CS Outcome 1.2: Participants use research-based knowledge of integrated pest management systems for the crops and cropping systems in their farmed fields and/or their adjacent landscapes within their property and right-of-ways.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	271

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: Western Pest Management Workshop in Montrose Colorado

What has been done

Presented a vegetable disease program for pesticide applicator credit

Results

Created and used a survey instrument to capture participant knowledge on the subject being covered. Participants of the event said that CSU research and extension outreach was worth \$130/Acre on vegetable crops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #3

1. Outcome Measures

CS Outcome 1.4: Participants write estate & farm transition plans with the intent to transfer farm management & eventual ownership to subsequent generations inside or outside families.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Major life events such as estate and business/management transition must have a plan for sustainability.

What has been done

Workshops across the state that offer a discussion of business, family, tax and administrative issues involved in passing on the family farm or ranch, and the legal tools that are used to address those issues.

Results

Participants indicate that workshops have been helpful.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #4

1. Outcome Measures

Improvement of Quality and Performance of Colorado wheat

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Development of improved wheat varieties serves the wheat industry in Colorado and the western Great Plains through reduction of production costs and increased disease and insect resistance providing minimized environmental impacts and improved marketing options.

What has been done

In fall 2014, hard white winter wheat (HWW) experimental line CO09W293 (KS01HW152-6/HV9W02-267W pedigree) was formally released by the Colorado Agricultural Experiment Station. CO09W293 (name pending) will be marketed by the Colorado Wheat Research Foundation (CWRF) under the PlainsGold Brand and the CWRF-Ardent Mills Ultragrain Premium Program. In three years of testing in the CSU Elite Trial (28 location-years, 2012-2014), dryland yield of CO09W293 was 101% of trial average, compared to 105% for Byrd HRW, 103% for Antero HWW, 99% for Hatcher HRW, and 91% for Snowmass HWW. In fall 2014, experimental line CO11D174 was advanced for Foundation seed production to enable release as a new cultivar in fall 2015.

Results

Since inception of the program, 37+ CSU-bred wheat cultivars account for 61.3% (or 77.4% of the accounted-for acreage) of Colorado's 2.4 million acres (2012 crop). Average wheat grain yields in Colorado have more than doubled with at least 50% of this increase attributed to improved cultivars. Estimates of economic returns in Colorado from CSU-developed wheat varieties were approximately \$43 million for the 2011 crop alone. These estimates include yield increases resulting from improved CSU varieties (\$29 million), marketing benefits resulting from CSU varieties with enhanced end-use quality (\$9 million), and yield-protection resulting from adoption of CSU varieties carrying herbicide tolerance traits for winter annual grassy weed control (\$5 million).

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
201	Plant Genome, Genetics, and Genetic Mechanisms

Outcome #5

1. Outcome Measures

Colorado Potato Breeding Program

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The major objectives of the Colorado Potato Breeding and Selection Program are to address the needs of Colorado growers to have new potato cultivars (russets, reds, chippers, and specialties) with increased yield, improved quality, improved nutritional characteristics, resistance to diseases and pests, and tolerance to environmental stresses. by assessing production, adaptability, marketability, and other characteristics of advanced selections.

What has been done

The primary emphasis is placed on the development of russet cultivars. The balance of the breeding effort is devoted to developing red, specialty, and chipping cultivars. This broad approach is important because it recognizes the diverse markets accessed by potato growers throughout Colorado and many other states in the region.

Results

Since 1975, there have been 30 potato cultivars/clonal selections released by Colorado State University (CSU) or in cooperation with other agencies. CSU releases accounted for 51% of the 54,200 acres planted to fall potatoes in Colorado in 2014. Colorado cultivars and clonal selections accounted for 34% of the 10,964 acres of Colorado certified seed accepted for certification in 2014. Six of the top 20 russet cultivars grown for seed in the U.S. [Russet Norkotah-S3 (#7), Canela Russet (#11), Silverton Russet (#13), Centennial Russet (#14), Russet Norkotah-S8 (#15), Rio Grande Russet (#20)] in 2014 were developed by the Colorado program. For reds, Colorado Rose ranked #8. For chippers, Chipeta ranked #7. For colored-fleshed.

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

The external factors marked above would cause changes in programming and the time Extension Agents and Specialists could devote to a specific program or topic. A natural disaster, such as drought, would cause additional programming to provide the education and information producers would need for their businesses to survive. Decreases in appropriated budgets - county and/or state - would likely force agents to alter their work on cropping issues. Members of the Crops Team would change the topics presented in a workshop, change educational programming, and/or develop new or different technologies and strategies for crop producers if there were changes in government regulations.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Pesticide Re-certification classes are necessary for private pesticide applicators to renew licenses. These classes are approved by the Colorado Department of Agriculture for seven core credits. Two programs were held within the Golden Plains Area and were evaluated for educational effectiveness using the clicker system. Evaluation results indicated that:

- 93% indicated the program completely met expectations
- 47% rated the program as excellent
- 60% rated the program as completely useful
- 57% will make a change in their operation as a result of attending
- 87% will tell 1-3 people about the program

Key Items of Evaluation

2015 Crops Clinic Worth \$2.4 million

What was the Benefit in Terms of \$/a This Program Delivered?

52% \$2.50/acre

28% \$10/acre

12% \$20/acre

2% \$50/acre

7% greater than \$50/acre

Total Acres Represented at this Program: 419,835 acres

Reported Economic Benefit from this Program: \$2,429,700

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Natural Resources

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	20%		20%	
111	Conservation and Efficient Use of Water	20%		60%	
205	Plant Management Systems	25%		20%	
216	Integrated Pest Management Systems	15%		0%	
307	Animal Management Systems	20%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	12.0	0.0	11.0	0.0
Actual Paid	18.0	0.0	7.8	0.0
Actual Volunteer	2.5	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
265680	0	483275	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
265680	0	483275	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1173375	0	5495543	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Conduct basic and applied research on environmental and natural resources issues.
- Colorado Master Gardener training and use of trained volunteers to increase capacity
- Colorado Native Plant Masters training and use of trained volunteers to increase capacity

2. Brief description of the target audience

Landowners, including small acreage (1-100 acres) and ranchers/farmers in Colorado will be our primary audience. A secondary audience will focus on training volunteers, realtors, and other professionals who in turn will take this information and educate their clientele on Extension's behalf.

