2013 University of Idaho Combined Research and Extension Annual Report of Accomplishments and Results

Status: Accepted
Date Accepted: 06/23/2014

I. Report Overview

1. Executive Summary

This combined report of accomplishments for the College of Agricultural and Life Sciences (CALS) represents 102 Extension faculty FTEs in outreach education programs and 64 research faculty FTEs. The Extension FTEs are contributed by 74 county-based Extension Educators organized into three extension districts and 47 Extension Specialists affiliated with academic departments. Extension programs are conducted by faculty organized into 10 program teams (Topic Teams). Extension partners on those teams have generated approximately $8.2 million in external grant support and have recorded 375,350 direct teaching contacts. Extension faculty produced 61 peer-reviewed Extension publications and 74 articles in professional and scientific journals. To summarize research faculty, they contributed to 13 program teams (Topic Teams) and outputs included 157 publications, 2 plant patents filed, and $29,369,419 of extramural funding expenditures.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	82.0	0.0	70.0	0.0
Actual	102.0	0.0	64.0	0.0

II. Merit Review Process

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

- Internal University Panel
- Combined External and Internal University Panel
- Expert Peer Review
- Other (administrative review)

2. Brief Explanation

Faculty continue to use traditional and novel methods to involve stakeholders as advisers. Several of our counties have complete mailing lists for all households in the county. In some cases, distributing mail surveys to every address in a county has been used during the past several years. In 2013, one such survey was a multistate effort seeking input from small farm producers in Idaho and Washington. To encourage participation in focus groups, few local budgets can support cash incentives, but nearly all such activities provide food and refreshment for participants; some are able to advertise that a meal will be

served to those who participate. To gather stakeholder input from our growing Spanish-speaking population, announcements are printed and broadcast in Spanish through appropriate venues. In some cases (nutrition education, for example), Latino community leaders were invited to sessions specifically to help the University understand better how to assess the needs of their communities, including socio-economic categories of residents less likely to have participated in past sessions. In most cases, people are enticed to provide input as they are taking advantage of opportunities to learn something that meets their personal needs.

The major stakeholder groups providing input regarding the IAES's spectrum of research activities include the following:

The Dean's Advisory Board was instituted in 2002. This committee is comprised of a spectrum of stakeholder representatives representing government, industry, and education in Idaho. Academic departments of CALS also have individual advisory boards (see below).

Idaho's 17 agricultural commodity commissions and organizations provide advice specific to commodity based programs and appropriate disciplines and departments within CALS. In addition, IAES researchers provide leadership and most of the content for several major commodity schools that are presented annually in the state. The commodity schools are well attended by stakeholders from Idaho and the region. These "schools", while primarily conducted as major outreach/technology transfer events to provide the latest research results to stakeholders, also serve as major sources of stakeholder input to IAES regarding research priorities and directions. Commodity schools are annually conducted for potato, cereal, and sugar beet industries. As an example, the UI Potato School is a three-day event that annually attracts approximately 1,400 registrants who come from Idaho, the PNW region, virtually all other states involved in potato production as well as representatives from approximately 25-30 foreign countries.

Beyond the commodity schools mentioned above, IAES faculty organize and participate in "field days" at each of the IAES's six off-campus Research and Extension centers. They also conduct a number of more focused tours or workshops such as: weed identification, ecology, management and technology at several locations, potato storage research open-house, pomology program open-house and field day, and tours of the IAES's crop genetic improvement research programs for beans, potatoes, wheat, and the oilseed crops of rapeseed and mustard. Again, these stakeholder events function as educational/technology transfer events as well as opportunities for stakeholder interaction.

The IAES research project portfolio and an abbreviated version of the POW is annually shared and discussed with representative from the executive branch of state government including the Governor's Office, the Dept. of Agriculture, and to a lesser extent, the Dept. of Environmental Quality, Dept. of Health and Welfare, and the Dept. of Commerce as well as key committees (agriculture and appropriations) and leadership of the Idaho Legislature.

The faculty, staff, and students (both graduate and undergraduate) of CALS have a vested interest in the development of appropriate research programs of high quality that are responsive to needs of the state and region. This university stakeholder group is an important source of valuable input to the IAES and play a major role in IAES program development and delivery. In the course of performing their research, the majority of researchers in the IAES have frequent and substantive contact with stakeholders in their research programs as has been indicated above. An array of inputs regarding program directions and priorities are more informally received in this manner and are subsequently considered and often implemented.

CALS has also mandated the formation of advisory committees for each of the eight academic departments in CALS. As of 2002, all departments of CALS established advisory committees. These committees are comprised of representatives from a broad base of stakeholders sharing interest in the

disciplines, programs, and strategic plans of the departments. These committees are now serving as a significant additional source of stakeholder input for the IAES and CALS. In addition, once a year in on-campus meetings the departmental advisory committees meet with the CALS and IAES leadership as well as with the Dean's Advisory Board on program priorities and directions for the college, the experiment station and the departments. One representative from each department's advisory committee serves on the Dean's Advisory Board.

University of Idaho Extension has citizen advisory groups in 42 of Idaho's 44 counties and active 4-H promotion and expansion committees in most counties. These committees, which are composed of a very diverse and broad mix of public interests, provide input regarding extension and research program priorities from the county perspective. In some counties, "Friends of Extension" gatherings are scheduled and widely advertised to attract residents to stakeholder input meetings. Extension Specialists have advisory groups as well, many of which are formally associated with producer organizations or commodity interests. A Statewide 4-H advisory Board and a Statewide Extension Advisory Board contribute annual input to guide Extension programs.

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

Brief explanation.

During 2013, CALS representatives met at least once with each of Idaho's commodity commission groups. In general, these meetings were conducted to determine priorities for research and extension programs relevant to the commissions. CALS administration met two times with the Deans Advisory Board and once with faculty as a group in each of Idaho's four administrative regions. At each of these meetings, representatives are asked to help identify those who should be asked to serve on future advisory boards. Other important venues for collecting stakeholder input included Extension Annual Conference and annual Ag Summit and legislative strolling dinner in Boise. The Dean or his designee also met with state legislative leaders in Boise regarding agriculture, science and technology, environmental issues, and educational appropriations. These meetings included testimony before several legislative committees as well as informal meetings. CALS research and extension faculty held numerous field days and commodity schools across the state.

Counties follow specific marketing plans that are developed locally, based upon the demographics and characteristics of their communities and populations. Those plans specify efforts needed to ensure parity in program audiences. Depending on faculty areas of expertise and program efforts, stakeholders may be quite easy to identify (for example, potato growers or dairy owners) or may be more difficult to locate (for example, expectant parents or families in financial

difficulty). For farmers and ranchers, Extension cooperates with the Idaho State Department of Agriculture or other appropriate agencies to verify contact lists, including lists of those individuals who are licensed to apply pesticides. Extension faculty partner with the Idaho State Department of Lands, using forest taxpayer lists to help identify private forestland owners. For low income audiences, Extension works with schools, with the Department of Health and Welfare, the local faith community, the Idaho Food Bank and the Idaho Hunger Relief Task Force to identify issues and potential clientele. Partnerships with AARP-Idaho and other advocacy organizations have been instrumental in reaching targeted audiences.

County faculty report that requests are made to advisory committees and to local government leaders and private citizens to help identify new stakeholders. Extension Specialists report that they use commodity organizations and other groups in a similar fashion. New faculty are particularly reliant on veteran faculty to help guide them to stakeholders.

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
- Needs Assessments
- Use Surveys
- Other (Commodity-based research and Extension interactions)

Brief explanation.

To generate participation from the public for input to Extension, outreach and advertising was designed to effectively reach all residents of the partner communities. Most faculty members participate on other local advisory boards, commodity association advisory boards, or other venues (for example, the Idaho Potato Commission, soil and water conservation district and weed management district boards, grower's cooperatives, Idaho Aquaculture Association board of directors, etc.) where faculty are part of another organization's efforts to learn and establish program priorities. Where no such organization exists, faculty help launch new organizations, such as the Biocontrol Task Force in Idaho. Many faculty are invited to present to a diversity of organizations such as chambers of commerce, industry stakeholders, and Rotary, where participants are asked for or volunteer input about University research and extension programs. For some programs (nutrition education for Latinos, for example) stakeholder input was gathered through focus groups made up of community leaders. For other programs (Horticulture, for example), input was collected from more than 8,000 individuals by conducting surveys in public spaces (including county fairs, in Walmart parking lots, etc.), to collect information from traditional and not-traditional stakeholders alike. Gathering input for several programs involved a major effort to reach underserved audiences 4-H Youth Development and Operation: Military Kids for example) through targeted visits and phone calls to organizations and individuals known to be advocates for some of our underserved groups.

For hard-to-reach audiences, faculty members meet with representatives or advocates for the target audiences. Examples of these advocate representatives include the juvenile justice community, local Head Start personnel and the association of Idaho Head Start programs. For other targeted audiences, people starting businesses for example, faculty members conduct surveys

for business development service providers and interact with agricultural specialists working for the power industry. One integrated architectural design project for a learning center engaged elementary and middle school students in a half-day design charrette as a fun way to gather their input on what they would like to see. Local Extension offices regularly develop surveys for input from the community. Information about how to participate in the surveys is often mailed out in newsletters, announced in newspapers, posted on our webpages and in Facebook. Comments left on Facebook and links on blogs and web pages are increasingly valuable to help understand the needs and interests of our clientele. Most faculty members also ask program participants to recommend future programs. Some faculty reported using newsletters to request input from readers.

During this reporting period, CALS representatives met at least once with each of Idaho's commodity commission groups. In general, these meetings were conducted to determine priorities for research and extension programs relevant to the commissions. CALS administration met two times with the Deans Advisory Board and once with faculty as a group in each of Idaho's four administrative regions. Other important venues for collecting stakeholder input included Extension Annual Conference and annual Ag Summit and legislative strolling dinner in Boise. The Dean or his designee also met with state legislative leaders in Boise regarding agriculture, science and technology, environmental issues, and educational appropriations. These meetings included testimony before several legislative committees as well as informal meetings. CALS research and extension faculty held numerous field days and commodity schools across the state.

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
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey of the general public
- Meeting specifically with non-traditional individuals
- Other (various)

Brief explanation.

Several shifts in emphasis during the past several years have been the direct result of stakeholder input, including a major increase in investments for family financial education, health and fitness, and fighting obesity. These program expansions have been reported during the past several years and continue in 2013. Also in 2013, CALS is continuing efforts to respond to Federal and State agency stakeholders by shifting resources into childhood obesity, hunger, and other priority programs. We continue to respond to stakeholder input by building a program that integrates health and nutrition, small farms and horticulture to address local food systems challenges. Significant progress in 2013 includes the implementation of a partnership with the Idaho State Departments of Agriculture and Education. This partnership was conceived in 2012, and in 2013 Extension began the delivery of a program that embeds faculty and advanced Master Gardeners into schools that are participating in the USDA Farm-to-School program.

Discipline-driven programs are often re-directed because of input gathered at each event to help guide the content of the next program. As examples, University of Idaho has greatly increased

research and outreach activities related to annual forages because of stakeholder input; input from a survey of farmers and ranchers about an annual grass was used to formulate a research strategy for in-field management of the invasive grass, Ventenata dubia; and stakeholder input was used to create an assessment of the economic impact Vententata has on our regional economy. In the near-term, participants at the international Idaho Potato Conference are surveyed each year to provide feedback about their continuing education needs. The results of the survey are used, in part, to direct the agenda for the next conference. We have also identified a growing demand for education about health and fitness. Administrators have ongoing discussions about how positions can be re-tasked to respond to stakeholder needs.

Information acquired state-wide from meeting with various stakeholders is discussed at various CALS leadership meetings. These include monthly CALS leadership meetings which are attended by dean and directors as well as leaders from academic departments, research and extension centers and district offices. In addition, priority setting based on stakeholder input is conducted in an annual dean and directors' retreat and in annual research-extension topic team meetings.

Local Extension offices regularly develop surveys for input from the community. Information about how to participate in the surveys is often mailed out in newsletters, announced in newspapers, posted on our webpages and in Facebook. Input collected from more than 8,000 individuals is currently influencing the educational programming delivered in Extension horticulture programs.

Methods to deliver university programs and make materials available are also changing based on stakeholder input. Significant changes include a major shift to internet availability of scientific papers and extension publications, remote delivery of programs through internet-based platforms, and through the use of blogs, Facebook, and other media.

3. A statement of how the input will be considered

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

Brief explanation.

We are witnessing a greatly increased interest in local food systems, food insecurity, hunger, annual and alternative forage sources, and reducing energy costs associated with irrigation. We are observing changes in the method of program delivery and information access desired by our stakeholders, favoring an array of electronic and on-demand formats.

Brief Explanation of what you learned from your Stakeholders

Crop and livestock commodity stakeholders are asking for that additiona research emphasis be placed on genomics to help identify traits that will keep the industries viable in the future. We plan to add positions in beef and wheat genomics in the near future.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2505561	0	2469263	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	2505561	0	2469263	0
Actual Matching	2505561	0	2469263	0
Actual All Other	2859624	0	24430893	0
Total Actual Expended	7870746	0	29369419	0

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

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Sustainable Energy: Land and Livestock
2	Commercial and Consumer Horticulture
3	Global Food Security and Hunger: Cereals
4	Community Development
5	Global Food Security and Hunger: Dairy
6	Family Economics
7	Farm and Ranch Management
8	Food Safety
9	Climate Change: Forest Management
10	Global Food Security and Hunger: Health & Human Nutrition
11	Climate Change: Soil, Water, Waste and Air Management.
12	Global Food Security and Hunger: Potatoes
13	Global Food Security and Hunger: Small Acreages and Emerging Specialty Crops
14	Global Food Security and Hunger: Sugar Beets & Minor Crops
15	Childhood Obesity: 4-H Youth Development

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Sustainable Energy: Land and Livestock

☑ 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	5%		5%	
111	Conservation and Efficient Use of Water	5%		5%	
121	Management of Range Resources	10%		0%	
122	Management and Control of Forest and Range Fires	5%		0%	
133	Pollution Prevention and Mitigation	0%		5%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	5%		0%	
205	Plant Management Systems	12%		0%	
213	Weeds Affecting Plants	5%		20%	
216	Integrated Pest Management Systems	5%		0%	
301	Reproductive Performance of Animals	5%		15%	
302	Nutrient Utilization in Animals	10%		5%	
305	Animal Physiological Processes	5%		15%	
306	Environmental Stress in Animals	5%		0%	
307	Animal Management Systems	12%		0%	
308	Improved Animal Products (Before Harvest)	5%		10%	
405	Drainage and Irrigation Systems and Facilities	0%		5%	
605	Natural Resource and Environmental Economics	5%		5%	
901	Program and Project Design, and Statistics	1%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890

Plan	8.8	0.0	3.2	0.0
Actual Paid Professional	14.9	0.0	4.3	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**
348534	0	234949	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
348534	0	234949	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
433392	0	1692669	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The 2013 activities conducted by the Land and Livestock Team focus on three resource issues: rangeland management, forages, and beef production. Due to the integrated nature of clientele needs, most of the activities are delivered by a team of county educators and specialists (joint appointments with research and extension) who bring expertise from various disciplines to share with learners. Among the most common activities are beef schools, forage schools, range school, grazing academy, BQA workshops, weed workshops, monitoring workshops, demonstration/applied research trials, Extension publications, popular press articles, tours, field days, faculty training sessions, and farm/ranch visits. The focus of these efforts will depend on stakeholder input, questions, and needs. When appropriate, information generated by the team will be presented in scientific journals and at professional meetings.

Activities focusing on range and grazing lands included the Lost Rivers Grazing Academy, hands-on Management Intensive Grazing (MiG) workshops, a long-term grazing demonstration, and an annual grass grazing research project. Faculty members also work with Federal land managers and permittees to improve management and cooperation among stakeholders for those lands.

In the arena of forages, faculty members delivered forage schools, conducted field trials and hosted field days for promising forage crops (alfalfa, sorghum X sudangrass, dual purpose cover crops, and irrigated crop residues), contributed to weed-free hay exchange programs, conducted training for pesticide applicators certification and re-certification, and published articles in popular and trade magazines and newspapers/newsletters and Extension publications. Multi-state activities included development of the Pasture Management Professionals workshop in Colorado, the Pacific Northwest Forage Workers Conference in Wyoming (WERA 1014), and a regional Pasture Symposium in partnership with the ARS and Utah State University personnel.

Livestock production activities included a dozen winter beef schools, training and certification for

Beef Quality Assurance for producers and BQA tours, Cowboy School, numerous workshops and conferences for producers and professionals, continuation of a vaccine storage and handling educational program, and published articles in popular and trade magazines and newspapers/newsletters and Extension publications.

Integrated among forages, rangeland and livestock production are numerous activities related to invasive species management including weed spray days, the Idaho Weed Conference, contributions to the PNW Weed Management Handbook, collaborations with numerous cooperative weed management associations and weed supervisors, several weed schools, organization of the Idaho Biocontrol Task Force and technology transfer workshops for tribal land managers in Nevada, Washington and Nevada.

2. Brief description of the target audience

The target audience most likely to participate in and benefit from these programs are:

Beef cattle producers, beef industry participants and allied industry representatives, land owners, range/pasture livestock producers, local government and resource management agency personnel.

Livestock and forage producers are likely to be positively impacted by new and improved production practices that will improve their profitability and ecological sustainability.

Alfalfa and grass seed producers are likely to be positively impacted as many improved practices may involve the planting of new varieties with high productivity and pest resistance.

Supplies of a variety of production input are likely to be positively impacts since improved practices may include the use of new materials, machinery or other production inputs.

Small acreage land owners will have a great understanding of the biology of their land and livestock resources, and will be less likely to be impacted by weed invasion or be taken advantage of by unscrupulous input suppliers.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	17931	153462	3046	6942

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

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	14	17	31

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Producer schools. (number of schools: multiple sessions of instruction on multiple subjects)

Year	Actual
2013	17

Output #2

Output Measure

- Workshops (including BQA).

Year	Actual
2013	67

Output #3

Output Measure

- Demonstrations and applied research projects.

Year	Actual
2013	52

Output #4

Output Measure

- Popular press articles.

Year	Actual
2013	62

Output #5

Output Measure

- Newsletters; number of issues.

Year	Actual
2013	64

Output #6

Output Measure

- Field days

Year	Actual
2013	21

Output #7

Output Measure

- Presentations at producer meetings

Year	Actual
2013	203

Output #8

Output Measure

- Budgets developed to improve clientele decision making

Year	Actual
2013	10

Output #9

Output Measure

- Curricula developed

Year	Actual
2013	2

Output #10

Output Measure

- Surveys conducted

Year	Actual
2013	7

Output #11

Output Measure

- Tours conducted

Year	Actual
2013	30

Output #12

Output Measure

- Websites developed or significantly modified

Year	Actual
2013	0

Output #13

Output Measure

- number of blogs

Year	Actual
2013	1

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Learners will adopt new, accepted, or recommended production practices. I: Number of participants indicating in post-program surveys that they have or intend to adopt recommended practices.
2	O: Learners aquire knowledge and understanding of new, approved, or recommended practices. I: Number of participants citing change in knowledge on evaluation instruments(pre- post-test results) [number of evaluations administered and examined.
3	O: Learners are aware of new, accepted, or recommended production practices and emerging technologies and issues (BQA, NAIS, etc.) I: Number of participants at educational events.
4	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.
5	O: Producers possess skills and knowledge about beef quality assurance (BQA). I: Number of Idaho Beef Quality Assurance (BQA) Program certificates awarded.
6	O: The better we can understand how external (environment, photoperiod) and internal (hormonal) cues alter the neuropeptides from the brain which control the hormones responsible for reproduction, this will allow researchers to develop potential assisted reproduction methods to improve reproductive efficiency in animals. I: We expect to impact the dairy and sheep industry with improved pregnancy rates and reduce economic loss.

Outcome #1

1. Outcome Measures

O: Learners will adopt new, accepted, or recommended production practices. I: Number of participants indicating in post-program surveys that they have or intend to adopt recommended practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	193

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Vaccines represent approximately 1-2% of per head annual cost, but the cost of not vaccinating greatly increases production costs due to sickness and lost marketing opportunities. Improperly stored vaccine loses efficacy. Storage while at the ranch prior to processing has been addressed, but little field work exists to ensure that vaccine is being stored properly while in the field.

What has been done
Extension faculty members took temperature measurements at five different times in a working setting in the field and determined some recommendations that are practical to use in the field. The recommendations were published in a newsletter and have been communicated in person.

Results
Faculty members have received dozens of confirmed reports from producers that they will or have implemented the recommendations made for vaccine storage and handling. Producers also felt that the program was extremely valuable.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
121	Management of Range Resources
122	Management and Control of Forest and Range Fires
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants

205	Plant Management Systems
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
605	Natural Resource and Environmental Economics

Outcome #2

1. Outcome Measures

O: Learners aquire knowledge and understanding of new, approved, or recommended practices. I: Number of participants citing change in knowledge on evaluation instruments(pre- post-test results) [number of evaluations administered and examined.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	297

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Extension educators and NRCS personnel indicated they wanted more training in pasture and grazing management. This will help them when consulting with producers to adapt changes in management.

What has been done
A 3-day workshop was given to 28 educators and advisors. We provided training materials and a 3-day program for grass physiology in relation to grazing, plant materials available including legumes in mixes, fertilization, irrigation, and grazing management, economics, pest management, nutrient management, and monitoring for sustainable production.

Results

There were 14.5 CEU credits available for the Certified Crop Adviser Program and 16 credits for the Certified Range Management Professional program. A detailed class syllabus and program will be revised based on evaluations and experience with the last workshop. Respondents indicated "strongly agree" (65%) or Agree (35%) to the question: "Did the workshop meet your expectations?" Respondents indicated "strongly agree" (55%) or "agree" (45%) to the question: "Did you gain understanding of critical concepts and principles?"

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
121	Management of Range Resources
122	Management and Control of Forest and Range Fires
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
205	Plant Management Systems
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
605	Natural Resource and Environmental Economics

Outcome #3

1. Outcome Measures

O: Learners are aware of new, accepted, or recommended production practices and emerging technologies and issues (BQA, NAIS, etc.) I: Number of participants at educational events.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2571

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Consumer confidence in the safety and wholesomeness of their food supply is paramount to continued strength of US Agriculture and Idaho and US economies. Adoption Beef Quality Assurance practices by beef producers helps ensure the safety, wholesomeness, and quality of the US beef supply and enhances consumer confidence.

What has been done
A collaboration among the University of Idaho Extension beef specialist, several University of Idaho Extension educators, and BQA coordinators Kara Kraich and Audra Cochran, planned and delivered fifteen BQA trainings, tours and related events directed toward beef quality assurance (BQA) across Idaho. Events included both BQA program certification and re-certification opportunities.

Results
Approximately 350 individuals attended events at which beef quality assurance (BQA) information was presented. The attendees at these events left with knowledge of approved and recommended beef quality assurance (BQA) program practices and the factors that affect beef quality.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
121	Management of Range Resources
122	Management and Control of Forest and Range Fires
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
205	Plant Management Systems
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
605	Natural Resource and Environmental Economics

Outcome #4

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done
There were 10 advanced degrees awarded during the last reporting cycle for this planned program.

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
133	Pollution Prevention and Mitigation
213	Weeds Affecting Plants
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
308	Improved Animal Products (Before Harvest)
405	Drainage and Irrigation Systems and Facilities
605	Natural Resource and Environmental Economics
901	Program and Project Design, and Statistics

Outcome #5

1. Outcome Measures

O: Producers possess skills and knowledge about beef quality assurance (BQA). I: Number of Idaho Beef Quality Assurance (BQA) Program certificates awarded.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	201

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Previous Beef Quality Audits have identified quality challenges in the Beef Industry. Consumers are concerned about their food supply in terms of safety, origin, and wholesomeness.

What has been done
Ten BQA certification events were held across Idaho.

Results
709 beef producers, students, and youth trained on various aspects of BQA. 300 individuals attended certification meetings and 201 were certified.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)

Outcome #6

1. Outcome Measures

O: The better we can understand how external (environment, photoperiod) and internal (hormonal) cues alter the neuropeptides from the brain which control the hormones responsible for reproduction, this will allow researchers to develop potential assisted reproduction methods to improve reproductive efficiency in animals. I: We expect to impact the dairy and sheep industry with improved pregnancy rates and reduce economic loss.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Improved pregnancy success in cattle and sheep based upon the physiology of reproduction is needed to improve profitability on farms and ranches. Hormones in the brain, ovary and uterus control reproduction. In the brain, luteinizing hormone (LH) is released to stimulate the release of egg from the ovary. Regulation of LH includes many neuropeptides in the brain including gonadotropin releasing hormone (GnRH), which is possibly controlled by kisspeptin. The corpus luteum on the ovary must produce sufficient progesterone for maintenance of pregnancy. A better understanding of the regulation of these reproductive hormones is needed to develop methods for greater rates of pregnancy.

What has been done
The effect of kisspeptin infusions into the third ventricle of the brain of sheep was examined with evaluation of LH secretion, assessed by plasma concentrations, as the end point. Infusions occurred in the presence and absence of estrogen based upon stage of the estrous cycle to examine possible interactions occurring in the brain. To examine the role of progesterone, dairy cows were given chronic administration of a GnRH agonist to enhance the number of accessory corpora lutea on the ovary for greater progesterone production. Cows were bred and pregnancy determined.

Results
Kisspeptin infusion as a bolus or chronic infusion into the third ventricle of sheep failed to alter concentrations of LH in circulation. This effect may have been modulated by estrogen status but

further work is needed to confirm the possible interaction. Administration of a GnRH agonist beginning on day 3 of the estrous cycle in dairy cows altered corpora lutea on the ovary resulting in greater circulating progesterone concentrations. No effect on length of the estrous cycle was detected. Treatment of dairy cows with this GnRH agonist for 7 days increased pregnancy rate. Thus, enhanced progesterone through alterations in neuropeptides regulating reproduction may be a viable means for improvements in pregnancy in cattle.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
305	Animal Physiological Processes

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

A post-program evaluation was conducted following the 2013 Intermountain Rangeland Livestock Symposium (IRLS). Ninety-one percent (91%) of the respondents indicated they were either satisfied or very satisfied with the subject matter presented at the symposium. When asked if the general themes of the symposium were relevant and timely, eighty-six percent (86%) of the respondents indicated the themes were either very relevant or essential. Ninety-eight percent (98%) of the respondents either agreed or strongly agreed that they gained new knowledge related to the livestock industry and rangeland resources by attending the symposium. Ninety percent (90%) of respondents agreed or strongly agreed that as a result of attending the symposium they were better equipped to handle the issues and challenges facing the livestock and range industries.

Key Items of Evaluation

An example of succes with partnering ranchers and landowners in the Reynolds Creek valley who were concerned over riparian area issues (bank stabilization mainly) on a stretch of Reynolds Creek. They partnered with Idaho Fish and Game and the U.S. Fish and Wildlife service to fence off the creek and create a livestock exclusion. After several years of livestock exclusion from the stream bank, willows and other desirable plants moved in to improve the area. The problem was that several noxious weeds also moved in to the area and sprouted in areas opened up by decadent plant material. I helped them formulate a riparian grazing plan that they implemented. It involved high intensity, short duration livestock grazing at the right time year. Following this grazing plan has helped the rancher and land owner to reduce the noxious weed problems while continuing to protect the

stream banks.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Commercial and Consumer 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	15%		0%	
111	Conservation and Efficient Use of Water	15%		25%	
202	Plant Genetic Resources	8%		25%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	5%		0%	
204	Plant Product Quality and Utility (Preharvest)	10%		25%	
205	Plant Management Systems	25%		25%	
216	Integrated Pest Management Systems	20%		0%	
805	Community Institutions, Health, and Social Services	2%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	10.2	0.0	1.0	0.0
Actual Paid Professional	8.5	0.0	1.0	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**
265347	0	28178	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
265347	0	28178	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
338453	0	321900	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Beginning Master Gardener classes were delivered serving 14 counties plus a mens work camp. Advanced Master Gardener classes and projects were delivered in six counties. Shorter, more accessible gardening class series' were also delivered by educators in 12 counties.

Outreach for commercial producers included collaborations with the Idaho Nursery and Landscape Association at the HortExpo, the Idaho Green Collar College, the Certified Nursery Professional course, a professional diagnostics course, wholesale ornamentals workshop, several IPM workshops for commercial growers, table grape management workshop, a golf course xeriscaping project, and through collaborations with local nursery retailers, including on-site training.

Supervised Master Gardeners and Advanced Master Gardeners delivered more than 100 presentations for local gardening groups and interested publics, served hundreds of residents who sought assistance in our plant clinics, and contributed to dozens of community projects including school gardens and community gardens, and water conservation and FireWise demonstrations. In one county alone, Master Gardeners contributed more than 1,200 hours of community service, much of that in association with community gardens that combined to contribute more than 50,000 pounds of produce to low income residents in 2013.

Media outreach is conducted through regular contributions to seven local newspapers, local TV and radio interviews, and through targeted newsletters and trade publications.

2. Brief description of the target audience

Master Gardener Volunteer Development Education:

From a wide perspective, the audience for the Master Gardener Education project is any Idaho citizen with an interest in advancing their horticultural knowledge and contributing to their community. Master Gardener training is designed to develop a pool of expert volunteer leaders capable of having an impact on resource management and quality of life within communities and counties. Beginning Master Gardeners are required to participate in 30 to 70 hours of basic training in horticultural topics that include botany, basic soils, plant development, fertility, irrigation, plant problem diagnosis, pest control, etc.,

followed by 30-70 hours of volunteer service to the public. After completion of the training course and initial volunteer hours, Master Gardeners may re-certify annually or choose to become Advanced Master Gardeners. In this role, they will continue training under UI horticulturists in advanced topics using a hands-on approach. More importantly, with respect to team objectives, Advanced Master Gardeners become volunteer instructors and are expected answer horticultural questions from the general public, assist in organizing workshops, conferences, and other education opportunities, develop public demonstration projects, and assist communities with plant-based improvement projects.

Consumer Horticulture Education:

The potential target audience for this project is very large, consisting of virtually all Idaho citizens of any age or background with an interest in home horticulture at any and all levels of expertise. This broad audience will seek opportunities to learn sustainable horticultural principles from numerous sources, including web sites, publications, popular press articles, presentations, workshops, conferences, demonstrations, short courses, Master Gardener Volunteers and other teaching forums. Organized groups from this target audience, including community public works departments, garden clubs, civic groups, public libraries, church groups, and other interested organizations assist by sponsoring educational events.

Green Industry Education:

The target audience consists of all owners, managers, and employees of green industry companies. The audience takes an active role in recommending curriculum, organizing teaching opportunities, and actively working to become competent horticulturists.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	31146	821087	10159	9273

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	20	3	23

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Advanced MG Workshops/Tours: faculty contribution to Advanced MG Training (Does not include beginning MGs). O: Number of faculty presentations at Advanced MG training events.

Year	Actual
2013	113

Output #2

Output Measure

- Beginning MG Courses Organized/Supervised: Number of MG courses (not classes within a course) organized/supervised by educators. O: Number of whole courses delivered during the past year.

Year	Actual
2013	11

Output #3

Output Measure

- Consumer Education-Public Outreach Pubs/Products: Number of faculty-authored press and Extension media products developed for consumers. Includes magazine articles, newspaper columns, newsletters or newsletter articles, radio or television spots. I: The number of products developed/published during the past year.

Year	Actual
2013	256

Output #4

Output Measure

- Consumer Education-Websites: Statewide and county websites (faculty-authored) containing current, relevant consumer-based horticultural information. O: The number of actual websites developed or actively improved during the year.

Year	Actual
2013	14

Output #5

Output Measure

- Consumer Education-Workshops, Seminars, Demonstrations, Field Days: Faculty contributions to consumer-based education events (exclude MG classes, reported elsewhere). I: Number of specific faculty presentations at Extension consumer education events.

Year	Actual
2013	241

Output #6

Output Measure

- Green Industry Education-Workshops, Seminars, Clinics: Faculty presentations associated with green industry educational events. O: Number green industry education events and presentations.

Year	Actual
2013	57

Output #7

Output Measure

- Master Gardener-Volunteer Hours: Total number of hours contributed by all volunteers over the past year.

Year	Actual
2013	8374

Output #8

Output Measure

- Green Industry Education-Websites: Number of statewide or county web sites with green industry-targeted content developed or actively improved during the year. O: The number of current, relevant, active sites.

Year	Actual
2013	4

Output #9

Output Measure

- Direct Contacts with Stakeholders Made by Certified MGs: . Number of direct contacts during the past year by volunteers.

Year	Actual
2013	19398

Output #10

Output Measure

- Faculty presentations to Beginning MG classes: Number of presentations.

Year	Actual
2013	180

Output #11

Output Measure

- Master Gardener-Volunteer-Authored Pubs/Products: Number of products developed during the past year by supervised MGs or other volunteers (exclude those with faculty authors): bulletins, fact sheets, web content, PowerPoint, media productions for radio or television.

Year	Actual
2013	23

Output #12

Output Measure

- Master Gardener-Volunteer MG Contributions to Workshops, Seminars, and Demonstrations: Number of volunteers who organized or presented at educational events.

Year	Actual
2013	255

Output #13

Output Measure

- Consumer Education-Scholarly Pubs/Products: Number of research-based, peer-reviewed scholarly products published by team faculty. Examples: journal papers, bulletins, CISs, or peer-reviewed web content or video productions.

Year	Actual
2013	12

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Master Gardener- Training Courses: The desired outcome is a measurable increase in knowledge among new Master Gardener trainees in key topics covered by the Idaho Master Gardener curriculum. Indicator: The average number of key topic areas (out of 25 in the Master Gardener certification exam) in which learners? knowledge increased.
2	Consumer Education-Information: sound horticultural information is current, research-based, and widely available to increasing numbers of Idaho consumers to inform and influence their horticultural practices. Indicator: The number of visitors to the comprehensive Idaho Landscapes and Gardens Website each year. hits.
3	Green Industry Education - Information Availability. The Green Industry workforce has access to useful research-based pest control and production information. Indicator: Combined numbers of personal contacts and hits on the green industry website.
4	A statewide Master Gardener program that operates according to state policies, ensuring cohesion, program branding and quality that delivers quality education and service to the public. Indicator: The number of Master Gardener programs statewide that operate according to written policy.
5	Green Industry Education-Certification Training: Idaho's Green industry workforce is capable to provide environmentally and economically appropriate services. Indicator: The number of participants passing the exams after Extension training.
6	Master Gardener-New Certification: The desired outcome is a pool of newly trained Master Gardener volunteers to maintain efforts in home horticulture outreach, and to donate their time and expertise to their community. Indicator: Number of new Master Gardeners certified during the past year.
7	Master Gardener-Retention of MG Volunteers: The desired outcome is a pool of returning trained, qualified, certified Master Gardener volunteers available for service within communities and counties statewide. Indicator: Number of active, certified Master Gardeners and Advanced Master Gardeners currently serving in counties.

Outcome #1

1. Outcome Measures

Master Gardener- Training Courses: The desired outcome is a measurable increase in knowledge among new Master Gardener trainees in key topics covered by the Idaho Master Gardener curriculum. Indicator: The average number of key topic areas (out of 25 in the Master Gardener certification exam) in which learners? knowledge increased.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
One of the goals of the Idaho Master Gardener Program is to develop skilled amateur horticulturists who are encouraged to adopt sustainable landscape and garden practices and to teach and encourage others in the general public to do so.