3. How was eXtension used?

One agent: I formulated responses for 7 eXtension online questions.

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	277970	250163	6898	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	22	105	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events.

Year	Actual
2015	1083

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	5516

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	316

Output #4

Output Measure

- 4. Number of kits or similar resources loaned or provided.

Year	Actual
2015	289

Output #5

Output Measure

- 5. Number of Extension-related research and assessment projects. External funding proposals, including local, state, federal. Release or Column (number submitted)

Year	Actual
2015	7074

Output #6

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	22

Output #7

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances, newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	146

Output #8

Output Measure

- 8. Number of online posts: Web posts, hits.

Year	Actual
2015	93399

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	NR 1.1) Participants report implementation or intent to implement actions relating to water quality and quantity issues (such as well and septic system management, CO Water Law and regulations, water rights, best irrigation practices, stream quality issues, and/or drought tolerant landscaping.)
2	NR 1.2) Participants report implementation or intent to implement animal/wildlife-related conservation practices (such as improved manure management, livestock emergency preparedness, attracting pollinators, enhancing wildlife habitat, and/or deterring unwanted wildlife).
3	NR 1.3) Participants report implementation or intent to implement soil-related conservation practices (such as soil health, soil fertility, soil testing, erosion control, cover crops, composting, or soil compaction).
4	NR 1.4) Participants report implementation or intent to implement plant-related conservation practices (such as active weed management, pasture management techniques, grass stand establishment, planting windbreaks, planting native plants, and/or active forest management).
5	NR 1.5): Participants improve or intend to improve their practices, decisions and skills in action through timely access to pest management resources and/or pest identification and IPM implementation.
6	NR 1.6) The number of acres reported that are impacted (by weed management, planting natives, fire mitigation, pasture grasses, etc.
7	NR 1.7) Dollars saved by best management practices.
8	NR 1.8) Grant dollars awarded towards work in natural resources.
9	NR 1.9) User fees from programming.
10	Optimizing Colorado Agriculture's Water Footprint

Outcome #1

1. Outcome Measures

NR 1.1) Participants report implementation or intent to implement actions relating to water quality and quantity issues (such as well and septic system management, CO Water Law and regulations, water rights, best irrigation practices, stream quality issues, and/or drought tolerant landscaping.)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	568

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Colorado Water plan was a joint effort to provide and ascertain input to future water use in Western Colorado.

What has been done

The initial meeting in Meeker had 55 participants. The topic covered potential movement and conservation practices that might be used to develop future water movement. The information was then shared to assist in the development of the Governor-s proposals to shape water usage. Additionally CSU agent Bill Ekstrom presented "Irrigation Scheduling" for field crops.

Results

It was requested by several entities that we do a water awareness educational event the spring of 2016. It was also requested that CSU agent repeat the Irrigation Scheduling workshop and also conduct a home owner's lawn irrigation management and calibration workshop.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water

Outcome #2

1. Outcome Measures

NR 1.2) Participants report implementation or intent to implement animal/wildlife-related conservation practices (such as improved manure management, livestock emergency preparedness, attracting pollinators, enhancing wildlife habitat, and/or deterring unwanted wildlife).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: direct assistance to small acreage landowners.

What has been done

62 field visits conducted, with reports and follow-up assistance.

Results

10 acres of wildlife habitat improvements, and other results:

Practices implemented as a direct result of my technical assistance: *63 acres improved with respect to range and pasture health (irrigated and dry)

*37 acres of weed management planning and implementation

*5 acres of forest stewardship planning and health improvements

*10 acres of wildlife habitat improvements

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
307	Animal Management Systems

Outcome #3

1. Outcome Measures

NR 1.3) Participants report implementation or intent to implement soil-related conservation practices (such as soil health, soil fertility, soil testing, erosion control, cover crops, composting, or soil compaction).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	645

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Colorado's growing population puts increased demand on limited natural resources, especially water. Managed landscapes are often planted with water-hungry, non-native species. At the same time, non-native weeds invade natural landscapes and pose a threat to native ecosystems. Residents and landowners, as well as green industry and land management professionals, seek landscaping and ecosystem restoration solutions that conserve both economic and natural resources.

What has been done

Colorado State University Extension created the Native Plant Master (NPM) education and volunteer program to raise awareness about native plants, water-wise landscaping and threats to native ecosystems from invasive weeds.

Custer County's Extension office offers hands-on educational experiences taught by volunteer NPM trainers, CSU faculty and Extension agents. The centerpiece of the program is the NPM curriculum course. Each course is divided into three sessions which cover:

*Plant identification using a botanical key and field guide;

*Ecological relationships between native plants, alien invasive weeds, wildlife, birds and insects;

*Landscape and other human uses for Colorado native plants.

Results

From 2009 to 2014, 95 individuals were trained in Custer County's NPM courses and special classes. During that period, volunteers reported educating 1,483 citizens using information they learned from the program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
205	Plant Management Systems

Outcome #4

1. Outcome Measures

NR 1.4) Participants report implementation or intent to implement plant-related conservation practices (such as active weed management, pasture management techniques, grass stand establishment, planting windbreaks, planting native plants, and/or active forest management).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	3501

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Colorado's growing population puts increased demand on limited natural resources, especially water. Urban landscapes are often planted with water-hungry, non-native species. At the same time, non-native weeds invade natural landscapes and pose a threat to native ecosystems. Residents and landowners, as well as green industry and land management professionals, seek landscaping and ecosystem restoration solutions that conserve natural resources.