What has been done
Fifteen beginner Master Gardener courses and several abbreviated gardening courses were offered in 2013. Pre- and post- tests are taken to MG students to test their knowledge and skills before the course begins and after the course ends to note not only the knowledge and skill level changes but also the adoption of best management practices.

Results
MG student scores on post tests were substantially higher than pretest scores as expected but most rewarding was the adoption of BMPs. By the time of the final class, 74% claimed that they were already trying some of the techniques learned in the course.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems

216 Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

Consumer Education-Information: sound horticultural information is current, research-based, and widely available to increasing numbers of Idaho consumers to inform and influence their horticultural practices. Indicator: The number of visitors to the comprehensive Idaho Landscapes and Gardens Website each year. hits.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	109180

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Need for consumer-based horticulture information is increasing in Idaho as the state becomes more urban and agricultural expertise wanes. Consumers are becoming more interested in sustainable landscape practices and backyard food production.

What has been done
A consumer horticulture website called Idaho Landscapes and Gardens was created several years ago. In 2013, the site was modernized, updated, and maintained.

Results
The site was utilized by Idaho citizens and others as a resource for leaning about gardening principles, as evidenced by more than 71,000 visits to this site alone.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
216	Integrated Pest Management Systems

Outcome #3

1. Outcome Measures

Green Industry Education - Information Availability. The Green Industry workforce has access to useful research-based pest control and production information. Indicator: Combined numbers of personal contacts and hits on the green industry website.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	18921

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Green Industry professionals depend on the Extension offices for unbiased research based information to solve their and their customers' horticultural problems.

What has been done
A technical web site was developed that lists many types of information from potting mixes to pruning to plant pest problems. Specific publications were designed and printed as the standard literature handed out at events. All publications are now digital so we can email copies at any time.

Results
Over 18,878 people visited the web site from November 1, 2012 to September 30, 2013. The most downloaded articles were bacterial canker of stone fruit trees, deer antler rubbing, aspen leaf spot, using bark and sawdust for mulches, and substrate CEC and C:N ratio. People from across the USA and around the world have written to me asking additional questions about several articles.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
205	Plant Management Systems
216	Integrated Pest Management Systems

Outcome #4

1. Outcome Measures

A statewide Master Gardener program that operates according to state policies, ensuring cohesion, program branding and quality that delivers quality education and service to the public. Indicator: The number of Master Gardener programs statewide that operate according to written policy.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Green Industry Education-Certification Training: Idaho's Green industry workforce is capable to provide environmentally and economically appropriate services. Indicator: The number of participants passing the exams after Extension training.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	21

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)

205	Plant Management Systems
216	Integrated Pest Management Systems

Outcome #6

1. Outcome Measures

Master Gardener-New Certification: The desired outcome is a pool of newly trained Master Gardener volunteers to maintain efforts in home horticulture outreach, and to donate their time and expertise to their community. Indicator: Number of new Master Gardeners certified during the past year.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	145

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
216	Integrated Pest Management Systems
805	Community Institutions, Health, and Social Services

Outcome #7

1. Outcome Measures

Master Gardener-Retention of MG Volunteers: The desired outcome is a pool of returning trained, qualified, certified Master Gardener volunteers available for service within communities and counties statewide. Indicator: Number of active, certified Master Gardeners and Advanced Master Gardeners currently serving in counties.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	272

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
As the demand for Master Gardener's expertise and service increases, having well trained volunteers can add significantly to the outreach capacity of each office.

What has been done
In most counties with active Master Gardener programs, the Advanced MG Program meets 12 times. During these meetings, faculty members cover advanced educational topics and also discuss upcoming volunteer opportunities. Faculty members have started a webpage, a quarterly newsletter, and communicate via Facebook and Twitter social network systems. Master Gardener marketing tools are updated and used for booths and demonstrations.

Results
Retention of active Master Gardeners was 83% in 2013. Advanced Master Gardeners lead community based projects, mentor new volunteers, and create dynamic programs in our schools and neighborhoods.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)

205	Plant Management Systems
216	Integrated Pest Management Systems
805	Community Institutions, Health, and Social Services

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Master Gardener Education: This program is going through a comprehensive evaluation of inputs, outputs, outcomes, and impacts. Evaluation tools involve surveys of groups with varying levels of exposure to MG training. Respondents are being asked to supply information that will allow assessment of changes is attitudes as well as in application of sustainable practices. Many MG program leaders also use pre- and post-test evaluations to determine the effectiveness of training programs on improving basic horticultural knowledge.

Consumer Education: Written participant evaluations are used to evaluate the effectiveness of teaching and intent for change of behavior.

Green Industry Education: Written participant evaluations are used to evaluate the effectiveness of teaching and intent for change of behavior.

We are processing this data as a team, in order to use it as a comparison study, needs assessment, as well as use it to identify and communicate impacts to stakeholders and clientele.

Key Items of Evaluation

In 2013, Extension worked with Idaho Departments of Agriculture and Education to develop a new program to train, certify, and supervise active Idaho Master Gardener Volunteers as School Garden Mentors. Similar Extension programs in California and Rhode Island that have fostered long-term school garden success provided inspiration and best practices.

Master Gardener Volunteers in good standing were recruited from the counties where each school or childcare center was located in early May. Ten of the 12 schools were paired with a mentor. Mentors received training via webinar on school garden basics, 4-H garden curricula and child protection. Each passed background screening. Mentors were provided

with 4-H Junior Master Gardener Curriculum handbooks, including Health and Nutrition from the Garden, which had been approved for classroom instruction by the Idaho State Education Department's Child Nutrition Services.

Master Gardener Mentors conducted an average of three phone conversations, five email consultations and three on-site visitations with their school throughout the growing season. They assisted garden teams with garden planning, variety selection, season extension, pest management, soil health, irrigation design, seed starting, fruit production, problem solving, youth activities and parent outreach.

Youth who participate in school gardens experience a number of benefits, including an increased interest in science and healthier lifestyle choices. At least 1000 youth ranging from toddlers to high school students were involved in the school gardens where our mentors served.

Three mentors were invited to deliver additional youth gardening activities at their assigned school using 4-H Junior Master Gardener curriculum. Over 164 youth were engaged in these learning opportunities.

One expectation was that school garden teams assigned a Master Gardener Mentor would establish productive vegetable gardens and successfully harvest at least six of the fruits and vegetables emphasized by the USDA in their nutrition programs.

On average, ten crops were grown, harvested and consumed by children at each school; including salad greens, tomatoes, carrots, green beans, melons, zucchini, cabbage, winter squash, potatoes, corn, beets, peppers, pumpkins, spinach, peas and strawberries.

One of the final goals for this program was for school garden teams who received Master Gardener School Garden Mentors to establish sustainable gardens with staying power. All ten schools plan to continue to grow gardens into the next season and beyond.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Global Food Security and Hunger: Cereals

☑ 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	10%		14%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		15%	
202	Plant Genetic Resources	20%		15%	
205	Plant Management Systems	25%		20%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		5%	
212	Pathogens and Nematodes Affecting Plants	10%		5%	
213	Weeds Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	15%		10%	
501	New and Improved Food Processing Technologies	0%		3%	
502	New and Improved Food Products	5%		3%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	5.2	0.0	10.0	0.0
Actual Paid Professional	5.2	0.0	9.0	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**
158068	0	335409	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
158068	0	335409	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
158158	0	3898494	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Cereals Team conducts dozens of field trials across the state to document the performance of wheat and barley varieties; to evaluate diseases, disease resistance, and disease management techniques; and to assess fertility management, irrigation, cover crop and rotational crop options, weed management, and other cultural practices. In 2013, knowledge gained through these trials was delivered to growers and consultants through nine cereal schools and 14 various crop tours and field days. Faculty members deliver programs for pesticide applicator certification and re-certification. Team members participate as advisors to grain producers' associations and collaborate with major industry partners. Cereals Team members publish their findings in Extension publications and share new information through trade magazines and local media outlets.

2. Brief description of the target audience

Cereal growers in Idaho - will be provided with technology to enhance cereal production and profitability and provide feedback and suggestions of needs and areas of concern for profitable cereal production. They will also provide resources for the project through direct use of facilities, and through checkoff contributions to commodity commissions.

Agribusiness and support workers - will provide resources for technology development and delivery, be targets for information delivery, provide feedback and suggestions for directions of the program.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	6741	13714	63	143

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

Patent Applications Submitted

Year:	2013
Actual:	1

Patents listed

201300342 Wheat, common, UI Stone , University of Idaho

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	5	17	22

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Idaho Cereal Schools.

Year	Actual
2013	15

Output #2

Output Measure

- Release and adoption of new cereal varieties.

Year	Actual
2013	0

Output #3

Output Measure

- Publication of CIS, Progress reports, PNW, and other Ext. Pubs.

Year	Actual
2013	7

Output #4

Output Measure

- Develop pest control technology - project/experiments.

Year	Actual
2013	8

Output #5

Output Measure

- Research on management systems - projects/experiments.

Year	Actual
2013	16

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Producers gain knowledge about improved cereals management at cereal schools, field days, seminars, and re-certification events. I: Number of participants attending cereal schools, field days, etc.
2	O: Producers are aware of cereal resource publications. I: Number of cereal extension publications distributed.
3	O: Producers adopt new cereal varieties. I: Increase in number of acres of new varieties (released within 5 years; greater than previously grown).
4	O: Adoption of new crop production methods. I: Number of growers who report adoption through surveys at educational events and meetings.
5	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.
6	O: Develop environmentally adaptable wheat and barley varieties and agronomic practices that maximize productivity and profitability. I: Identify cultivars and advanced breeding lines of wheat and barley that were developed for resistance to other fungi and diseases (such as Fusarium head scab) for the potential to resist root and crown-infecting fungi.

Outcome #1

1. Outcome Measures

O: Producers gain knowledge about improved cereals management at cereal schools, field days, seminars, and re-certification events. I: Number of participants attending cereal schools, field days, etc.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1058

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
It is important for producers to be aware of new information regarding cereal varieties, pests, and fertilization and irrigation practices. Current knowledge is necessary to maintain profitable farms and to provide healthy, safe foods.

What has been done
One entomologist delivered 3 hours of workshops at 3 multistate venues that provided Integrated Pest Management (IPM) training to 121 commercial cereal producers and industry field staff in Idaho, Washington and Montana during 2013. Venues were Columbia Basin Crop Consultants Association Short course, PNW Farm forum and North Idaho Pesticide Applicator Training.

Results
An audience of 121 commercial grain growers and agricultural professionals who advise grain growers about pest management learned about IPM practices for cereal insect pests by attending workshops delivered at conferences and recertification events during 2013. Overall gain-in-knowledge (measured by 6-question pre-test:post-test administered via wireless audience response cards at 1 venue) was 64%.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants

212	Pathogens and Nematodes Affecting Plants
502	New and Improved Food Products

Outcome #2

1. Outcome Measures

O: Producers are aware of cereal resource publications. I: Number of cereal extension publications distributed.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	103

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
It was important to alert growers of potential pest problems and a pest alert system and press interviews spread the information.

What has been done
Websites have been updated, new and existing publications were posted, and growers were notified at Extension events about the range of materials and how to find them.

Results
Although downloads were not summarized across the websites, faculty members have been contacted directly through the contact information posted on the websites, including inquiries by media and growers. The most common inquiries were related to pest alerts and pest management.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
502	New and Improved Food Products

Outcome #3

1. Outcome Measures

O: Producers adopt new cereal varieties. I: Increase in number of acres of new varieties (released within 5 years; greater than previously grown).

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

O: Adoption of new crop production methods. I: Number of growers who report adoption through surveys at educational events and meetings.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	218

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
With the high cost of electricity and the increasing shortage of water, growers are increasingly interested in when to cease irrigation of cereals.

What has been done
One faculty member wrote an article for the newspaper on final irrigation of cereals and was asked to come and review the information in the field on a growers' ranch.

Results
As a result of the farm visit, the grower turned off his water on the cereal at the appropriate time, saving 7 days of energy and redirected the water to the alfalfa crop, which grew an additional 130 ton of forage worth $19,500.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources

205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

Outcome #5

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The number of completed advanced degrees relative to this topic team remained equal to the last reporting cycle.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
201	Plant Genome, Genetics, and Genetic Mechanisms
202	Plant Genetic Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

501	New and Improved Food Processing Technologies
502	New and Improved Food Products

Outcome #6

1. Outcome Measures

O: Develop environmentally adaptable wheat and barley varieties and agronomic practices that maximize productivity and profitability. I: Identify cultivars and advanced breeding lines of wheat and barley that were developed for resistance to other fungi and diseases (such as Fusarium head scab) for the potential to resist root and crown-infecting fungi.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In the water-limited environments of Southern and Southeastern Idaho, production of dryland wheat and barley is hampered by fungal root rots that invade stress-compromised plants.

What has been done
The outcomes are the identification of advanced breeding lines and currently grown varieties with resistance or tolerance that can be used to improve resistance in current lines. In addition, we can identify the best lines to grow in areas with high disease pressure, nematode and water stress. The impacts including improving economic conditions for growers to reduce disease losses, and reduced environmental impacts with less foliar fungicide treatments needed to control disease. Clarification on effectiveness of seed treatments for control of foot rot disease is critical, but results of the seed treatment trails indicate that in most years, seed treatments are ineffective in controlling foot rot diseases, especially when measured as impact on yield. Currently, host resistance continues to be the most effective method for reducing fungal and nematode damage.

Results
The results of resistance and tolerance to cereal cyst nematode in wheat and barley have been published and progress has been made on the results for the foot rot trials.

4. Associated Knowledge Areas

KA Code	Knowledge Area

212 Pathogens and Nematodes Affecting Plants

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Community 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
124	Urban Forestry	2%		0%	
131	Alternative Uses of Land	5%		0%	
134	Outdoor Recreation	5%		0%	
601	Economics of Agricultural Production and Farm Management	5%		0%	
602	Business Management, Finance, and Taxation	3%		0%	
603	Market Economics	3%		0%	
604	Marketing and Distribution Practices	3%		0%	
605	Natural Resource and Environmental Economics	5%		0%	
608	Community Resource Planning and Development	10%		25%	
610	Domestic Policy Analysis	8%		0%	
802	Human Development and Family Well-Being	20%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	10%		50%	
805	Community Institutions, Health, and Social Services	15%		0%	
806	Youth Development	3%		0%	
903	Communication, Education, and Information Delivery	3%		25%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	5.8	0.0	2.0	0.0

Actual Paid Professional	6.9	0.0	1.0	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**
169830	0	35806	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
169830	0	35806	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
157569	0	457377	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Community Development Team has implemented the Community Coaching for Grass Roots Action program to meet the needs of rural communities that desire a focus on action (rather than protracted educational delivery). Similar involvement is reported for several local economic development councils and similar citizen-led initiatives, several of which formed through catalyzing efforts by Community Development Team members.

To help communities understand inter-related activities, Ripple Effects Mapping has been initiated in several Horizons communities. Customer Service workshops, Business and Community Entrepreneurship, and Smart Growth workshops have been delivered, as have been a number of workshops that focus on local, sustainable food systems and enterprise development, including support for Big Wood River Raspberries, local farmers markets, the Blue Sage Farm and Green Goat Farm, work on forages and marketing, and exploration of a Sustainable Food Systems Farm. Extension conducted an economic impact study and a rapid market assessment.

A youth entrepreneurship program was initiated as a pilot for the state and faculty continued delivering USDA Rural Business Enterprise Grant funded workshops on small business development, primarily focusing on art marketing. Work began (with Washington State University Extension) to plan a joint small business development training that is a collaborative effort with other small business service providers.

In cooperation with community leaders, faculty helped to organize and manage several community projects, including a Xeriscaping Golf Course project, Community Gardens, People's Gardens, County Fair projects and a Fire-Wise Landscaping project. Other efforts include a county comprehensive groundwater plan, emergency preparedness plans, and a civil defense working group.

Families are included in the community development portfolio through the Just-in-Time Parenting program (website and newsletter), estate planning workshops, and the Idaho's Journey diversity tour.

2. Brief description of the target audience

Target audiences include:

- Small business owners in Idaho
- Government organizations/agencies in Idaho
- Community non-profit organizations
- Entrepreneurs - current and future
- Elected officials & decision makers (state & local)
- State & local employees
- New leaders and individuals currently serving in leadership roles
- Rural communities
- UI staff and volunteers
- Educators
- Youth
- Families

Target audiences will participate in educational training opportunities. In many instances target audiences will also be involved in designing of programs, serving on steering committees, teaching of curriculum, recruiting of program participants, and in evaluation & redesign of programs.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	4588	10626	753	1370

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	2	7	9

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Steering Committees/Teams formed.

Year	Actual
2013	5

Output #2

Output Measure

- Materials/Curriculum developed.

Year	Actual
2013	8

Output #3

Output Measure

- Presentations/Workshops delivered

Year	Actual
2013	38

Output #4

Output Measure

- Series/Short Courses/workshops - organized &/or taught

Year	Actual
2013	5

Output #5

Output Measure

- Conference posters/presentations

Year	Actual
2013	7

Output #6

Output Measure

- Boards & Communities - Facilitated/Mentored/Coached.

Year	Actual
2013	17

Output #7

Output Measure

- Communities served.

Year	Actual
2013	7

Output #8

Output Measure

- Counties served.