What has been done

Colorado State University Extension created the Native Plant Master (NPM) education and volunteer program to raise awareness about native plants, sustainable landscapes and threats to native ecosystems from invasive weeds.

Jefferson County Extension launched the state's first NPM training in 1997. Today, 12 Extension offices around the state offer hands-on educational experiences taught by volunteer NPM trainers, CSU faculty and Extension agents. The centerpiece of the program is the NPM curriculum course. Each course is divided into three sessions which cover:

- *Plant identification using a botanical key and field guide;
- *Ecological relationships between native plants, alien invasive weeds, wildlife, birds and insects;
- *Landscape and other human uses for Colorado native plants.

Results

In 2014, for every dollar Extension spent on NPM program costs in Jefferson County, participants reported 10 times more personal savings from their sustainable landscaping and weed control efforts.

Extension's Native Plant Master® education program encourages Coloradans to adopt sustainable landscaping practices while enhancing the job performance of many program participants.

Colorado By The Numbers 2009-2014:

*Acreage impacted statewide: 1,448,483;

*Statewide economic impact: \$1,842,437;

*Program revenues: \$157,749;

*Educational contacts: 98,421;

*Courses and classes: 378;

*Participants: 7,136;

*Volunteer hours: 7,793;

*Volunteers: 2,844.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #5

1. Outcome Measures

NR 1.5): Participants improve or intend to improve their practices, decisions and skills in action through timely access to pest management resources and/or pest identification and IPM implementation.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	121

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

no narratives available

What has been done
no narratives available

Results
no narratives available

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
216	Integrated Pest Management Systems

Outcome #6

1. Outcome Measures

NR 1.6) The number of acres reported that are impacted (by weed management, planting natives, fire mitigation, pasture grasses, etc.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	139493

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: small acreage landowners seek technical assistance.

What has been done

*72 people assisted via emails and phone calls.

*15 field visits conducted, provided reports and follow-up assistance for each.

Results

Conservation practices applied as a result of my technical assistance:

*35 acres of pollinator seeding as part of a pollinator project in partnership with West Adams Conservation District. 12 bee hives were also installed.

- *25 acres of cover crops used prior to grass seeding
- *175 acres of weed control
- *93 acres of grass seeding
- *113 acres of improved grazing management

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #7

1. Outcome Measures

NR 1.7) Dollars saved by best management practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	317127

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: Locoweed was a terrible problem for cattlemen up in the high country this year. Many producers reported losing over 20 head of calves, per ranch, due to the concentration of the locoweed in the cows' milk.

What has been done

I consulted with Dr. George Beck and was able to pass on the amount of Escort to be applied to eliminate the locoweed and then gave them advice for also baling those locoweed pastures. I hope to take this further in the coming year and even work with some aerial applications for spraying our larger pastures.

Results

At \$1,100 apiece for each calf-- the numbers added up quickly.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
205	Plant Management Systems
216	Integrated Pest Management Systems
307	Animal Management Systems

Outcome #8

1. Outcome Measures

NR 1.8) Grant dollars awarded towards work in natural resources.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	110551

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Grant dollars allow cutting edge research to be developed.

What has been done

In 2015, Colorado State University AES and Extension specialists have been awarded over \$4 million dollars in grant funding for work geared to natural resources.

Results

Many of the grants are multi-year projects with results in process.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
205	Plant Management Systems

216 Integrated Pest Management Systems
307 Animal Management Systems

Outcome #9

1. Outcome Measures

NR 1.9) User fees from programming.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	27433

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

no narratives available

What has been done

no narratives available

Results

no narratives available

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
205	Plant Management Systems
216	Integrated Pest Management Systems
307	Animal Management Systems

Outcome #10

1. Outcome Measures

Optimizing Colorado Agriculture's Water Footprint

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done

{No Data Entered}

Results

{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
205	Plant Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Natural Resource PRU outcomes are dependent on the needs and engagement levels of all landowners. Their needs and level of interest in change can be affected by weather, public policy, economy, and population changes. Also, what benefits one segment may impact another segment. Weather conditions such as drought, flooding, hail, fires, moisture/temperature trends influencing pathogen and pest life cycles, in addition to abiotic stress effects, which will require short/medium/long term redirection of effort to accommodate program needs for pest diagnostics and management strategies

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In 2014, for every dollar Extension spent on NPM program costs in Jefferson County, participants reported 10 times more personal savings from their sustainable landscaping and weed control efforts. Extension's Native Plant Master® education program encourages Coloradans to adopt sustainable landscaping practices while enhancing the job performance of many program participants.

Colorado By The Numbers 2009-2014

- Acreage impacted statewide: 1,448,483
- Statewide economic impact: \$1,842,437¹
- Program revenues: \$157,749
- Educational contacts: 98,421
- Courses and classes: 378
- Participants: 7,136
- Volunteer hours: 7,793
- Volunteers: 2,844

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Key Items of Evaluation

The Native Plant Master education and volunteer program has become a state leader in training people about the relationship between native plants, water conservation, alien invasive weeds and sustainable landscapes. The program is coordinated by the CSU Extension Native Plant Education team, which received the 2014 Award of Excellence from

the Western Extension Directors Association (WEDA) and the 2011 Extension Team Distinguished Service Award.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Community & Economic Development

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	0%		40%	
605	Natural Resource and Environmental Economics	0%		30%	
608	Community Resource Planning and Development	100%		30%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	6.0	0.0
Actual Paid	11.3	0.0	0.5	0.0
Actual Volunteer	0.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
166788	0	79733	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
166788	0	79733	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
906088	0	747094	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Training for Extension personnel in community mobilization, facilitation, economic development.
- Working with rural communities on a regional approach to small town tourism including making optimal use of environmental resources, respecting the socio-cultural authenticity of host communities while conserving their built and living cultural heritage and traditional values, and ensuring viable, long-term economic operations, including stable employment and income-earning opportunities.
 - Conducting basic and applied research in areas exploring the interface between agribusiness, rural development, and natural-resource-amenity-based opportunities.
 - Conducting workshops and other educational activities with Extension professionals and community stakeholders.