Year	Actual
2013	8

Output #9

Output Measure

- web-based educational materials developed

Year	Actual
2013	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Effective local leadership: Elected officials, decision makers, government agencies, and civic organizations will become knowledgeable about data relevant to their communities. I: Number of participants who increase knowledge about local data and how to find it. (Retrospective Post)
2	O: Entrepreneurs: Current & future Idaho Entrepreneurs learn business practices and develop skills needed for starting a business. I: Number of participants learning skills
3	O: Customer: Small business owners and government organizations adopt customer oriented operating practices. I: Percentage of participants indicated adoption of practices. (customer service follow-up checklist)
4	O: Leadership: Incumbent and emerging leaders learn skills for leadership positions. I: Number of participants with increased skills (pre-post test)
5	O: Leadership: New leaders will assume leadership roles. I: Number of new leaders serving in communities. (1 yr. follow up checklist/count)
6	O: Family Life: Users of web-based family life materials find useful information that addresses their needs. I: Number of participants accessing the materials who rate the information as useful
7	O: Human capital development. I: Youth gain understanding of post-high school educational opportunities.(Retrospective pretest)
8	O: Regional business development: Economic and business development organizations collaborate at a regional level to offer comprehensive business training and support to local communities. I: Number of regions, counties or clusters of communities establishing a regional business development effort. (Retrospective Post)
9	O: Social Capital Development: Community Partnerships will be developed through community networks and mentoring. I: Number of participants in network and mentoring relationships.
10	O: Spaces and Places: Student teams will develop design concepts that meet community planning and design needs. I: Completed design project.
11	An increase in the number of trained graduate students prepared to enter the workforce.
12	Entrepreneurs establish or expand their business. Number of business owners establishing or expanding businesses.

Outcome #1

1. Outcome Measures

O: Effective local leadership: Elected officials, decision makers, government agencies, and civic organizations will become knowledgeable about data relevant to their communities. I: Number of participants who increase knowledge about local data and how to find it. (Retrospective Post)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	31

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The City of Sandpoint applied for and was approved to for a Community Review Team process. Team members were asked to identify areas of opportunity and constraints in the areas of downtown revitalization, economic development and education.

What has been done
A team of team members from University of Idaho and several collaborating agencies was formed. The team conducted a three day community review for the City of Sandpoint to identify issues related to downtown revitalization.

Results
The Downtown Revitalization Team met with local people during focus group listening sessions. Team members, working with local business owners, officials, and residents, successfully identified a number of issues and opportunities that are representative. Several issues were determined to be the most significant: Parking perceptions in downtown Sandpoint, Way finding, Two Way Streets and Place Identity, Lake/downtown/mountain connectivity, Absentee landlords and the resulting quality of some downtown buildings, The need to create activities for the "shoulder months", Downtown shopping for the locals, Pedestrian and Bicycle Connectivity. The community has formed local teams to explore options and alternatives for the highest priority issues.

4. Associated Knowledge Areas

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

608	Community Resource Planning and Development
610	Domestic Policy Analysis
805	Community Institutions, Health, and Social Services
903	Communication, Education, and Information Delivery

Outcome #2

1. Outcome Measures

O: Entrepreneurs: Current & future Idaho Entrepreneurs learn business practices and develop skills needed for starting a business. I: Number of participants learning skills

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	31

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Rural communities lack enough career opportunities for returning young people to make a living wage. Young people are unequipped with the skills needed to develop their own business.

What has been done
An entrepreneurial program was developed in one county to help youth learn skills needed to succeed in their own business while building funds for programming that has lost grant funding.

Results
Ten youth have gained entrepreneurial skills while implementing and entrepreneurial program that has raised more than $4ooo in profit to support programming.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
903	Communication, Education, and Information Delivery

Outcome #3

1. Outcome Measures

O: Customer: Small business owners and government organizations adopt customer oriented operating practices. I: Percentage of participants indicated adoption of practices. (customer service follow-up checklist)

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

O: Leadership: Incumbent and emerging leaders learn skills for leadership positions. I: Number of participants with increased skills (pre-post test)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	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
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and

	Communities
805	Community Institutions, Health, and Social Services
903	Communication, Education, and Information Delivery

Outcome #5

1. Outcome Measures

O: Leadership: New leaders will assume leadership roles. I: Number of new leaders serving in communities. (1 yr. follow up checklist/count)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
New leaders are the life blood of a community. New leaders bring fresh ideas and enthusiasm to old problems that still need to be solved. Finding new leadership in small communities is an ongoing challenge.

What has been done
Leadership development workshops were provided to the Orofino Farmers Market Board in 2012.

Results
The Farmers' Market Board independently and successfully ran the Orofino Farmers' Market in 2012 and 2013. In Arco, three new leaders have assumed director roles on two local boards.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services
903	Communication, Education, and Information Delivery

Outcome #6

1. Outcome Measures

O: Family Life: Users of web-based family life materials find useful information that addresses their needs. I: Number of participants accessing the materials who rate the information as useful

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	350

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
It is difficult to get timely research based information out to busy parents of young children; information that can be critical in accessing the development and aiding parents in the development of their children.

What has been done
An online monthly email subscription program was established. Individuals have been signed up for the newsletter at hospital sponsored birthing classes and county fairs. Traditional family newsletters were also mailed to families every 2 months with articles that covered healthy living choices. Invitations were extended to attend classes taught by our Eat Smart Idaho instructors.

Results
Many new families have received educational information on family life, budgeting and healthy food choices. Low income children and adults have been recruited for Eat Smart Idaho classes and have learned wise budgeting and new recipes to help their food dollar go farther. Approximately 200 new families have signed up for the electronic newsletter.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
805	Community Institutions, Health, and Social Services

Outcome #7

1. Outcome Measures

O: Human capital development. I: Youth gain understanding of post-high school educational opportunities.(Retrospective pretest)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	35

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
How can education in math and science particularly be enhance and made meaningful by creating better outdoor design experiences of elementary and middle school children that may also provide direction for career choice?

What has been done
Students in landscape architecture engaged in a service learning project with a Specialist and an Educator to create a series of design concepts and master plans for an outdoor learning center that would complement and enhance curricular objectives and outcomes for students at the Lakeside Elementary Middle and Elementary Schools.

Results
Six preliminary plans were completed in Fall 2012 and two Final Master Plans were completed at the end of Spring Semester 2013. Plans and concepts were presented to the school children to their teachers, administrators and school board. The plans as yet have not been approved or implemented.

4. Associated Knowledge Areas

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

Outcome #8

1. Outcome Measures

O: Regional business development: Economic and business development organizations collaborate at a regional level to offer comprehensive business training and support to local communities. I: Number of regions, counties or clusters of communities establishing a regional business development effort. (Retrospective Post)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Small Business Development service providers generally are working with limited resources. Without opportunities to network and communicate with other agencies and organizations providing similar or complementary services, it is difficult to be strategic or to ensure that business development and expansion needs are being adequately met.

What has been done
Extension Specialist convened a summit of small business service providers to discuss organizational strengths and goals and collective challenges.

Results
A regional resource guide for small businesses is being developed, and a recruitment plan for SCORE business coaches is being developed as is a mechanism for electronic sharing of information about small business development activities in north central Idaho and southeastern Washington.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices

605	Natural Resource and Environmental Economics
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

Outcome #9

1. Outcome Measures

O: Social Capital Development: Community Partnerships will be developed through community networks and mentoring. I: Number of participants in network and mentoring relationships.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	30

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Rural communities participating in the Idaho Community Review program (Idaho Rural Partnership) sometimes lack the capacity to implement community review recommendations in an inclusive, fair and effective manner.

What has been done
Extension initiated Community Coaching for Grassroots Action in Lapwai, Idaho, a process jointly sponsored by the Nez Perce Tribe and the City of Lapwai. Workshops given include asset mapping and community visioning.

Results
Hundreds of assets have been identified and categorized according to the Community Capitals Framework. The community has a new organization called the Lapwai Community Action Team and a set of draft vision statements.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
610	Domestic Policy Analysis
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services

806 Youth Development

Outcome #10

1. Outcome Measures

O: Spaces and Places: Student teams will develop design concepts that meet community planning and design needs. I: Completed design project.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Coeur d'Alene Tribal Education Leadership presented an opportunity to work with the Lakeside Elementary and Middle Schools in Plummer, Idaho. Bringing students of landscape architecture together with students to create an outdoor learning center was seen as an opportunity to enhance students learning skills and awareness about career possibilities.

What has been done
Six preliminary design concepts for the outdoor learning environment were created along with two master plans that served as graduate projects.

Results
Results are unclear to some degree; the school board response to helping fund a first phase of the project was not as positive as anticipated. Faculty and student response was outstanding however; we hope to meet with students again this fall semester and pursue the project further with hopes of receiving funds for a portion of the project.

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry
131	Alternative Uses of Land
134	Outdoor Recreation
608	Community Resource Planning and Development
903	Communication, Education, and Information Delivery

Outcome #11

1. Outcome Measures

An increase in the number of trained graduate students prepared to enter the workforce.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Climate change plays an important role in Idaho's water supply. A wide-range of local, state and regional governments and non-governmental organizations are responsible for infrastructure and investment decisions, codes and zoning authorities, and other quasi-governmental authorities (such as irrigation and conservancy districts) who consider climate change in their planning or who recognize the potential significance of climate change impacts on the planning and operation of their program or organization.

What has been done
This project has focused on policy and management prescriptions to address water quantity and quality issues including: 1) developing farm-level irrigation strategies to address water quantity and quality problems, 2) examination of regional water-related impacts associated with energy, environmental policy, and climate change, and 3) alternative water policy and management institutions.

Results
This research project has addressed water policy and management issues thru publication of refereed journal papers, bulletins, presentations, training of graduate students, and outreach to water stakeholders.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
903	Communication, Education, and Information Delivery

Outcome #12

1. Outcome Measures

Entrepreneurs establish or expand their business. Number of business owners establishing or expanding businesses.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	7

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Small business ownership represents a significant component of the Northwest's overall economy. According to the U.S. Small Business Administration, small firms: ?Represent 97.6 percent of all employer firms [WA = 98.1, ID = 96.9], ?Employ 55 percent of all private sector employees [WA = 54.6, ID = 57.4], ?Pay 44 percent of total U.S. private payroll, ?Generated 65 percent of net new jobs over the past 17 years Yet, the rate of business creation declined 5.9 percent between 2010 and 2011.

What has been done
One specialist worked with three small business owners to help them obtain financing to start or expand their small business. Two business owners obtained micro-loans via the online Kiva Zip program and technical assistance from a regional committee of small business service providers. Another business owner received assistance with reorganizing and designing his retail space and implementing new procedures for tracking sales and expenses.

Results
One business, a farmers market produce vendor, extended their growing season by purchasing high tunnels. They also developed a specialty food product and marketed it. Another business, an allergen-free bakery, opened a storefront operation and continues to build her capacity for success by consulting with members of a technical assistance team. The third retail business is implementing improved marketing, retail design and financial management practices.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation

604 Marketing and Distribution Practices

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Evaluation of the Lakeside School project took place twice during the 2012/2013 academic year. Students met with Extension faculty to review project progress to date and the community's response thus far. The most impactful and valuable engagement event was the design charrette with the one day middle and elementary students. The children's work with the clay models of the play space and their commentary about their work was very informative. Student preferences for certain types of spaces and activities were effectively communicated and also informed the UI landscape architecture students about their learning/building process. The drawings the students produced were effective in communicating to school faculty and administration and provided opportunity for good interactive discussions about desired curriculum outcomes and the role if the physical environment in supporting these outcomes.

Key Items of Evaluation

The greatest impact of the project was the interaction that UI landscape architecture students had with the students at the Lakeside schools. The one day design charette demonstrated that the children at the school were highly articulate and very intelligent about their individual designs for the outdoor learning center. UI students learned a great deal not only about the children's aspirations but also observed that the design and making experience of the charette was a very captivating and creative learning experience for the children. Much of the programmatic basis for the subsequent design projects was founded on this very constructive interaction.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Global Food Security and Hunger: Dairy

☑ 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
301	Reproductive Performance of Animals	20%		25%	
302	Nutrient Utilization in Animals	20%		25%	
305	Animal Physiological Processes	20%		15%	
307	Animal Management Systems	20%		15%	
308	Improved Animal Products (Before Harvest)	0%		10%	
311	Animal Diseases	20%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	2.1	0.0	2.5	0.0
Actual Paid Professional	3.6	0.0	2.6	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**
115447	0	111923	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
115447	0	111923	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
46624	0	1079028	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Dairy team continued to focus on training for dairy workers, in classrooms and on dairies. New programs included development and delivery of an animal care curriculum for dairy workers and a significant effort to make dairy workers aware of animal welfare concerns. The team continued the series of workshops for dairy middle managers (in English and Spanish) this year focusing on reproduction and artificial insemination schools in Spanish and English.

Team members continued numerous projects with local dairies and contributed to multistate activities including the PNW Dairy Monitor the Future of Western Dairies Roundtable, and the Western Association of Agricultural Economists symposium on the financial status of dairies, and the DAIReXNET website.

2. Brief description of the target audience

The target audiences most likely to participate in and benefit from dairy extension programs are: dairy producers, dairy workers, and allied industry.These audiences will participate by serving on planning committees, attending workshops/schools, meeting one-on-one with topic team members, reading extension publications, and participating in on-farm projects.

Approximately 90% of the dairy labor force is Hispanic. The dairy extension team has developed numerous educational schools for training dairy workers (in Spanish and English). Additional schools will be developed as needs dictate and resources allow. Further, in association with the International Rescue Committee and other resettlement agencies, University of Idaho Dairy Extension has developed English language milking schools for refugees (from Burma, Somalia, Eritrea, Uzbekistan, Nepal, Iraq, Afghanistan, Togo, and Bhutan) resettled in Idaho. Additional English language schools will be developed for refugees in the next two to five years.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	3093	31020	178	0

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

Patent Applications Submitted

Year: 2013

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	3	8	11

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Winter Dairy Forums.

Year	Actual
2013	0

Output #2

Output Measure

- Milker schools.

Year	Actual
2013	1

Output #3

Output Measure

- Calf Schools.

Year	Actual
2013	1

Output #4

Output Measure

- Artificial Insemination Schools.

Year	Actual
2013	1

Output #5

Output Measure

- Feeder Schools.

Year	Actual
2013	1

Output #6

Output Measure

- Popular Press articles.

Year	Actual
2013	1

Output #7

Output Measure

- Abstracts and Proceedings.

Year	Actual
2013	3

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Dairy Producers and workers will increase knowledge by attending dairy schools and dairy forums. I: Number attending schools and forums.
2	O: Dairy workers will increase knowledge and understanding of dairy management practices. I: Percent knowledge change by attendees (as evaluated with pre/post testing).
3	O: Sound dairy management practices will be adopted by dairy operations as a result of attending the management schools. I: Percent of participants with intent to adopt recommended dairy management practices (as evaluated with pre/post testing).
4	O: Dairy workers will use proper techniques taught in dairy education programs (e.g., AI techniques, feeding adjustments, milking techniques). I: Percent of participants demonstrating mastery (assessed at dairy education programs).
5	O: Dairy and beef producers long-term profitability depends upon a systematic breeding program that enhances reproductive efficiency and use of artificial insemination (AI) in heifers. I: Development of a tool that will assist in determining conception rates in early pregnancy.

Outcome #1

1. Outcome Measures

O: Dairy Producers and workers will increase knowledge by attending dairy schools and dairy forums. I: Number attending schools and forums.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	42

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Dairy products are Idaho?s largest agricultural industry, employing thousands of dairy workers and dairy processing workers in the state. To be successful, dairies must be able to deliver a high quality product at a competitive price.

What has been done
Milkers certification classes were delivered in collaboration with the College of Southern Idaho to increase employee knowledge related to milking and milk quality.

Results
Pre- and post-test results demonstrate an improvement in score from 61 to 90%. Some of the comments received were: "I thought the session was an overwhelming success!" "These are guys already doing the job and they benefitted by 4x from the course!" "As an employer, I really like the idea of the certificate as a way to show that they've completed your course and have been exposed to the expectations I have of the work I need them to do."

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
311	Animal Diseases

Outcome #2

1. Outcome Measures

O: Dairy workers will increase knowledge and understanding of dairy management practices. I: Percent knowledge change by attendees (as evaluated with pre/post testing).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Dairy products are Idaho?s largest agricultural industry, employing thousands of dairy workers and dairy processing workers in the state. To be successful, dairies must be able to deliver a high quality product at a competitive price.

What has been done
Milkers certification classes were delivered in collaboration with the College of Southern Idaho to increase employee knowledge related to milking and milk quality.

Results
Pre- and post-test results demonstrate an improvement in score from 61 to 90%. Some of the comments received were: "I thought the session was an overwhelming success!" "These are guys already doing the job and they benefitted by 4x from the course!" "As an employer, I really like the idea of the certificate as a way to show that they've completed your course and have been exposed to the expectations I have of the work I need them to do."

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
311	Animal Diseases

Outcome #3

1. Outcome Measures

O: Sound dairy management practices will be adopted by dairy operations as a result of attending the management schools. I: Percent of participants with intent to adopt recommended dairy management practices (as evaluated with pre/post testing).

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	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
301	Reproductive Performance of Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
311	Animal Diseases

Outcome #4

1. Outcome Measures

O: Dairy workers will use proper techniques taught in dairy education programs (e.g., AI techniques, feeding adjustments, milking techniques). I: Percent of participants demonstrating mastery (assessed at dairy education programs).

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The main objective of this research is to determine the heat detection accuracy, as measured by plasma progesterone concentration, of professional AI (Artificial Insemination) technicians and herdsman inseminators working with lactating dairy cows housed in either open lots or free stalls.

What has been done
Timely reproduction is a key element of dairy profitability. Consequently, artificial insemination (AI) technicians play a vital role in potential dairy profitability. Unfortunately, reproductive performance of dairy cattle has declined steadily over the last few decades.

On many large dairies AI technicians are in charge of estrous detection and AI. The failure to accurately detect estrus, however, is a common and costly problem of AI programs and a major limiting factor of reproductive performance on many dairies. Estrous detection accuracy is defined as the proportion of detected periods of estrus in which cows were in estrus, as evidenced by low progesterone concentration in milk or blood. Progesterone concentration in milk and blood is associated with events of the estrous cycle.

Visual observation for detection of estrus (defined as specifically watching a group of cows for a period of time without performing another duty) rarely occurs on large dairies. Consequently, once-daily estrous

detection, via daily tail chalk or paint
application and subsequent identification of ruffled hair on the tailhead or lost chalk or paint, and once-daily AI are more
common. To facilitate once-daily estrous detection, current management strategies require that cows are restrained in
headlocks daily, during which time tail chalk or paint is applied and read in a matter of seconds as AI personnel walk behind
the cows.

Data from large Idaho dairies (Dalton, 2013 unpublished;1,200 -6,000 cows) that use once-daily tail chalk or paint for estrous
detection provides evidence of individual herd problems as up to 14% of cows presented for AI were not in estrus based on
high blood progesterone. Nevertheless, the overall average estrous detection accuracy was 94% providing evidence that
many AI technicians can use tail chalk or paint and detect estrus with high accuracy (Dalton, 2013 unpublished). Clearly,
progesterone testing may be used as a management strategy to monitor estrous detection accuracy, and gain insight into one
of the many components of timely reproduction and potential dairy profitability.

Results
Data has been shared with dairy producers, AI technicians, veterinarians, animal science graduate students, veterinary students, and allied industry personnel. Data has also been shared with bovine veterinarians attending the 2013 American Association of Bovine Practitioners' Pre-Conference Seminar on "Reproductive Success for Fun and Profit" in Milwaukee, WI.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals

Outcome #5

1. Outcome Measures

O: Dairy and beef producers long-term profitability depends upon a systematic breeding program that enhances reproductive efficiency and use of artificial insemination (AI) in heifers. I: Development of a tool that will assist in determining conception rates in early pregnancy.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Methods to improve pregnancy success in dairy and beef heifers are needed to improve profitability on farms and ranches. Repeated breeding with artificial insemination reduces economic return. Part of the reduction is due to the delay in time before pregnancy is confirmed via ultrasonography through rectal palpation. Typically this can occur 32 days post-breeding. Management could make better decisions if heifers were identified as pregnant or non-pregnant earlier. An alternative to pregnancy detection through rectal palpation or ultrasonography may be available. Pregnancy specific protein B (PSPB) is a protein produced by the placenta during pregnancy, which can be detected in blood. Thus, a blood test for pregnancy with earlier detection would provide farmers and ranchers with a management tool for better reproductive management of heifers.

What has been done
Dairy heifers were synchronized for breeding by artificial insemination. Blood samples were collected at the day of breeding and 18, 25, and 32 days later. Pregnancy of heifers was confirmed by ultrasonography on day 32 post-breeding. Concentrations of PSPB in blood were compared at each day in pregnant vs non-pregnant heifers.

Results
Heifers determined to be pregnant 32 days after breeding by ultrasonography had greater concentrations of PSBP in blood 25 days but not 18 days after breeding. The blood test for PSBP can be used as early as 25 days after breeding to determine pregnancy status of heifers. This improvement of 7 days compared to common ultrasonography detection would provide an earlier opportunity for management decisions regarding re-breeding aiding in the economic return to the producer.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
305	Animal Physiological Processes

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Government Regulations
- Competing Programmatic Challenges

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

A certification program in dairy animal handling was conducted in collaboration with the College of Southern Idaho. pre-post tests indicated a significant $p < 0.05$ improvement in knowledge.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Family Economics

☑ 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	100%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	0.0	0.0
Actual Paid Professional	3.0	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
56083	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
56083	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
108563	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Family Economics team created and delivered dozens of presentations for a variety of participants. Primary emphasis on Personal Credit was delivered through 25 lessons and workshops. Affordable Health Care was the subject of six workshops, and identity theft lessons were delivered 10 times. Lessons for seniors included 20 sessions about retirement, including Medicare and senior scams, while pre-retirement audiences attended workshops on retirement planning, inheritance, and estate planning.

Youth financial management included 69 events teaching Welcome to the Real World to teens, 16 sessions of Credit Card Millionaire. Fifteen sessions of Money on the Bookshelf and Bank on It were delivered to elementary-age youth. Extension faculty continued to promote the High School Financial Planning Program and certified 54 high school teachers at three locations in 2014, including 18 who took the class for university credit.

Indirect methods to reach learners included newsletter and public media articles and interviews, video spots, and a website.

2. Brief description of the target audience

Basic Financial Management: Young adults and those who are new to financial management (widows, divorcees, immigrants, etc.) and individuals who need to improve their financial management practices will use family economics publications, web sites and participate in classes/workshops. Professionals who work with low-income audiences and those with financial challenges will be trained and/or provided with family economics publications and curriculum.

Financial Security in Later Life: Adults will utilize publications, web sites, and educational programs covering retirement planning, investing, government programs benefitting senior citizens, long term care and legal education. Mid-life and older adults who are caretakers of elderly relatives and friends will use publications, the website and/or attend classes. Profesionals who serve elderly clients will use publications, curriculum materials, website and/or training provided by extension.

Youth Financial Literacy: Teachers, youth group leaders, parents and youth will utilize web sites, publications and educational programs. Teachers and youth group leaders will purchase extension curriculum for youth.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2494	75955	3154	4775

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	1	3	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Newsletter articles published; print or electronic.

Year	Actual
2013	31

Output #2

Output Measure

- Popular Press articles.

Year	Actual
2013	6

Output #3

Output Measure

- Professional or paraprofessional trainings.

Year	Actual
2013	34

Output #4

Output Measure

- Classes, seminars, and workshops.

Year	Actual

2013	171

Output #5

Output Measure

- Websites developed or updated.

Year	Actual
2013	2

Output #6

Output Measure

- Lesson/curriculums developed and published.

Year	Actual
2013	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Participants increase awareness of effective financial management practices.I: Number of participants reporting awareness on end-of-class evaluations.
2	O: Participants gain new personal finance knowledge.I: Knowledge gain reported on end-of-program evaluations.
3	O: Participants adopt recommended financial practices.I: Participant responses on end-of-program and follow-up evaluations.
4	O: Extension Family economics information is accessible to new audiences through Extension websites, social media, and use of technology.I: Number of website sessions and pages visited; number of social media followers, number of participants in Adobe Connect, chat, or other trainings offered via technology.

Outcome #1

1. Outcome Measures

O: Participants increase awareness of effective financial management practices.I: Number of participants reporting awareness on end-of-class evaluations.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	751

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Prison systems are overflowing with increasing numbers. The average cost per inmate/state was $62.05/day in 2001. The number of incarcerated U.S. inmates in 2011 was 6.98 million. Taxpayers are paying $433,109,000/day to house, feed, provide medical care, and clothe these inmates. This does not reflect the cost of loss to the victim and damage caused from the crimes committed. Upon release, former inmates will re-enter communities with prison records and the same misconceptions they had before.

What has been done
Invited back to North Idaho Correctional Institution, Extension presented the That's Life simulation to inmates five more times during 2013 with the aid of UI and LCSC student volunteers. Not only do these simulations provide a life-changing, paradigm shattering experience for the inmates; it provides the same for the student volunteers. Idaho is the only state that is bringing this type of financial education into the prison system with this number of volunteers.

Results
Inmates receive simulation pre-/post-surveys and a reflection activity three weeks after. When asked about prior education, 7% said they had some college experience; after the simulation, 43% planned on continuing their education and 46% planned to complete GEDs or certificate programs. When asked how they currently managed unexpected expenses, 40% set aside money, 40% borrowed from friends or credit, and 25% hadn't thought about it or didn't care. After the event, 87% intended to set aside money for emergencies, 10% would borrow from friends or credit, and 6% would ignore the expenses. 91% believed they should save more than $500 a year up from 80% at the beginning. Several inmates asked to redo the simulation to "do better for the 'family'" and asked for more children in the game so they could include their real-life children. In addition, students return to help and write glowing papers about the experience. Its popularity has led to a 1 credit course at UI.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #2

1. Outcome Measures

O: Participants gain new personal finance knowledge.I: Knowledge gain reported on end-of-program evaluations.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2089

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
A UW-Madison study states 'while 89 percent of K-12 teachers agree that students should take a financial education course for high school graduation, relatively few teachers believe they are adequately prepared to teach personal finance topics.' (2006) With stiff learning standards in schools, often financial literacy has to be put aside or, at best, taught in minimal segments in unrelated subjects by teachers who feel unprepared to teach it. Students miss much needed financial instruction.

What has been done
University of Idaho Extension was asked to hold two special That's Life financial simulations for students, parents and teachers at the Odyssey Camp at UI. These students ranged from 9-13 years old and represented exceptional learners from the Tri-State area. The That's Life simulation is an "event" that consists of volunteer vendors and role playing where the students live within a budget, explore a random career and take care of a make-believe family.

Results
Students were given a pre- and post-evaluation where they were asked about education, career choices and saving behaviors. Prior to the simulation, 59% thought they could have saved $500 or more; after 77% thought they should save more. This particular group of students saw the value of education before and after the simulation. The qualitative comments are the best part of the impact. These students were very creative and came up with cartels within the simulation, "felt like a real person," expressed that it was "realistic and fun to keep my costs balanced and under

control," and "enjoyed seeing the effect of all the choices we made." Parents were also asked to fill in as volunteers and learned more about their children?s financial prowess. As always, learners observed the costs associated with decisions and choices like transportation, childcare and taxes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #3

1. Outcome Measures

O: Participants adopt recommended financial practices.I: Participant responses on end-of-program and follow-up evaluations.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1203

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In 2011, Idaho experienced 8.2% unemployment and 19.3% underemployment. Non-competitive wages, increasing expenses and fewer jobs continue to reflect the need for personal financial education more than ever. As our residents flounder so do our communities and businesses that support them. Many of our stakeholders struggle with lack of financial education and the tools needed to utilize the resources they already possess.

What has been done
Fight back financial topics including Credit scores, senior scams, and ID theft were delivered in several series of workshops in central and eastern Idaho in 2013.

Results
904 participants were taught basic financial management skills. Evaluations indicate a strong increase in knowledge and abilities among participants in the covered areas.

4. Associated Knowledge Areas

KA Code	Knowledge Area

801 Individual and Family Resource Management

Outcome #4

1. Outcome Measures

O: Extension Family economics information is accessible to new audiences through Extension websites, social media, and use of technology.I: Number of website sessions and pages visited; number of social media followers, number of participants in Adobe Connect, chat, or other trainings offered via technology.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	5101

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Idaho's Two Cent Tips website, YouTube page, Facebook page, and online tutorials provide useful education for individuals and families, but many who would benefit are unable to attend classes and workshops to receive traditional training. New technologies reach diverse audiences, including the homebound and those inclined to internet use, particularly young audiences.

What has been done
A web page hosts new all electronic education materials and is linked to Twitter, Facebook, and YouTube accounts.

Results
A growing number of followers gain useful financial information in a timely, convenient way.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

The credit score education program was evaluated through post-program surveys of the participants. The percentages of respondents who answered positively to survey questions are described below.

Credit Score Adults
I (plan to) teach others how to build a good credit score: 45%
I (plan to) take action to improve my credit score: 48%
I (plan to) regularly obtain my free credit report at annualcreditreport.com: 53%
I am confident in my ability to increase my credit score: 41%
I know how to build a good credit score: 38%

Credit Score Youth
I (plan to) teach others how to build a good credit score: 58%
I (plan to) take action to improve my credit score: 50%
I (plan to) regularly obtain my free credit report at annualcreditreport.com: 50%
I am confident in my ability to increase my credit score: 48%
I know how to build a good credit score: 34%

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Farm and Ranch Management

☑ 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
111	Conservation and Efficient Use of Water	0%		5%	
132	Weather and Climate	0%		5%	
601	Economics of Agricultural Production and Farm Management	25%		25%	
602	Business Management, Finance, and Taxation	25%		0%	
603	Market Economics	15%		25%	
605	Natural Resource and Environmental Economics	15%		10%	
606	International Trade and Development	10%		5%	
609	Economic Theory and Methods	5%		20%	
610	Domestic Policy Analysis	5%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	3.2	0.0	2.0	0.0
Actual Paid Professional	5.6	0.0	2.0	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**
152868	0	124427	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
152868	0	124427	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
149013	0	652695	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Farm and Ranch Management team delivered a variety of courses and workshops in 2013. Six to twelve-week farm management courses were taught in four Idaho counties, including farm management training required to meet FSA borrowing requirements. Individual schools, classes, workshops and workshop series covered topics including estate and succession planning, marketing and risk management.

UI Extension faculty members partnered variously with the Fort Hall Tribal Tax Department, the Intertribal Agriculture Council, the Western Risk Management Education Center, and Idaho State University to create and deliver a suite of programs including a tax clinic, a farm business management course, and related educational services for the Fort Hall Reservation and Southeastern Idaho farmers and ranchers. Elsewhere, educational events included farm tools workshops, futures workshops, and presentations at various grower meetings covering topics such as fertilizer economics, rental formulation for pasture, and the economics of irrigation efficiency. The Farm and Ranch Management team members maintain current publications for enterprise budgets and also contribute to numerous regional economic studies each year. In 2013, regional contributions included a grazing lease rate study, a wolf-cattle interaction project, and a ranch-level economic analysis of the impact of juniper encroachment onto grazing lands.

2. Brief description of the target audience

The target audience is comprised of farmers, ranchers and agribusiness managers in Idaho who are interested in improving their business management skills. This would include farmers and ranchers who are struggling financially and need to evaluate alternatives and may need help with basic financial management concepts, as well as highly successful farmers and ranchers who want to stay at the cutting-edge, improve their efficiency and/or evaluate alternative crops/cropping systems or alternative livestock/livestock production systems.

Participants will attend workshops, seminars and classes offered in a number of venues, including the traditional commodity schools/conferences as well as specialized farm managment classes. Program participants will also access decision-aid computer programs and other resource material directly from the Agricultural Economics and Rural Sociology web site.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	11188	7016	213	197

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

Patent Applications Submitted

Year: 2013

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	4	9	13

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Farm Management Schools/Classes.

Year	Actual
2013	11

Output #2

Output Measure

- Crop & Livestock Costs and Returns Estimates Published.

Year	Actual
2013	28

Output #3

Output Measure

- Media Contacts.

Year	Actual
2013	56

Output #4

Output Measure

- Workshops/presentations at Commodity Schools/conferences, Farm Management Schools or other appropriate venues.

Year	Actual
2013	92

Output #5

Output Measure

- Office/one-on-one consultations

Year	Actual
2013	693

Output #6

Output Measure

- AERS web site visits related to farm management

Year	Actual
2013	1675

Output #7

Output Measure

- Pupular press articles and papers in prodeedings published for commodity schools

Year	Actual
2013	14

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Educational material is widely available to clientele. I: Number of publications and other resources distributed
2	O: Clientele motivated to obtain knowledge and/or learn new management skills.I: Number of clientele attending educational programs.
3	O: Clients learn about new issues, management practices or marketing tools.I: Number of clientele attending educational programs that indicate a change in knowledge.
4	O: Clientele make management changes by applying new knowledge about issues, management practices or marketing/risk management tools. I: Number of clientele attending educational programs that indicate an intention to change a practice or that have changed a practice.
5	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

Outcome #1

1. Outcome Measures

O: Educational material is widely available to clientele. I: Number of publications and other resources distributed

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	474

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Clientele are seeking resources (publications and decision-aid tools) to help them analyze their farming operations and make better management decisions.

What has been done
Numerous publications and decision-aid tools were distributed, including crop enterprise budgets, Idaho's custom rates guide, and Idaho's Crop Enterprise Budget Worksheet Program and Machinery Cost Analysis Program. Dozens of additional publications are made available online.

Results
Resource material distributed at educational events serve as a helpful tool for participants to review and gain additional insight to course topics. No cost delivery via electronic formats provide just-in-time education to clientele prior to making decisions.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
605	Natural Resource and Environmental Economics
606	International Trade and Development

Outcome #2

1. Outcome Measures

O: Clientele motivated to obtain knowledge and/or learn new management skills.I: Number of clientele attending educational programs.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	612

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Tribal and non-Tribal Fort Hall agricultural producers running on range Unit III voted to use mandatory Expected Progeny Differences (EPD's) on their range unit. This resulted in a need for recordkeeping strategies to maintain large amounts of data.

What has been done
Extension developed a spreadsheet for keeping bull records that incorporated EPD's. The tool was presented to 25 producers who were instructed about how they could maintain their records.

Results
Twenty- three of the twenty five producers implemented the use of the recordkeeping spreadsheet to manage their bull records.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
605	Natural Resource and Environmental Economics
606	International Trade and Development

Outcome #3

1. Outcome Measures

O: Clients learn about new issues, management practices or marketing tools.I: Number of clientele attending educational programs that indicate a change in knowledge.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	223

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Marketing of agriculture products occurs in a dynamic, ever-changing environment. To help with this, we addressed marketing strategies and value-added production.

What has been done
Workshops addressing costs of production, marketing strategies, and risk reduction are held across the state. In one county, a panel of innovative, agriculture marketers were brought to present. They discussed their marketing plans, and opened the floor for questions from the participants.

Results
Workshop participants indicate that they learned new marketing techniques and it opened their eyes to the endless marketing possibilities. Workshop attendees are expected to make better informed management and marketing decisions.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
605	Natural Resource and Environmental Economics
606	International Trade and Development

Outcome #4

1. Outcome Measures

O: Clientele make management changes by applying new knowledge about issues, management practices or marketing/risk management tools. I: Number of clientele attending educational programs that indicate an intention to change a practice or that have changed a practice.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	159

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Many agricultural producers possess limited understanding of finances and are unable to control financial problems on their operations. Also many producers have not planned for the future to see who will carry on the family farm. These problems are of great concern to the stability of the farm and the farm family.

What has been done
Farm and Ranch Management classes have been taught in numerous locations in Idaho. One of these classes, Annie's Project, focuses education on farm and ranch women, who often are responsible for financial decisions and records. The course covers the five main areas of risk management. Participants determine their risk management strategies, understand financial documentation, and plan out their retirement. Annie's Project meets for six-consecutive weeks for three hours each session.