2. Brief description of the target audience

- Community members, general public, consumers, students, youth
- Communities and their formal and informal leaders in the public and private sector, businesses, entrepreneurs
- Community organizations, government agencies, other agencies, potential and existing non-profits, staff, board members, and others affiliated with the organization
- Emerging and existing adult and/or youth leaders reflecting community demographics and sectors, and underserved residents
- Community steering committee, workshop participants, project team members, community volunteers

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	27958	44910	4069	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	12	14	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events.

Year	Actual
2015	491

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	1972

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	792

Output #4

Output Measure

- 5. Number of Extension-related research and assessment projects. External funding proposals, including local, state, federal.

Year	Actual
2015	10

Output #5

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	12

Output #6

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances, newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	54

Output #7

Output Measure

- 8. Number of online posts: Web posts, hits.

Year	Actual
2015	17338

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	C&ED Outcome 1.1: Community members engage in community and economic development planning and action.
2	C&ED Outcome 1.2: Community plans are developed.
3	C&ED Outcome 1.3: Community plans are implemented.
4	C&ED Outcome 1.4: Entrepreneurs initiate new ventures (small business, invention, societal initiatives, community event/activity, etc.)
5	C&ED Outcome 1.5: Businesses, non-profits, agencies, community members increase links to resources and community assets.
6	C&ED Outcome: 1.6: Community members increase engagement in community and/or organization through new leadership opportunities.

Outcome #1

1. Outcome Measures

C&ED Outcome 1.1: Community members engage in community and economic development planning and action.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	340

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One Example: The Town has shown relatively no interest in this committee [Fairgrounds Future]or the County Fair until this moment.

What has been done

The Fairgrounds Future committee met for the second time, but the first time with Mark Platten as Facilitator and Kathay Rennels, Office of Engagement, as a resource for the committee. This committee was initially unwilling to allow others to participate and through the mastery of both Mark and Kathay, the committee came to a new understanding of the process and the importance of many partners.

Results

Tom Eisenman, County Manager also showed surprise at this new cooperation and shared with the committee that he believed this project could be realized in 3-5 years! The goodwill and understanding was electric and the entire group was energized at the new possibilities. The group will meet again in the winter.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #2

1. Outcome Measures

C&ED Outcome 1.2: Community plans are developed.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	182

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

This coalition's goal is to increase food access, food security, and local food systems throughout Jefferson County, specifically focusing on decreasing barriers to nutritious food in low-income populations.

What has been done

After many months of meeting, planning and presentations, a coalition is now meeting to develop plans for the Food Policy Council and looking at food security issues. The dialogue is moving toward a final plan. An April workshop with national expert on food policy council work, Mark Winne, was well attended by policy makers and implementers. This served as a great impetus for the continuing work which included two follow-up meetings prior to the action planning mentioned above.

Results

After many months of meeting, planning and presentations, a coalition is now meeting to develop plans for the Food Policy Council and looking at food security issues. The dialogue is moving toward a final plan.

The participation ebbs and flows depending on people's schedules and interests but in the long run there is great buy-in and desire to work together for better food policy, coordination and ultimately action.

<http://www.healthypeoplehealthyplacesjeffco.com/#!/foodaccess/c21lg>

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #3

1. Outcome Measures

C&ED Outcome 1.3: Community plans are implemented.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: This year I had a landowner come to my office wanting help with implementing and developing a cooperative to control ground squirrels. The effect that the ground squirrel is having on agriculture production, invasive weeds, and erosion is huge.

What has been done

This producer and I have implemented a coop with over 100 land owners in Moffat County to help control and reduce the effects of the ground squirrel in Moffat County. We are educating landowners on how to successfully control ground squirrels and helping with the cost of obtaining their private applicators? licenses for restricted use pesticides. We have also worked with our local vendors to purchase baits at cost so that more control of ground squirrels can occur.

Results

We have held three community meetings and will start implementing our plan in the spring of 2016.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #4

1. Outcome Measures

C&ED Outcome 1.4: Entrepreneurs initiate new ventures (small business, invention, societal initiatives, community event/activity, etc.)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	13

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

No narratives available

What has been done

No narratives available

Results

No narratives available

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #5

1. Outcome Measures

C&ED Outcome 1.5: Businesses, non-profits, agencies, community members increase links to resources and community assets.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	914

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: Since beginning my position on Sept. 1, I have focused on conducting a county-wide needs assessment, building relationships with community partners, and contributing to existing coalitions. My focus for the initial four months in my position at CSU Extension has included the following:

1. Gathering information on community assets, needs, and gaps through face-to-face informational interviews with community stakeholders, agency heads, and county leaders;
2. Building partnerships, community connections, trust and familiarity in Larimer County through participation and visibility in meetings, coalitions, and networking events;
3. Educating the community on Extension programs and services; and
4. Gathering input on opportunities and areas where I can best contribute

What has been done

To date, I have conducted 26 informational interviews with representatives from non-profit organizations, county offices, health systems, and CSU academic departments. I've also attended seven community meetings. This level of participation has allowed me to gain knowledge about a range of local issue concerning children/youth services, services for the aging and disabled populations, community health and wellbeing, homelessness, housing, financial stability, social sustainability, and volunteerism. Each of my interviews has allowed me the opportunity to assess:

1. How county-wide resources are being distributed
2. Where significant gaps are in the investment of community efforts
3. Where momentum exists for addressing change
4. Who the change agents are within different priority areas
5. What contributions CSU Extension has made or is currently making in these areas
6. To which areas CSU Extension might contribute in the future

Results

Through my interview process, I have had the opportunity to educate many individuals on current Extension programs and offerings. As a result, I have been able to facilitate some new connections and offerings (including financial literacy and food preparation classes, EFNEP program, and community gardening support) for some of these agencies including the Fort Collins Senior Center, Chilson Recreation Center and Fort Collins Housing Authority. My meetings have also led to a number of new applications for the Family Leadership Training Program (FLTI).

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #6

1. Outcome Measures

C&ED Outcome: 1.6: Community members increase engagement in community and/or organization through new leadership opportunities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	127

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One example: The mission of the local Community Development organization, Leadership Montezuma, is to "identify, enlighten, and encourage emerging leaders of diverse backgrounds, occupations, and cultures for the purpose of enhancing the quality of leadership in the (Montezuma County) community." The organization recently faced a severe setback as its sponsoring agency withdrew support and Leadership Montezuma struggled to face a number of challenges to remain a relevant and active community development and educational resource.

What has been done

Tom Hooten stepped in and joined the Board of the organization in order to help preserve its mission and work toward achieving its goals. The goals of Leadership Montezuma are to help:

1. Establish knowledgeable community leaders
2. Increase awareness of community resources
3. Understand contemporary community issues
4. Promote a life-long commitment to community stewardship
5. Create an appreciation for diversity
6. Enrich local organizations

Results

His experience, skills, and community knowledge and connections have helped achieve this, but more work needs to be done, primarily in board development. Tom has helped in reorganizing

and developing the Board, interviewing prospective class members for 2015-16, and in hiring the new Program Coordinator. A successful class of 20 members is currently participating in the program, though challenges will remain for 2016. Tom's work with Leadership Montezuma will continue through 2016 as the organization is recognized as an important player in the community.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

New and emerging opportunities in communities and Extension's role.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

FLTI is a 20 week civic engagement and leadership class offered by Larimer County Extension. Class goes from January through May. In 2015 we added an adult youth partnership component to the class. We are one of two sites in the nation who are piloting this model. We had tremendous results from this model and spent time this summer and fall polishing the curriculum and building up community supports to continue this model.

In addition to operating the FLTI program, I worked hard to embed the work we do with FLTI participants with major stakeholders so that we may be able to strengthen the work we do and the work graduates do in the community. Some of these major stakeholders are the City of Fort Collins Neighborhood offices, City of Fort Collins City Manager's office, Poudre School District Parent Engagement program, Thompson School District Parent Engagement Program, Early Childhood Council of Larimer County, and the ARC of Larimer County. We have made much progress with embedding the work we are doing around leadership and civic engagement and are a part of many initiatives in which we are taking the lead to be responsive to the civic engagement needs of Larimer County.

Recently, we were selected as a model program by the National Parent Leadership Training Institute and are being evaluated for the work we do.

Key Items of Evaluation

Family Leadership Training Institute (FLTI) is funded by CYFAR for two site: Larimer County (see above) and Five Points in Denver.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Energy

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	100%		0%	
Total		100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	2.5	0.0	0.0	0.0
Actual Paid	2.1	0.0	0.0	0.0
Actual Volunteer	0.2	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
30996	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
30996	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
112943	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Training, loans of equipment and kits, recruiting & training volunteers, and using volunteers to

increase capacity for specific projects.

2. Brief description of the target audience

Target audiences include homeowners, the general public, teachers, ag producers, and, in some circumstances, policymakers.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2163	68296	526	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	1	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events.

Year **Actual**
2015 84

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	112

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	16

Output #4

Output Measure

- 4. Number of kits or similar resources loaned or provided.

Year	Actual
2015	36

Output #5

Output Measure

- 5. Number of Extension-related research and assessment projects. External funding proposals, including local, state, federal.

Year	Actual
2015	37

Output #6

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	1

Output #7

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances, newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer

reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	18

Output #8

Output Measure

- 8. Number of online posts: Web posts, hits.

Year	Actual
2015	63090

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Energy Outcome 1.1: Apply or intend to apply increased understanding of energy in personal and/or professional life (e.g. decide whether to move forward with an energy project, change behavior, have more informed discussions, etc.)
2	Energy Outcome 1.1a: Increased understanding of energy use, conservation, efficiency, and/or renewable energy in the home, school, or business.
3	Energy Outcome 1.1b: Increased understanding of local, state, national, and/or global energy issues.

Outcome #1

1. Outcome Measures

Energy Outcome 1.1: Apply or intend to apply increased understanding of energy in personal and/or professional life (e.g. decide whether to move forward with an energy project, change behavior, have more informed discussions, etc.)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	69

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Aurora Public Schools' (APS) Energy Challenge Competition for students.

What has been done

Students measured energy use with the Kill-A-Watt meters CSU provided. Thank you to CSU Extension Office for helping provide these meters. It was invaluable to our students' learning!

Results

We are looking at saving more than \$40,000 this semester and it was these tools that helped our students to understand energy and ways to reduce use!

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

Outcome #2

1. Outcome Measures

Energy Outcome 1.1a: Increased understanding of energy use, conservation, efficiency, and/or renewable energy in the home, school, or business.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Energy Outcome 1.1b: Increased understanding of local, state, national, and/or global energy issues.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	170

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In 2013 Eagle County Government set a goal to reduce their internal use and cost of natural gas, electricity, fuel, water and paper 15% by the end of 2015 (baseline 2012). Reaching this goal will save \$350,000 and reduce carbon emissions by 1,429 metric tons each year. Therefore, in partnering with CSU Extension to offer participants an unbiased, comprehensive overview of energy issues, this provided an avenue to reach more people to provide the background information that is needed to understand how energy issues affect all of us. Furthermore, we were able to reach participants that had not utilized CSU Extension before.