Results
Our post-class evaluation of 2013 Annie?s Project graduates indicated that women learned "a great deal" in the areas of improving record keeping, estate planning, leasing, tax planning. Participants stated that this class was most valuable in the areas of; networking, finding resource connections, record keeping and estate planning. This course helped them discover areas of improvement needed in their own operation as well as gaining new marketing strategies.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation

603	Market Economics
605	Natural Resource and Environmental Economics
606	International Trade and Development

Outcome #5

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Continual policy debates related to the appropriate rates which governmental units charge for forage leases on state and federal lands require current information on private grazing costs. Numerous issues related to land-use and management changes impact ranch profitability, rangeland values and sustainability of rangeland ecosystems and rural communities in Idaho and other western states. Economic analysis is critical information for many of the choices which society faces.

What has been done
The GAMS economic models were developed/updated for Idaho, Oregon, Nevada and Wyoming. Models are being used to assess ranch-level economic impacts of alternative sage-grouse management strategies and western juniper invasion.

Results
A graduate thesis was completed in 2013 (McClain, Ashley). There are publication alternatives being pursued with this work. The private grazing lease survey was completed. A draft publication has been prepared, yet not reviewed. Upon approval from the Idaho Department of Lands, a publication will be released.

4. Associated Knowledge Areas

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

605 Natural Resource and Environmental Economics

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

In 2013, seventy-five producers participated in the Farm Succession and Estate Planning workshops in Idaho Falls, Burley, and Preston. Participants came from Bannock, Bear Lake, Bingham, Blaine, Bonneville, Butte, Cassia, Franklin, Fremont, Jefferson, Madison, Minidoka, Oneida, Power, and Teton Counties. An evaluation of the program showed: 100% of participants indicated they had started or planned to begin the estate planning and farm succession process. 96% of participants said they planned to put a team (accountant, lawyer, financial planner, etc.) together to assist them with estate planning. 100% said they would or already had recommended the program to a friend.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Food Safety

☑ 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
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		5%	
308	Improved Animal Products (Before Harvest)	0%		5%	
311	Animal Diseases	0%		5%	
315	Animal Welfare/Well-Being and Protection	0%		5%	
501	New and Improved Food Processing Technologies	5%		15%	
503	Quality Maintenance in Storing and Marketing Food Products	20%		5%	
504	Home and Commercial Food Service	30%		15%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	30%		20%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		5%	
723	Hazards to Human Health and Safety	15%		20%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	4.0	0.0
Actual Paid Professional	4.7	0.0	2.0	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**
125282	0	86769	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
125282	0	86769	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
132675	0	659737	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Food Safety team delivered more than 400 educational programs for widely diverse audiences. Five-week series of food preservation classes were taught in each region of the State. Topics of individual workshops and presentations ranged from bacteria and sour dough to acid canning, freezing and drying foods, to spoilage and rodent sanitation. More than 100 individual programs were delivered on food preservation to nearly 1,500 contacts. Team members continue to develop and deliver new programs that tie into special needs/interests of the public, including safe practices for holidays, organic foods issues, and genetically modified foods. The Food Safety team has conducted research leading to development of new food safety knowledge and best practices related to infused oils, garlic, and jerky.

Three organized courses of study were delivered for Master Food Safety Advisors across the state and two counties offered complete training for Advanced Master Food Safety Advisors. Thirty-seven sessions of the Preserve@Home web-based course were taught by UI Extension, including collaboration to deliver 21 courses offered in Montana, California, Colorado and Oregon.

UI Extension taught 11 sessions and facilitated the delivery of Ready, Set Food Safe curriculum to high school students by supporting collaborating teachers delivering the program in more than 100 Idaho classrooms and nearly 500 Idaho children participated in Germ City. The EFNEP and SNAP-Ed educational programs for limited resource families included food safety as part of their outreach to thousands of learners. Germ City was deployed at elementary schools across the state.

Food safety programs delivered to industry included HACCP, BRC, and related topics for 10 companies in 2013 workshops. Direct education is supplemented by brochures, newsletters and newspaper articles that reach thousands of additional learners each year.

2. Brief description of the target audience

Consumer Food Safety Programs / Just in Time Food Safety / Preserve@Home -- Consumers who need specific information to keep food safe or to avoid risky foods, for example, consumers who call extension offices with questions about food preservation, food storage, etc. Consumer programs cover a variety of topics, for example, using slow cooker safely, preserving foods safely, storing food safely, using labels to avoid allergic reaction, etc. Specific groups of consumers who benefit from targeted food safety information, for example, seniors, parents of young children, volunteers who cook for groups who call

extension offices with specific questions, consumers who want food preservation information delivered online.

Food Safety Advisor / Master Food Preserver -- Consumers with particular interest in home food preparation and food safety topics (particularly food preservation and food storage) and in sharing the knowledge with others.

Food Service Food Safety Training -- High school students in foods classes, Adult food service workers

Hand Hygiene Education -- Elementary age children, Families and children at county fairs, adults at health fair settings.

ENP-EFNEP Food Safety -- Limited income families receiving food stamps or eligible to receive food stamps (27 counties), limited income families with children (4 counties).

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	9627	19275	3861	3535

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	5	2	7

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of food safety calls answered.

Year	Actual
2013	7902

Output #2

Output Measure

- Consumer food safety classes taught.

Year	Actual
2013	99

Output #3

Output Measure

- Number of new certified Food Safety Advisors (MFPs).

Year	Actual
2013	31

Output #4

Output Measure

- Number of re-certified Food Safety Advisors (& MFP).

Year	Actual
2013	90

Output #5

Output Measure

- Number of volunteer hours logged by FSA/MFPs.

Year	Actual
2013	2971

Output #6

Output Measure

- Students receiving a RSFS certificate.

Year	Actual
2013	36

Output #7

Output Measure

- Participants in hand hygiene education programs.

Year	Actual
2013	2354

Output #8

Output Measure

- Number participants who completed EFNEP series of classes.

Year	Actual
2013	246

Output #9

Output Measure

- Number of participants in ENP one-time classes (keeping food safe).

Year	Actual
2013	508

Output #10

Output Measure

- Number of Preserve@home students passing the final test.

Year	Actual
2013	56

Output #11

Output Measure

- Number of individuals receiving ServSafe certification.
  Not reporting on this Output for this Annual Report

Output #12

Output Measure

- Number of classes taught by FSA-MFP volunteers

Year	Actual
2013	24

Output #13

Output Measure

- Number of food preservation equipment safety checks.

Year	Actual
2013	491

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: People use Just in Time Food Safety Information to help them make decisions about food preparation, storage, etc.I: Number of people who describe that they will use requested advice.
2	O: Food Safety Advisor/Master Food Preserver-Knowledgeable citizens volunteer to help others learn and adopt safe food practices.I: Number of certified Food Safety Advisors and Master Food Preservers.
3	O: Food Service Food Safety Training-High school students are prepared to work in food service jobs.I: Number of students passing the RSFS exam and becoming certified.
4	O: Hand Hygiene Education-People will practice improved hand hygiene for reduction of colds, flu and foodborne illness.I: Hand Hygiene Education-Program participants indicate their intention to adopt recommended health practices.
5	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.
6	O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.
7	O: ENP-EFNEP Food Safety-Low income family members will practice safe food behaviors.I: Number of EFNEP graduates reporting intent to adopt practices.
8	O: Interested consumers will learn skills through Preserve@Home I: number of people completing program
9	Numbers of companies served; outcomes are measured as Increased Sales, Jobs Created, Cost Savings, Company Equipment Investment, Company Information System Investment, Company Workforce Practices Investment, and Investment Avoidance reported by businesses.

Outcome #1

1. Outcome Measures

O: People use Just in Time Food Safety Information to help them make decisions about food preparation, storage, etc.I: Number of people who describe that they will use requested advice.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	5520

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Many consumers are unaware of proper food safety techniques. Many are hobby preservers learning their information from popular websites or family members that may not be using accurate information putting people at risk for food borne illness. Consumers need real-time assistance to help them make informed decisions about food preparation, storage and preservation while they are in the process of these activities, not after they have applied an unsafe behavior. Approximately 210,000 Idahoans will be affected by food borne illness in a year, of which more than 500 cases will require hospitalization.

What has been done
Master Food safety Advisers and Extension faculty members respond to requests for information and recommendations over the phone. Counties have a schedule with which they sample their callers, asking them about their intention to use the information provided by the expert.

Results
Ninety-two percent of people who requested information indicated that they would use the recommendations provided. If each of our clientele who adopt recommendations was only responsible to feed only two persons, this program would reduce the number of cases of food poisoning in Idaho by 1500 cases, and would eliminate four cases severe enough to require hospitalization.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service

712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #2

1. Outcome Measures

O: Food Safety Advisor/Master Food Preserver-Knowledgeable citizens volunteer to help others learn and adopt safe food practices.I: Number of certified Food Safety Advisors and Master Food Preservers.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	95

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Interest in home food preservation has always been strong in Idaho and has recently been increasing because consumers want to save money, preserve garden produce, have more control over their food, and live more sustainably. The increasing demand for information about home food preservation and food safety topics results in a huge volume of calls that come into Extension County Offices. Ttrained volunteers are needed to help provide information to the public.

What has been done
Interest in home food preservation has always been strong in Idaho and has recently been increasing because consumers want to save money, preserve garden produce, have more control over their food, and live more sustainably. The increasing demand for information about home food preservation and food safety topics results in a huge volume of calls that come into Extension County Offices. Ttrained volunteers are needed to help provide information to the public.

Results
Master Food Safety Advisors commit their volunteer service to teaching beginning classes and to answering phone questions. The average volunteer contributes about 60 hours of public service, about twice the amount required for certification. These volunteers provide answers to thousands of residents each year who call Extension offices with questions that relate to food safety, saving hundreds of hours for Extension faculty members and providing just-in-time information to consumers, likely preventing serious cases of food-borne illness.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #3

1. Outcome Measures

O: Food Service Food Safety Training-High school students are prepared to work in food service jobs.I: Number of students passing the RSFS exam and becoming certified.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
About one-third of employed youth, 15-17 years of age, work in food service. Over 70% of teens work in food service as their first job. Increasingly, the foods Americans eat are prepared by others, via a variety of food service formats. Half of the total food expenditures in 2004 were spent on food away from home. Many Idaho high schools have vocational food service programs, including in-school cafes or bakeries, where food is prepared for public sale.

What has been done
In response to stakeholder needs, Extension colleagues researched, planned and authored a food service food safety curriculum for teens and updated the curriculum in 2009. This program has been acknowledged by the Idaho Food Protection to meet the standards required to receive a Safe Food Handlers Certification. Extension has made a significant push to train high school teachers who have largely adopted the training and are delivering food safety education to their students. Several faculty, however, continue to deliver the Ready, Set, Food Safe program in their counties.

Results

Building partnerships with secondary teachers has allowed food safety knowledge and food handling practices to increase across Idaho. From 2002-2010, 10,579 youth passed the rigorous exam with an 80% or higher. A team of Extension colleagues are in the process of collecting observational data to document implementation of food safety behavior change. More than 1,300 high school youth are estimated to have completed the certification in 2013.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #4

1. Outcome Measures

O: Hand Hygiene Education-People will practice improved hand hygiene for reduction of colds, flu and foodborne illness.I: Hand Hygiene Education-Program participants indicate their intention to adopt recommended health practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1901

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Issue (Who cares and Why)
Good hand washing is the first line of defense against the spread of many illnesses, quite often associated with food handling and food preparation. Illnesses range from the common cold to more serious conditions such as meningitis, bronchiolitis, influenza, hepatitis A, and most types of infectious diarrhea.

What has been done

Hand washing lessons, most often using Germ City, were taught to youth in grade schools, junior high schools, at 4-H events and to scout groups. They learned the importance and practiced washing their hands. Children were taught the most important times to wash their hands: before eating, after using the rest-room, after playing with pets, after coughing and sneezing, after playing outside. Children were then asked to focus on one "important" time and set that as their goal for the next week to make sure they were doing a thorough job.

Results
Youth were involved and interested to know how much effort it took to really clean their hands. They were going to share the information with friends and family. Children were able to wash their hands in an appropriate manner and understood why they needed to.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #5

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Every year within the US, 76 million foodborne illnesses are reported with 325,000 hospitalizations and 5000 deaths. Costs
associated with foodborne illnesses are approximately $23 billion every year. Over the past 30 years, listeriosis caused by L.
monocytogenes has become a major foodborne disease. There are now over 1500 cases of listeriosis reported every year with
260 fatalities. Pregnant women, infants, and people with compromised immune system are at serious risk.

What has been done
Potato peel waste (PPW)-based edible films with oregano oil were developed. Incorporation of oil into the films
reduced the film strength and increased their water vapor pressure. The potato peel waste-oregano essential oil (PPW-OO)

film reduced the growth of L. monocytogenes on cold-smoked salmon during storage under vacuum conditions at 4 °C for 28
days. The application of the newly developed PPW-OO
films would provide an additional hurdle to the growth of L. monocytogenes on the surface of cold-smoked salmon. The PPWOO
films have the potential to be used as coatings on seafood and possibly other food products to inhibit L. monocytogenes.
Our goal in a parallel study was to develop nisin-containing edible films using trout skin gelatin and test their effectiveness
against L. monocytogenes on raw trout fillets (stored at 4 °C and 10 °C) as a strategy for reducing the risk of contamination.
Films with 18 μg nisin/cm2 showed consistent inhibition and were chosen for storage studies conducted at 4 and 10 °C for 30
days. Trout fillets were challenged with 2 log CFU L. monocytogenes/g before or after coating with nisin-containing films.
Films with nisin reduced L. monocytogenes counts below the detection limit (0.3 log CFU/g) at 4 °C. At 10 °C, a 0.3 to 1.1 log
reduction was observed compared to controls by the end of storage. The effectiveness of treatments depended upon the
concentration of nisin and storage temperature. The developed edible films have the potential to reduce pathogens on
seafood and can be incorporated with a variety of antimicrobials.

Results
A Ph.D. candidate and a MS student carried out various experiments for this research project. Due in part to their efforts, the students
are well trained in the areas of bioactive food packaging and microbial food safety.

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms
308	Improved Animal Products (Before Harvest)
311	Animal Diseases
315	Animal Welfare/Well-Being and Protection
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
722	Zoonotic Diseases and Parasites Affecting Humans
723	Hazards to Human Health and Safety

Outcome #6

1. Outcome Measures

O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	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
201	Plant Genome, Genetics, and Genetic Mechanisms
308	Improved Animal Products (Before Harvest)
311	Animal Diseases
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #7

1. Outcome Measures

O: ENP-EFNEP Food Safety-Low income family members will practice safe food behaviors.I: Number of EFNEP graduates reporting intent to adopt practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	213

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Children are at higher risk of food borne illness and parents need to use good food safety practices to keep their young children safe.

What has been done
Food safety education is incorporated into all of the Eat Smart Idaho courses for low income Idahoans. EFNEP participants are surveyed as to their adoption of recommended practices.

Results
Of 322 graduates, 66% showed improvement in one or more of the food safety practices included in the post-course questionnaire (thawing and storing food properly).

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #8

1. Outcome Measures

O: Interested consumers will learn skills through Preserve@Home I: number of people completing program

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	48

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Home food preservation is increasing in popularity. In 2011, home canning product sales rose nearly 35% over the three previous years. However, many home canners are inexperienced and may not have been trained in safe home food preservation techniques. Additionally, with new methods of distributing and gaining information such as blogs, Pinterest, etc., unsafe food preservation practices are also reappearing.

What has been done
Preserve @ Home is an online, six-week food safety and food preservation course developed by University of Idaho Extension. The course includes thirteen lessons of online and downloadable text, discussion board, real-time weekly chats, visuals, handouts, quizzes, FAQ's, and links to government websites. UI Extension co-taught Preserve @ Home three times this year in multi-state collaborations with California, Colorado, and Oregon.

Results
Thirty-one (69%) out of 45 students completed with a grade of 70% or better which indicate increased knowledge of safe home food preservation methods. Most students will share this information with family, friends and community groups thus spreading the impact even further.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

723 Hazards to Human Health and Safety

Outcome #9

1. Outcome Measures

Numbers of companies served; outcomes are measured as Increased Sales, Jobs Created, Cost Savings, Company Equipment Investment, Company Information System Investment, Company Workforce Practices Investment, and Investment Avoidance reported by businesses.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Food processing companies need accredited training on food safety, Hazard Analysis Critical Control Points (HACCP) and internal auditing methods. They wished to become food safety certified to meet customer requirements. Technical assistance was needed to resolve product food safety issue.

What has been done
On-site food safety training was provided to a dozen companies, including an accredited course on HACCP and a course on food safety internal auditing. One company received technical assistance on the food safety risk of their potato product.

Results
Companies reported a total increase in sales $5,000,000; three new jobs created; a net cost savings $2,020,000; $485,000 invested in new equipment Investment $485,000; company workforce practices investment totaling $161,533; and $15,000 of investment avoidance.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
723	Hazards to Human Health and Safety

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Climate Change: Forest Management

☑ 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
112	Watershed Protection and Management	10%		0%	
122	Management and Control of Forest and Range Fires	15%		0%	
123	Management and Sustainability of Forest Resources	40%		30%	
131	Alternative Uses of Land	10%		0%	
132	Weather and Climate	5%		0%	
211	Insects, Mites, and Other Arthropods Affecting Plants	0%		20%	
213	Weeds Affecting Plants	5%		20%	
215	Biological Control of Pests Affecting Plants	5%		30%	
216	Integrated Pest Management Systems	10%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	3.3	0.0	1.2	0.0
Actual Paid Professional	3.5	0.0	1.8	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**
90222	0	79746	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
90222	0	79746	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
74885	0	889900	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

As part of our investment in Climate Change and Sustainable Energy, a major effort for the Forest Management Team has been continuing participation in a regional NARA Biofuels project (led by Washington State University).

In 2013, programs delivered for loggers included a beginning LEAP course in Coeur d'Alene and LEAP updates in six other communities. Extension also is a contributing partner on the Idaho Pro Logger Steering Committee.