What has been done

CSU Extension and Eagle John Gitchell, Environmental Health and Sustainability Coordinator for Eagle County Government partnered to host the Colorado Energy Master program in Eagle County.

Results

The Colorado Energy Master program in Eagle County concluded with final projects being completed by four participants being certified as Colorado Energy Masters.

*Patrick Johnson, Electrician, Eagle County Airport, presented energy conservation at the Eagle

County Regional Airport, what has been accomplished towards the 15 x 15 as well as goals and aspirations for the future.

*Daniel Murray, Portfolio Manager for the Eagle County Housing & Development Authority prepared and presented a list of the tips and simple ways of improving energy efficiency to families at Riverview Apartments.

*Drew Musser, 4th grade teacher at Brush Creek Elementary School has led a group of 4th & 5th graders to become the B.E.S.T. (Bobcat Energy Saving Team). This group is taking charge to help reduce energy in their school and at home as well as educating others to make a brighter future.

*Adele Israel, Grand Junction resident, led a 20-minute discussion about Home Energy Conservation supported by a PowerPoint to 60 members of the Grand Junction Kiwanis Club. She also provided a Home Energy Conservation and Efficiency Resource List.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Weather extremes may focus public attention on energy and climate change, the economy affects people's desire to spend and save money through energy measures, appropriations can lead to changes in energy programming capacity, public policy and government regulation can increase scrutiny of energy issues, competing priorities and programs may serve to decrease interest in energy issues, population changes can affect the level of interest in energy programming.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Colorado Energy Masters contribute to savings in homes, schools, businesses, and communities.

Key Items of Evaluation

One school reports saving \$40K as a result of using Kill-A-Watt kits loaned by CSU Extension.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Environmental Horticulture

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	30%		0%	
111	Conservation and Efficient Use of Water	35%		0%	
216	Integrated Pest Management Systems	35%		0%	
Total		100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	23.0	0.0	0.0	0.0
Actual Paid	17.9	0.0	0.0	0.0
Actual Volunteer	3.4	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
264204	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
264204	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
928406	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Provide up-to-date, research based information for delivery horticultural programming for both rural and urban audiences.

2. Brief description of the target audience

Home gardeners and professional green industry professionals (ages 19+) and youth gardeners (ages 5-18).

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	93674	1768369	1474	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	27	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events.

Year Actual

2015 2707

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	14579

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	443

Output #4

Output Measure

- 4. Number of kits or similar resources loaned or provided.

Year	Actual
2015	352

Output #5

Output Measure

- 5. Number of Extension-related research and assessment projects. External funding proposals, including local, state, federal.

Year	Actual
2015	47

Output #6

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	27

Output #7

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances, newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	749

Output #8

Output Measure

- 8. Number of online posts: Web posts, hits.

Year	Actual
2015	328039

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	ENVHORT: Participants report using or intention to use new technologies and/or intention to adopt or adoption of best management practices and/or policies promoting best management practices in their landscapes, businesses and/or communities.
2	ENVHORT: Participants report intention to change or they have changed pest management strategies, intent to utilize or utilizing new technologies to assist with pest diagnosis and management, intent to adopt or adopting integrated pest management strategies and/or intention to adopt or adopting of policy promoting or utilizing integrated pest management strategies.
3	ENVHORT: As a result of Colorado Master Gardener (CMG) training and on-going support, CMGs report increased competence (confidence and proficiency/accuracy) in educating the public.

Outcome #1

1. Outcome Measures

ENVHORT: Participants report using or intention to use new technologies and/or intention to adopt or adoption of best management practices and/or policies promoting best management practices in their landscapes, businesses and/or communities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	319

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One Example: New school buildings were erected in the county. Education and direction was requested by the landscape installation company.

What has been done

We provided education on the installation of the sod, the irrigation system, fertilization, tree and shrub installation and management. Some of the trees when they arrived from the nursery had insect and disease damage. Education on how to manage the issues was provided. We also presented recommendations on why some changes needed to take place with the irrigation system.

Results

It would reduce future maintenance needs and could improve aesthetics.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
216	Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

ENVHORT: Participants report intention to change or they have changed pest management strategies, intent to utilize or utilizing new technologies to assist with pest diagnosis and management, intent to adopt or adopting integrated pest management strategies and/or intention to adopt or adopting of policy promoting or utilizing integrated pest management strategies.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Pesticide applicators are required to attend continuing education programs every three years or retake the test to become re-certified.

What has been done

Continuing education classes were held where over 30 applicators attended. They received training in the seven core credits for private and commercial applicators.

Results

The workshop provides continuing education credits (CECs) for private, public, and commercial pesticide applicators.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #3

1. Outcome Measures

ENVHORT: As a result of Colorado Master Gardener (CMG) training and on-going support, CMGs report increased competence (confidence and proficiency/accuracy) in educating the public.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	149

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Colorado Master Gardeners (CMG) provide extensive training and consultation to citizen gardeners across the state. Their competence, confidence, and proficiency/accuracy must be at the highest levels to maintain the reputation of Colorado State University Extension.

What has been done

Colorado Master Gardeners had numerous continuing education opportunities. Continuing CMGs are able to re-take training classes that appeal to them. Four training classes were given which had not been offered in several years: Tree fruits, small fruits, perennials and ornamental grasses and native plants. In addition, many continuing education classes were offered in the spring. Pruning shrubs and trees and mitigating rainwater into rain gardens were held. In the summer months, a disease, insect and abiotic diagnostic class helped educate CMGs about questions that may appear when asked to help clients in the office. Turf and weedy grass identification skills were presented. There was an opportunity for CMGs to travel to CSU in the county vans for the day-long Horticulture Short Course in Fort Collins or to demonstration projects such as Praying Hands Ranch or Hidden Mesa to see fellow CMG's contribution to county projects. Weed and fire mitigation classes were also taught. In all, over 94 hours of continuing education were offered to CMGs, most of which were free of charge.