Programs for forest owners included the Forestry Shortcourse (in two communities) the Idaho Master Forest Stewards program. As part of the Idaho Forest Stewardship program, UI Extension provided a series of workshops, field days and other educational activities titled "Strengthening Forest Stewardship Skills" designed to strengthen forest owners' ability to improve forest health and growth. These included numerous workshops about using GPS technology, measuring trees, forest insects and diseases, root diseases, and other forest health topics. Significant emphasis was placed on Firewise (and other fire prevention programs), including numerous workshops and supervision of a new Firewise intern.

Panhandle forest owners can choose from over 140 forestry Extension publications available through local UI Extension offices. Extension videos on water quality, "selective" logging, and forest tax management, and can access archived Woodland Notes articles, a database of consulting foresters, links to relevant websites, and a variety of other useful information on the UI Extension Forestry Web site, maintained by Extension forestry staff on the UI Moscow campus.

UI Extension collaborated with most Idaho forest products companies that participate in the "Sustainable Forestry Initiative" (SFI), a national effort of the American Forest and Paper Association. Partially stimulated by SFI, a statewide logger education committee recently developed the Idaho "Pro-Logger" program, administered through the Associated Logging Contractors of Idaho (ALC). Among other standards, the Pro-Logger credential requires participation in LEAP and 16 credits of continuing education annually. With the increased emphasis on providing educational opportunities for loggers, Extension has worked to integrate logger education needs into other education programs as well.

The Forest Management Team delivered a variety of programs that are not unique to any particular audience. These included a variety of workshops and presentations about invasive species, using GPS, and fire prevention and recovery.

2. Brief description of the target audience

The primary audiences for this topic team are family forest owners, loggers and natural resource professionals. Expansion of audiences for 2013 will include outreach to fire and emergency professionals, landscape architects, Master Gardeners, teachers, and youth.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	4904	153926	1110	2300

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	2	6	8

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of workshops, field days, etc.

Year	Actual
2013	36

Output #2

Output Measure

- Number of participants in workshops, field days, etc.

Year	Actual
2013	1043

Output #3

Output Measure

- Number of articles in popular and trade press.

Year	Actual
2013	14

Output #4

Output Measure

- Number of web site "hits".

Year	Actual
2013	14784

Output #5

Output Measure

- Continuing Education hours for foresters, loggers, & other natural resource Professionals.

Year	Actual
2013	2203

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.
2	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.
3	Outcome (fire): Forest owners, managers, green industry professionals, and fire and emergency services personnel will be knowledgeable about and adopt best management practices that increase the health and safety of their forests and decrease catastrophic risk from wildfire in wildland and urban/interface areas. Indicator: Numbers of stakeholders indicating they will adopt recommended practices
4	Outcome (biomass): Sustainable, economically viable ecosystems that are compatible with current environmental and social issues will benefit Idaho landowners and small business entrepreneurs by the increased utilization of forest biomass. Indicator: Numbers of stakeholders indicating they will adopt recommended practices that increase biomass utilization leading to increased value of biomass harvested.
5	Outcome (forest health): Knowledge about insect and disease outbreaks and awareness of the effects of climate change on forest ecosystems increases use of recommended best management practices that benefit Idaho forests by increasing the quality and/or quantity of timber, wildlife habitat, and air and water and air quality. Indicator: Numbers of participants that have indicated they will adopt recommended practices
6	Foresters and other natural resource professionals have knowledge consistent with current scientific understanding and emerging technologies.; Number of natural resource professionals demonstrating increase in knowledge related to specific forest science and technology topics.
7	Loggers operate using recommended forest management practices (e.g., monitor for insect, disease, or animal damage).; Numbers of LEAP Update participants indicating they will adopt specific improved forest management practices.
8	Loggers possess credentials required by forest industry to conduct business.; Number of loggers who complete continuing education requirements.

Outcome #1

1. Outcome Measures

O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
A changing set of factors is influencing Idaho?s forests at a scale that some argue is unprecedented in the modern era. Much of the Western United States has experienced drought for the past 10 years. Changing climate has increased mean summer and winter temperatures above those in recorded history. Invasive exotic species have altered the species composition of landscapes. These are just a few of the factors altering forest susceptibility to insects and pathogens. For example, insects and pathogens alter fire regimes, and with increased temperature and drought, they facilitate an increase in the number, size and severity of forest fires.

What has been done
Characterization of the role of biotic and abiotic factors in predisposing trees to bark beetle attack and subsequent mortality have been examined. In Idaho, we are continuing to examine tree community regeneration following mountain pine beetle and white pine blister rust infestations/infections in higher elevation whitebark pine stands. Forest managers who are interested in maintaining whitebark pine are being kept apprised of regeneration of this pine species along with potential changes in forest composition through a combination of tree mortality and up-slope range expansion by other tree species present on the sites (primarily lodgepole pine, spruce, subalpine fir and Douglas-fir).

Results
We completed analysis on examining the use of systemic insecticides to manage ponderosa pine cone beetle (and other insect pests) in conifer seed orchards. Spring and fall bole injections of two systemic insecticides are providing effective as a management tool against not only the ponderosa pine cone beetle, but also fir coneworm. The results of the injection project resulted in two refereed publications.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land

Outcome #2

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Bur chervil has been found in every plant community that comprises the Palouse Prairie suggesting a serious threat to one of the most threatened systems in North America. The purpose of this project is to gain insight into the biology and management of bur chervil.

What has been done
Several studies were completed including a demography study of bur chervil conducted across several plant community types within canyon grassland systems in Northern Idaho.

Results
The demography of bur chervil has been incorporated into learning objectives for an undergraduate and graduate course on Invasive Plant Biology. Plant demography is an important concept to communicate to students and our work on bur chervil provides a local sophisticated example for the use of plant demography to address management goals. John Wallace complete his Ph.D. on plant demography of bur chervil and the modeling of source and sink dynamics.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

211	Insects, Mites, and Other Arthropods Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants

Outcome #3

1. Outcome Measures

Outcome (fire): Forest owners, managers, green industry professionals, and fire and emergency services personnel will be knowledgeable about and adopt best management practices that increase the health and safety of their forests and decrease catastrophic risk from wildfire in wildland and urban/interface areas. Indicator: Numbers of stakeholders indicating they will adopt recommended practices

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Outcome (biomass): Sustainable, economically viable ecosystems that are compatible with current environmental and social issues will benefit Idaho landowners and small business entrepreneurs by the increased utilization of forest biomass. Indicator: Numbers of stakeholders indicating they will adopt recommended practices that increase biomass utilization leading to increased value of biomass harvested.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Outcome (forest health): Knowledge about insect and disease outbreaks and awareness of the effects of climate change on forest ecosystems increases use of recommended best management practices that benefit Idaho forests by increasing the quality and/or quantity of timber, wildlife habitat, and air and water and air quality. Indicator: Numbers of participants that have indicated they will adopt recommended practices

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual

2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Forty-four percent of the Idaho Panhandle forests are held and managed by 46,993 family forest owners. Since 1987, the average annual timber harvest from these forests was valued at over $100 million milled. With a better working knowledge of forest ecology, silviculture, and related forest management techniques, family forest owners can sustainably produce more wood and biomass and simultaneously improve forest health, water quality, wildlife habitat, and other forest values.

What has been done

As part of the Idaho Forest Stewardship program, UI Extension provides an annual series of workshops, field days and other educational activities designed to strengthen forest owners' ability to implement practices that improve forest health and growth (titled Strengthening Forest Stewardship Skills). We also train and manage 'Idaho Master Forest Stewards' - volunteers who get 70 hours of training to provide a variety of outreach efforts and undertake leadership activities.

Results

In 2013, 532 owners of over 103,000 family forest acres attended UI Extension workshops and other educational activities in the Idaho panhandle. Based on evaluation results: 207 will monitor for insect, disease, or animal damage; 163 will favor tree species that resist insects & disease; 153 will reduce unwanted vegetation; 118 will monitor/manage weedy non-native species; 84 will thin forest trees; 49 will plant forest tree seedlings 39 will put together a team of professional advisors for a family forest succession plan 38 will prepare a family forest succession plan 36 will complete a forest management plan; and 36 will apply pesticides more safely. The improved management practices family forest owners implement as a result of knowledge and skills gained in UI Extension programs will ultimately increase wood and biomass to fuel Idaho's economy, maintain water quality, reduce catastrophic fire risk, improve forest growth and health, and enhance biological diversity.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
122	Management and Control of Forest and Range Fires
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land
132	Weather and Climate
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #6

1. Outcome Measures

Foresters and other natural resource professionals have knowledge consistent with current scientific understanding and emerging technologies.; Number of natural resource professionals demonstrating increase in knowledge related to specific forest science and technology topics.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	189

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Foresters and other natural resource professionals must continually stay current with emerging scientific and technological developments to practice sustainable forestry. UI Extension is uniquely situated to provide local continuing education opportunities for field foresters. K-12 teachers must also stay updated and are continually looking for local opportunities to hone their skills. They also value research-based sources of forestry education to integrate into their classrooms.

What has been done
University of Idaho Extension and Washington State University Extension cooperate to hold an annual forum for consulting foresters, state-employed service foresters, and other natural resource professionals working with family forest owners. Other efforts involve adjusting programs developed for forest owners or other groups to simultaneously meet foresters' or teachers' needs as well (e.g. offering UI credit for the Forestry Short course).

Results
One hundred sixteen foresters and other natural resource professionals attended UI Extension forestry programs in the Idaho Panhandle in 2012-2013, for 764 contact hours. Participants in the 2013 Family Forester's Workshop, indicated percentage knowledge increases ranging from 12-67% on: using biomass to create jet fuel, forest carbon management/monitoring, planted tree seedling survival, soils and timber harvesting, forestry apps for smartphones, tablets; bull trout and cutthroat trout habitat, and family forest economics/policy. Three panhandle teachers took the Forestry Short course for credit in 2012-2013. Some teachers have used the short course to develop innovative high school forestry classes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems

Outcome #7

1. Outcome Measures

Loggers operate using recommended forest management practices (e.g., monitor for insect, disease, or animal damage).; Numbers of LEAP Update participants indicating they will adopt specific improved forest management practices.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	211

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Loggers are a critical link in forest management. Unfortunately, if communication between landowners, loggers, or foresters is inadequate, the resulting timber or biomass harvests may not meet expectations. To the extent forest certification programs require trained loggers, UI Extension logger training efforts are vital to helping Idaho forest product companies maintain or increase Idaho's share of global markets for certified wood products.

What has been done
Logger Education to Advance Professionalism ('LEAP') features over 20 hours of training designed to increase loggers' understanding and skills related to forest ecology, silviculture, and water quality. LEAP Update is an annual 2-day program where loggers learn about current forestry issues and meet Idaho Pro-Logger program annual credit requirements. Through these and other programs, UI Extension provided 1,436 continuing education hours for Panhandle loggers in 2012-2013.

Results
Nearly 1,000 loggers have attended the 42 Idaho Panhandle LEAP sessions offered since 1994. As a result of the three Idaho Panhandle LEAP Update sessions held in 2013: 145 loggers will recognize potential issues with bark beetles and tussock moth, 145 will recognize and respond to

stem decay issues, 118 will reduce transport of problem insects in firewood, 129 will apply silvicultural practices to lodgepole pine, 146 will protect forest soils during harvest operations, 133 will prepare for forest certification audits, 151 will protect water quality during harvest operations. As of 2013, 618 loggers are enrolled and 388 loggers are accredited in the Idaho Pro-Logger program. Through communication from these loggers, this knowledge will also reach landowners, who will ultimately increase wood and biomass to support Idaho's economy, while maintaining water quality, improving forest health, and enhancing biological diversity.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #8

1. Outcome Measures

Loggers possess credentials required by forest industry to conduct business.; Number of loggers who complete continuing education requirements.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	448

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Loggers are a critical link in forest management. Partially stimulated by SFI, the Idaho logger education committee developed the Idaho Pro-Logger program, administered through the Associated Logging Contractors of Idaho (ALC). The Idaho Pro-Logger credential requires LEAP and 12 credits of continuing education annually.

What has been done
Logger Education to Advance Professionalism ("LEAP") features over 20 hours of training designed to increase loggers' understanding and skills related to forest ecology, silviculture, and water quality. LEAP Update is an annual 2-day program where loggers learn about current forestry issues and meet Idaho Pro-Logger program annual credit requirements. Through these and other programs, UI Extension provided 1,436 continuing education hours for Panhandle

loggers in 2012-2013.

Results
As of 2013, 618 loggers are enrolled and 388 loggers are accredited in the Idaho Pro-Logger program. These loggers are qualified to conduct business and to sell forest products to mills in the State of Idaho.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
123	Management and Sustainability of Forest Resources
211	Insects, Mites, and Other Arthropods Affecting Plants

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

One hundred sixteen foresters and other natural resource professionals attended UI Extension forestry programs in the Idaho Panhandle in 2013, for 764 contact hours. Participants in the 2013 Family Forester's Workshop indicated percentage knowledge increases ranging from 12-67% on: using biomass to create jet fuel, forest carbon management/monitoring, planted tree seedling survival, soils and timber harvesting, forestry apps for smartphones, tablets; bull trout and cutthroat trout habitat, and family forest economics/policy. Three panhandle teachers took the Forestry Shortcourse for credit in 2012-2013. Some teachers have used the shortcourse to develop innovative high school forestry classes.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Global Food Security and Hunger: Health & Human Nutrition

☑ 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
311	Animal Diseases	0%		5%	
701	Nutrient Composition of Food	10%		0%	
703	Nutrition Education and Behavior	30%		35%	
704	Nutrition and Hunger in the Population	20%		0%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		10%	
723	Hazards to Human Health and Safety	10%		10%	
724	Healthy Lifestyle	30%		10%	
802	Human Development and Family Well-Being	0%		10%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	0%		10%	
903	Communication, Education, and Information Delivery	0%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	7.2	0.0	7.0	0.0
Actual Paid Professional	8.3	0.0	2.0	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**
160370	0	25393	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
160370	0	25393	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
256344	0	763476	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Health and Nutrition logged more than 1,200 individual teaching events and engagement activities in 2012. In total, these efforts reached more than 90,000 Idaho contacts. Activities of this team are grouped into several projects described below.

Faculty working on the Healthy Lifestyles/physical activity project presented in 79 individual fitness events reaching more than 9,000 contacts. Fitness events included Kick Your Bootcamp classes and pedometer fitness challenges. Additionally, 609 sessions of Strong Women were delivered for more than 4,200 contacts. Two hundred fifty classes and workshops about nutrition (exclusive of the SNAP-Ed and EFNEP projects) reached nearly 12,000 contacts with subjects including cooking whole wheat breads, fats and oils, selecting and preparing fruits and vegetables, and hunger and fullness. More than 50 of these events were general lessons about Choose My Plate. Numerous nutrition faculty have invested heavily in partnerships with local food system interests, community gardens, and farm-to school projects.

The Low-Income and Underserved Audience projects (EFNEP and SNAP-Ed) included approximately 900 educational events (classes and one-on-one teaching) reaching nearly 45,000 contacts in 35 counties. Approximately 28,000 of these learners were youth contacts made through partnerships with local parks and recreation programs and with schools, both in class and through summer and afterschool programs. More than 22% were Latino, double the percentage that Latinos are represented in the general population in Idaho.

2. Brief description of the target audience

The target audience varies by program. For the program targeting low-income and underserved audience, the UI Extension reaches these individuals in 37 counties through three programs - the Expanded Food and Nutrition Education Program (EFNEP), the Supplemental Nutrition Assistance Program Education (SNAP Ed), and the Senior Extension Nutrition Program (SENP). EFNEP and SNAP Ed, funded through USDA, target mainly adults and youth while the SENP, funded through the Area Agency on Aging (AAA), targets seniors at high-nutritional risk and most of them are low-income or vulnerable. The target audience for the Nutrition and Chronic Disease program includes those interested in learning how to manage or prevent type 2 diabetes and osteoporosis. The target audience for the diabetes classes includes adults with type 2 diabetes, pre-diabetes, or caregivers. The target audience for the osteoporosis classes includes adults with osteoporosis, osteopenia, or those who have a history of these diseases in their family and youth whose bones are still growing and developing. The target audience for

the Healthy Lifestyles program includes adult and youth who have poor nutritional habits, are inactive, overweight or obese., and adults that are role models who would influence youth and others to follow a healthy lifestyle.

Idaho reaches the underserved population in 37 counties through three programs - the Expanded Food and Nutrition Education Program (EFNEP), the Supplemental Nutrition Assistance Program Education (SNAP Ed) and the Senior Extension Nutrition Program (SENP). EFNEP and ENP, funded through USDA, target mainly adults and youth while the SENP, funded through the Area Agency on Aging (AAA), targets seniors at high-nutritional risk and most of them are low-income or vulnerable. The individuals who benefit directly from these programs are low-income adults, youth, and elderly. Adults in the EFNEP, SNAP Ed and SENP learn how to eat healthy, plan menus and stretch their food dollars. Youth in the EFNEP and SNAP Ed learn healthy eating principles and physical activity, which are promoted as methods to target childhood obesity. Adults, elderly, and youth who participate in these programs will improve their eating habits, their nutritional status, food safety behaviors and decrease their level of food hunger and food insecurity.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	38377	156945	55839	36194

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	1	9	10

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Develop Extension publications that can be used in either the low-income underseved population project, the nutrition anc chronic disease project, or the healthy lifestyles project

Year	Actual
2013	6

Output #2

Output Measure

- Submit a journal article based on research conducted in either the low-income, underserved population project, healthy lifestyles project or the nutrition and chronic disease project

Year	Actual
2013	9

Output #3

Output Measure

- The number of adults who will attend Nutrition and Chronic Disease classes

Year	Actual
2013	863

Output #4

Output Measure

- The number of adults who will attend healthy lifestyle classes

Year	Actual
2013	25744

Output #5

Output Measure

- The number of youth who will attend healthy lifestyle classes

Year	Actual
2013	34894

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Improved physical condition of individuals enrolled in a physical activity program. I: Number of individuals who felt physically stronger from the Strong Women classes, Fit and Fall Proof classes, Strength & Balance and Kick Your Boot Camp classes.
2	O: Adult ENP participants will change a dietary or activity behavior after completing a nutrition or physical activity class.I: Number of adult ENP participants who indicate their intention to improve their diet or physical activity.
3	O: Adult EFNEP participants will improve their diets after completing 6 core lessons.I: Number of adults that improve their diets by at least one food group (determined through pre/post 24 hour recalls).
4	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

Outcome #1

1. Outcome Measures

O: Improved physical condition of individuals enrolled in a physical activity program. I: Number of individuals who felt physically stronger from the Strong Women classes, Fit and Fall Proof classes, Strength & Balance and Kick Your Boot Camp classes.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1072

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Adults and youths in the United Sates are more inactive than ever, resulting in a continual rise in overweight/obesity levels. Inactivity and poor nutritional choices are leading to a higher rate of chronic disease. As we age there is loss of muscle tone and balance which can lead to falling and breaking bones. Physical exercise helps reduce falls and improves balance. Strength training exercises have been shown to reduce the risk for numerous chronic diseases including diabetes, heart disease, osteoporosis and arthritis. On top of that, strength training has been shown to have many positive effects on psychological health such as reduced depression, improved sleep and greater sense of well-being.