Results

Continuing education helps keep CMGs informed and enables them to provide timely and researched-based information to county citizens.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Government Regulations
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Natural Disasters including invasive pest introduction, drought, flooding, hail, moisture/temperature trends can influence pest life cycles which will require redirection of effort to accommodate current needs.

Economic problems may lead more individuals to acquire/redirect their IPM strategies according to resource limitations or opportunity; more individuals may grow their own food crops, requiring redirection of programming efforts; individuals may spend less on landscape and turf, requiring redirection of programming efforts. Colorado Master Gardener volunteer numbers may be less due to increased costs associated with the program and personal economic situation.

Government regulations may alter pesticide, water and plant availability and use, redirecting efforts to alternative materials and methods.

Population changes may increase the demand on volunteer and staff time or may increase demands in specific areas such as food production. Increases in under-served populations may alter programming delivery methods.

V(I). Planned Program (Evaluation Studies)**Evaluation Results**

There is an increased demand for local food production at the home gardener and commercial levels. There is also increasing concern about food insecurity in the mountains of Colorado. Rural communities and those in areas with extremely short growing seasons rely almost exclusively on fresh produce and other food items trucked into the area. Increasing local production of crops will make areas more food secure. Season extension techniques will play a large role in crop production at high elevation areas with extremely short (~60-120 day) growing seasons depending on elevation and microclimate.

Key Items of Evaluation

follow up to 2014 report: We have grown head lettuce for 3 seasons, grown greens through the winter 2 times, have grown warm season vegetables (summer squash, green beans, peppers, cucumbers) two summers as well as grown carrots for earlier harvest and for overwintering (currently). San Miguel County has done the most trials with Eagle and Teller counties participating in lettuce trials, one season of winter greens and one season of squash and beans and somewhat with carrots. We trial under different types of season extension covers and collect data on yield, soil and air temperature and varieties. We want

to monitor soil moisture so we can water equally among beds.

CMG volunteers in San Miguel county and I have continued the growing trials with enthusiasm and attention to detail. This is a very popular project and the information gleaned has been one of our most reliable means to advise local vegetable gardeners in our short season area. Our data combined with the data that Eagle and Teller counties have contributed has resulted in a wealth of knowledge on growing in raised beds with different season extension covers. I was privileged to present the lettuce data at American Society of Horticultural Sciences annual meeting in 2014.

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Food Systems

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	20%		30%	
604	Marketing and Distribution Practices	20%		50%	
608	Community Resource Planning and Development	35%		20%	
703	Nutrition Education and Behavior	5%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	20%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	0.0	0.0
Actual Paid	6.8	0.0	1.0	0.0
Actual Volunteer	0.5	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
100368	0	25883	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
100368	0	25883	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
403734	0	1414782	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Improved technical assistance for agricultural and food producers exploring new marketing channels and alternative business approaches. Also, CSU will provide facilitation of community discussions around the interface between food and agricultural issues and broader social issues including public health, food safety, the environment and community development.

2. Brief description of the target audience

Youth and Adults who want to better understand the linkages between their food system and other community issues. Adults involved in specialty crop, vegetable, & fruit or integrated livestock production whose personal income is derived in large part from their farming activities.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	20777	40000	694	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2015

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2015	Extension	Research	Total
Actual	7	27	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- 1. Number of group educational events: classes, trainings, workshops, demonstrations, field days, providing content expertise, fairs, shows, booths, other group events.

Year	Actual
2015	98

Output #2

Output Measure

- 2. Individual Education: one-on-one direct client contacts by site visit, office drop-in, e-mail, telephone, Ask an eXpert, etc.

Year	Actual
2015	446

Output #3

Output Measure

- 3. Number of meetings convened and/or facilitated; includes strategic participation that contributes to program development.

Year	Actual
2015	194

Output #4

Output Measure

- 4. Number of kits or similar resources loaned or provided.
Not reporting on this Output for this Annual Report

Output #5

Output Measure

- 5. Number of Extension-related research and assessment projects. External funding proposals, including local, state, federal.

Year	Actual
2015	80

Output #6

Output Measure

- 6. Number of peer-reviewed publications including fact sheets, decision tools, curricula, multimedia, etc.

Year	Actual
2015	7

Output #7

Output Measure

- 7. Number of media releases: indirect contacts through media releases, appearances, newsletters, blog posts, other non-peer reviewed publications, kit development, non-peer reviewed curriculum, PowerPoints or videos.

Year	Actual
2015	18

Output #8

Output Measure

- 8. Number of online posts: Web posts, hits.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Food Sys Outcome 1.1: Colorado communities and stakeholders become knowledgeable about and engage in civil public discourse on food and ag issues.
2	Food Sys Outcome 1.2: Colorado communities and stakeholders develop and conduct food and agricultural assessments, initiatives and planning efforts.
3	Food Sys Outcome 1.3: Food producers gain access to new market opportunities that foster food access, community development, environmental stewardship, and public health.

Outcome #1

1. Outcome Measures

Food Sys Outcome 1.1: Colorado communities and stakeholders become knowledgeable about and engage in civil public discourse on food and ag issues.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	110

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Again in 2015 CSUE staff played a major role in the development of organizational structure, planning and program delivery of content for the Colorado Fruit and Vegetable Growers Association (CFVGA). Key content areas include food safety, labor, water, and business development

What has been done

With over 50 grower members and others receiving educational outreach as non-member growers, CFVGA delivered:

- ?A first annual conference with 260 attendees
- ?Two food safety webinars
- ?Online labor content
- ?Four newsletters with diverse content for produce growers
- ?Online survey of grower needs
- ?Planning for 2016 annual conference content

CFVGA is partnering with the new food safety center directed by Maria Bunning and will host the 2017 Center for Produce Safety conference in Denver. Other synergy with CFVGA and CSUE in the produce area is developing with the Colorado Department of Agriculture, LiveWell Colorado, Food Bank of the Rockies/Feeding America, Hunger Free Colorado, the Colorado Food Systems Advisory Council and the Colorado Farm to School Task Force.

Results

Produce is at the heart of wellness and the collaboration with CFVGA is growing into key public-facing programming beyond the core mission of grower-facing programming. CSUE was integral in the inception, launch and ongoing development of CFVGA and will continue to develop this partnership with CFVGA and affiliated organizations and have a ready platform for produce

grower needs whenever needed. CFVGA is now appropriately positioned to serve as a focal point for the produce industry and is increasingly viewed as a partner with the health and wellness sector.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

Outcome #2

1. Outcome Measures

Food Sys Outcome 1.2: Colorado communities and stakeholders develop and conduct food and agricultural assessments, initiatives and planning efforts.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

CSU was part of a USDA Ag Markets-funded project to provide technical assistance on Local Foods Promotion Project grants and Farmers Market Promotion Project grants which received additional funding under the 2014 Farm Bill. The goal of providing the technical assistance was to help workshop participants navigate the very complex USDA grant development and submission process and increase probability of Colorado receiving some of these grant funds.

What has been done

CSU decided to offer 4 workshops around the state to help community members interested in developing projects under these 2 grant programs (Greeley, Denver, Durango and Montrose). Part of the technical assistance program involved evaluating the value and impact of the workshops.

Results

Overall, participants thought the workshops were beneficial as they had the opportunity to see how these grants fit in the larger context of possible grants and projects around the state. They had the opportunity for one-to-one discussions with seasoned grant writers, as well as the names of people to follow up with for additional assistance after the workshop. Workshop organizers and presenters received helpful feedback including:

- *Breaking out the workshop by grant writing experience level to address different types of questions;
- *Reviewing workshop organization to make sure the process is clear to participants;
- *Moving from small group to one-on-one work during the workshop itself;
- *Slowing down the pace of the workshop or adding more time; and
- *More defined follow-up such as a webinar or conference call for those who moved ahead to writing their own grants.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
608	Community Resource Planning and Development
703	Nutrition Education and Behavior

Outcome #3

1. Outcome Measures

Food Sys Outcome 1.3: Food producers gain access to new market opportunities that foster food access, community development, environmental stewardship, and public health.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2015	21

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Montezuma Orchard Restoration Project (M.O.R.P.) is working to preserve rare fruit genetics, revive historic orchards, plant new orchards, research the history of heritage orchards, provide

orchard education, and foster the blossoming of a new fruit economy in Montezuma County.
<http://montezumaorchard.org/>

What has been done

January 2105, Apple Grafting and Pruning Workshops

Local Heritage Apple and orchard preservation non-profit formed: Our Apple Grafting and Pruning workshops resulted in a group of people who took our workshops and were inspired to form a group interested in collecting historic apple scion wood and grafting trees, documenting historic trees and local orchards.

1st Annual West End Heritage Fruit Festival, Naturita. It was quite the turn out-- upwards of 50 people!

Results

The west end of San Miguel and west Montrose counties have independent people who are hopeful for something to stimulate their economy that is related to their unique heritage and culture. There are remnants of 100 year old orchards scattered throughout the area.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
608	Community Resource Planning and Development
703	Nutrition Education and Behavior
803	Sociological and Technological Change Affecting Individuals, Families, and Communities

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

USDA has Global Food Security as a National priority, and not all the activities needed to support such a goal are addressed through production-oriented teams. One consideration listed in national outcomes is the need for resiliency, and given current global market pressures, pest pressures, supply chain risks (food safety, transportation costs), it would suggest a more diverse set of food production models is needed. USDA food security priorities also address natural resources and the long-term management of agricultural lands. Long term land conservation requires some new models of land transitions, since the average age of farmers is in the high 50's and increasing and this team addresses new models of agriculture which may lower barriers to entry into agricultural production.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Food safety training for cottage food producers is helping to ensure that safe food products are being produced in home kitchens for sale to the public.

Key Items of Evaluation

Cottage food sales benefit local communities by providing a low risk means for individuals to start a small scale business. Additionally, food safety education is critical in preventing the incidence of foodborne illness, where an estimated cost of foodborne illness to Colorado is \$2.3 billion (Scharff, 2010), with the average cost per case of foodborne illness estimated to be \$1814 (CDPHE 2014).

VI. National Outcomes and Indicators

1. NIFA Selected Outcomes and Indicators

Childhood Obesity (Outcome 1, Indicator 1.c)	
0	Number of children and youth who reported eating more of healthy foods.
Climate Change (Outcome 1, Indicator 4)	
0	Number of new crop varieties, animal breeds, and genotypes with climate adaptive traits.
Global Food Security and Hunger (Outcome 1, Indicator 4.a)	
0	Number of participants adopting best practices and technologies resulting in increased yield, reduced inputs, increased efficiency, increased economic return, and/or conservation of resources.
Global Food Security and Hunger (Outcome 2, Indicator 1)	
0	Number of new or improved innovations developed for food enterprises.
Food Safety (Outcome 1, Indicator 1)	
0	Number of viable technologies developed or modified for the detection and
Sustainable Energy (Outcome 3, Indicator 2)	
0	Number of farmers who adopted a dedicated bioenergy crop
Sustainable Energy (Outcome 3, Indicator 4)	
0	Tons of feedstocks delivered.