What has been done
More than 700 educational events were delivered during 2013, including a variety of Strong Women classes, Fit and Fall proof classes, Biggest Looser and Kick Your Bootcamp. Together, these programs reached Idahoans through more than 5,400 contacts.

Results
A team of Extension and research faculty have been to gather data on both changes in eating and strength gained from participants in the Strong Women Stay Young? program. Some initial findings indicate that participants gained arm and leg strength and that they also increased their physical activity habits. There was a 33% to 215% increase in participants' physical activity habits from the first to the final class. There was a 78%-140% increase in arm and leg strength. .

4. Associated Knowledge Areas

KA Code	Knowledge Area

703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #2

1. Outcome Measures

O: Adult ENP participants will change a dietary or activity behavior after completing a nutrition or physical activity class.I: Number of adult ENP participants who indicate their intention to improve their diet or physical activity.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	2593

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The number of Idahoans living below poverty increased 40% over the past five years, and nutrition education is especially critical for this audience. Over 16% of Idahoans were living below the federal poverty line in 2011. There is evidence that consumption of certain food types can delay or prevent diet related conditions.

What has been done
Eat Smart Idaho provides nutrition education for low-income Idahoans. Classes are taught at emergency food sites, food stamp offices, adult rehabilitation centers, public housing sites, and schools with high numbers of free and reduced lunch participants. Participants learn the basics of nutrition, smart shopping, food safety, preparing quick meals, and managing limited grocery dollars. UI faculty gathered data from participants using a food behavior checklist to understand if Eat Smart Idaho participants would improve food security and reduce risks for diet-related diseases.

Results
Food Behavior Checklist Results: 50% increased fruit consumption 50% increased vegetable consumption 49% increased low-fat dairy 54% increased whole grains 47% increased physical activity Additionally, research shows that adults who complete a series of four basic ESI classes (our graduates) measurably improve their eating and physical activity behaviors. A 2012 study of Eat Smart Idaho graduates concluded that Idaho will save $14.55 in future health care costs for every $1 invested in healthy living education through Eat Smart Idaho. In 2012, approximately 2,800 adults completed the series of four basic classes. The net savings in health care costs attributable to those graduates over the next five years is projected to be nearly $1.7 million.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #3

1. Outcome Measures

O: Adult EFNEP participants will improve their diets after completing 6 core lessons.I: Number of adults that improve their diets by at least one food group (determined through pre/post 24 hour recalls).

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	246

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Poor diets lead to obesity and chronic disease. These lead to increased medical expenses.

What has been done
Eat Smart Idaho instructors presented nutrition education to more than 20,000 residents in 2013. EFNEP participants were surveyed using pre- and post-learning 24-hour food recall methods.

Results
All EFNEP learners who completed the series of classes and the food recall surveys showed an improvement in at least one of the areas of nutritional intake.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food

703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
There were 12 advanced degrees granted by the University of Idaho to M.S. and Ph.D. candidates relevant to this topic team.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
723	Hazards to Human Health and Safety
724	Healthy Lifestyle
802	Human Development and Family Well-Being
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
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Before and after program - Metabolism & Me Survey - participants were given a survey at the end of the program inquiring on their knowledge and planned behavior changes surrounding health and nutrition and the metabolic system prior to and after the presentation. Results were: 71% had an increased understanding of the metabolic system as it relates to nutrition and exercise as a result of the program; 96% planned to eat smaller portions, more frequently throughout the day; and 94% planned on following the USDA myPlate guidelines in meal preparation.

Retrospective - Beyond Surviving to Thriving (You Are What You Eat: Healthy Meal Planning & Food Budgeting) - participants were given a survey to complete at the end of the program inquiring about knowledge gained and planned behavior changes. Results were: 98.5% agreed they have a better understanding of how to choose healthy foods; and 80% planned on creating a food budget and healthy meal plans.

Time Series - Kick Your Bootcamp Fitness Assessments - fitness assessments are conducted for new and on-going participants every three months. On-going results from the past five years show: 58.5% of participants have lost weight; 71.5% show a decrease in recovery heart rate; 71% show a decrease in body circumference; 76% show a decrease in body fat percentage; 75% show an increase in muscular strength; 84.5% show an increase in muscular endurance; and 68% show an increase in vertical jump measurements.

Key Items of Evaluation

One of our best impact stories is about a woman, age 67, who has attanded the Kick Your Bootcamp class. She started the class five years ago, overweight, high blood pressure, very little upper and lower body strength, and high cholesterol levels. When asked to complete some of the exercises five years ago, she often had to do a modified version (i.e. jump with two feet versus one-at-a-time), or had to completely avoid the exercise. During the past three years, she has lowered her blood pressure and cholesterol levels, lowered her body fat % and body weight significantly, and feels twenty years younger! She is not only able to complete all of the exercises, she performs them like a veteran! She is the perfect example that you're never too old to get serious about your health!

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Climate Change: Soil, Water, Waste and Air Management.

☑ 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
101	Appraisal of Soil Resources	10%		10%	
102	Soil, Plant, Water, Nutrient Relationships	10%		15%	
111	Conservation and Efficient Use of Water	10%		15%	
132	Weather and Climate	10%		10%	
133	Pollution Prevention and Mitigation	10%		10%	
205	Plant Management Systems	10%		15%	
307	Animal Management Systems	10%		5%	
312	External Parasites and Pests of Animals	0%		5%	
403	Waste Disposal, Recycling, and Reuse	10%		5%	
405	Drainage and Irrigation Systems and Facilities	10%		10%	
601	Economics of Agricultural Production and Farm Management	10%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	6.5	0.0
Actual Paid Professional	4.8	0.0	7.7	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**
112828	0	396280	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
112828	0	396280	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
96171	0	3583451	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Soil, Water, Waste and Air Management team is highly integrated, participating in active projects to discover new knowledge, demonstrate and transfer new technologies, and work to understand local variants that impact resource-based enterprises and the environment. Research activities include irrigation efficiency, water use efficiency, cover crop and green manure, nitrogen release and mineralization rates, compost use and manure application studies. A wide variety of best practices are demonstrated on cooperator fields and are used for field days and tours. Field and greenhouse experiments help to understand the effects of various compounds in dairy waste water on soils and crops, plant responses to organic nutrients, and composting of farm waste. This work has led to the development of new anaerobic digestion systems and biofilters that are the focus for other field days and tours and have been communicated through professional journals.

Much of our educational effort relies on field demonstrations to help growers and other stakeholders understand local conditions related to nitrogen uptake and fertilizer efficiency, use of cover crops and green manures, water quality monitoring, on-farm composting, manure application, and recycling. In addition, workshops, meetings, and classes provide education to youth and adult stakeholders on industry-critical topics as well as those topics that are relevant to communities and to individual stakeholders. Decision making tools such as fertilizer guides and calculators were created or revised during 2013.

The relatively new IDAH$_2$O program was delivered through a 10 workshops reaching about 80 stakeholders and resulted in a new cohort of IDAH$_2$O volunteers who are working with watershed-scale research and monitoring programs. Faculty participated in a range of multistate activities including the animal production climate change working group, and several efforts associated with the American Society of Agricultural and Biological Engineers. Extension hosted the Idaho Nutrient Management Conference for the fifth consecutive year.

2. Brief description of the target audience

- Producers, processors and professional consultants provide input and feedback about programs, cooperate on demonstration trials and research, and participate in educational programs.

• The public affected by water and waste management issues provide input and feedback about programs and participate in educational programs.
• Local and/or state officials who either develop or implement rules and regulations related to environmental quality.
• Homeowners
• Small landowners (including but not limited to: recreational properties, small tracts of forest land, seasonal lake homes, etc.)
• Natural Resource Professionals

•

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	10483	16490	1982	866

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	10	6	16

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

● Educational workshops, seminars and presentations to producer groups: number of events.

Year	Actual
2013	45

Output #2

Output Measure

- Applied and basic laboratory and field research experiments, number of projects

Year	Actual
2013	24

Output #3

Output Measure

- Newsletters distributed (number of issues) and number of articles submitted for other newsletters

Year	Actual
2013	35

Output #4

Output Measure

- Tours and Field Days

Year	Actual
2013	8

Output #5

Output Measure

- Professional development credits awarded for participation in courses

Year	Actual
2013	20

Output #6

Output Measure

- Professional presentations; number of invited and volunteer papers presented.

Year	Actual
2013	35

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Participants use best practices for water, pesticide, nutrient, or waste management. I: Number of program participants indicating adoption of recommended practices (follow-up survey data) or indicating intention to adopt recommended practices (post-program questionnaire)
2	Producers are aware of issues and knowledgeable of practices that affect the environmental and economic sustainability of crop production. I: Number of participants reporting that their knowledge had been increased because of their participation in program.
3	Producers are better able to manage pests, nutrients, waste, irrigation systems while protecting water, air, and-or soil resources. I: Number of pest management, nutrient management, waste management, irrigation management plans written with producers.
4	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

Outcome #1

1. Outcome Measures

Participants use best practices for water, pesticide, nutrient, or waste management. I: Number of program participants indicating adoption of recommended practices (follow-up survey data) or indicating intention to adopt recommended practices (post-program questionnaire)

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	67

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Due to more public pressure regarding pesticide use and water quality and endangered species impacts, producers want to learn what best management practices they can use, in their own situation, to reduce potential environmental impacts.

What has been done
One faculty member developed and presented a lesson at pesticide re-certification meetings that taught water quality BMPs for pesticide applicators. Elsewhere, Irrigation workshops were held teaching irrigation management & water relations. Knowledge gained and anticipated behavioral changes were measured in post-program questionnaires.

Results
An average of 50% of respondents indicated they would use at least one of the BMPs presented to protect water quality in their farming operation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
132	Weather and Climate
133	Pollution Prevention and Mitigation
205	Plant Management Systems

307	Animal Management Systems
403	Waste Disposal, Recycling, and Reuse
405	Drainage and Irrigation Systems and Facilities
601	Economics of Agricultural Production and Farm Management

Outcome #2

1. Outcome Measures

Producers are aware of issues and knowledgeable of practices that affect the environmental and economic sustainability of crop production. I: Number of participants reporting that their knowledge had been increased because of their participation in program.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	98

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Pesticide applicators are required to attend 6-15 hours of continuing education to retain their certification and license. A variety of topics are presented at pesticide re-certification classes to ensure the best and useful information is brought forward to current applicators. Topics such as understanding pesticide labels, environmental protection, personal safety, and best methods for pest control are presented.

What has been done
Since applicators are required to attend these pesticide recertification classes, we utilize the opportunity to teach sustainable pesticide application practices, to protect the environment and human health. Post class evaluations were conducted at three classes.

Results
90 percent of attendees indicated in a post class evaluation, using turning point technology, that they learned a new idea to incorporate into their farming operation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources

102	Soil, Plant, Water, Nutrient Relationships
133	Pollution Prevention and Mitigation
205	Plant Management Systems
403	Waste Disposal, Recycling, and Reuse

Outcome #3

1. Outcome Measures

Producers are better able to manage pests, nutrients, waste, irrigation systems while protecting water, air, and-or soil resources. I: Number of pest management, nutrient management, waste management, irrigation management plans written with producers.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	104

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Soil fumigant management plans are now required by EPA regulations. The plans will help to protect the environment and bystanders from the effects of soil fumigant off-gasing and leaching.

What has been done
We collaborated with the State Department of Agriculture to develop and incorporate a soil fumigant management planner function into The OnePlan pesticide applicator record keeping program.

Results
Use of the fumigant module allows for electronic plans to be completed that fulfill the federal pesticide laws and regulations. It is assumed that an accurate and complete plan will help protect the environment and human health.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
133	Pollution Prevention and Mitigation

205	Plant Management Systems
403	Waste Disposal, Recycling, and Reuse

Outcome #4

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
132	Weather and Climate
133	Pollution Prevention and Mitigation
205	Plant Management Systems
307	Animal Management Systems
312	External Parasites and Pests of Animals
403	Waste Disposal, Recycling, and Reuse
405	Drainage and Irrigation Systems and Facilities

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

Conducted a feed demonstration trial that evaluated alternative protein ingredients for trout diets. The plant-based and animal protein feed without fish meal supported survival, growth rates, and feed conversion ratios equivalent to the commercial control feed. This study demonstrated that fish meal protein is not necessary in trout feed, that fish meal levels in trout feeds can be reduced without impacting performance when suitable alternative protein ingredients are used, and that total protein can be reduced in trout feeds. A preliminary economic analysis suggests the experimental feeds are competitive compared to the commercial control feed. With the rapid rise in feed ingredient costs likely to continue for the foreseeable future and the finite source of fish meal, alternative ingredients have been identified as necessary to minimize feed cost.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Global Food Security and Hunger: Potatoes

☑ 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	10%		10%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		10%	
202	Plant Genetic Resources	10%		10%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	10%		10%	
205	Plant Management Systems	20%		10%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	10%		10%	
503	Quality Maintenance in Storing and Marketing Food Products	15%		10%	
603	Market Economics	5%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	4.9	0.0	10.0	0.0
Actual Paid Professional	4.9	0.0	11.0	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**
179241	0	426712	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
179241	0	426712	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
72365	0	5274171	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Potato Team is highly integrated, participating in active projects to discover new knowledge, demonstrate and transfer new technologies, and work to understand local variants that impact potato production and storage. Members of the Team meet regularly and otherwise collaborate with industry associations and the Idaho Potato Commission to understand needs of stakeholders.

Zebra Chip was an important topic for stakeholders and was included in the portfolio of research and Extension activities targeting diseases and pests. Work continued on Potato Viruses X and Y, wireworm, Late Blight, and Early Blight, including field and greenhouse experiments to understand the ecology and treatment options for serious potato pests in the field and in storage, nutrient management questions, and the value of various soil amendments. Field demonstrations help growers and other stakeholders understand the impact of various planting and pest management practices and irrigation needs and strategies. These applied activities have been shared through the Idaho Potato Conference as well as a host of workshops and classes and numerous field days and tours. Spanish language workshops were delivered for the fourteenth consecutive year at the potato conference; attendance in the Spanish workshops has grown from fewer than 40 to nearly 120 in 2013.

Dozens of workshops and articles in trade publications, presented or written by UI faculty, brought information to the industry about potato bruising and storage, costs of production, taxes, pathogens and disease control, best- irrigation, fertilization and fumigation practices, and many more. Faculty also produced an array of refereed and Extension. Much of the Extension faculty's work is made possible through collaborations and participation on various citizen and professional alliances concerned with environmental quality and agricultural sustainability.

2. Brief description of the target audience

Target audiences are potato producers, field agronomists, consultants, and industry representatives..

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	9466	85884	156	105

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

Patent Applications Submitted

Year:	2013
Actual:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	12	24	36

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Seminars, workshops, field day presentations.

Year	Actual
2013	83

Output #2

Output Measure

- Trade Journal Articles.

Year	Actual
2013	17

Output #3

Output Measure

- Field Days.

Year	Actual
2013	12

Output #4

Output Measure

- Individual Consultations.

Year	Actual
2013	291

Output #5

Output Measure

- Graduate Students.

Year	Actual
2013	3

Output #6

Output Measure

- Workshops conducted.

Year	Actual
2013	16

Output #7

Output Measure

- Email Information Dissemination.

Year	Actual
2013	623

Output #8

Output Measure

- Potato costs and return estimates

Year	Actual
2013	10

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Growers apply best potato management practices. I: Number of growers adopting recommended practices
2	O: Growers are aware of pest incidence. I: Number of Subscribers to pest alert website
3	O: Growers are knowledgeable about best potato management practices. I: Number of growers gaining knowledge about practices who have attended workshops or seminars.
4	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

Outcome #1

1. Outcome Measures

O: Growers apply best potato management practices. I: Number of growers adopting recommended practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	161

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Potato growers in Idaho and nationwide rely upon storage to maintain quality for year-round supply. Growers battle multiple potential causes of quality degradation in storage especially due to disease decay. Novel research developed disease management programs utilizing a post-harvest spray application of phosphorous acid. Phosphorous acid applied in this manner is highly effective at reducing the potential for storage rot, spread and breakdown from diseases such as pink rot and late blight.

What has been done
Our research results show a consistent 90 to 100% reduction in disease development with post-harvest phosphorous acid applications compared to 0 to 10% disease reduction with other products. Information on efficacy, use and application was extended to the potato industry via workshops, presentations, newsletters, articles, field days and other extension materials. It has now been extended to be beneficial against silver scurf.

Results
Stakeholders in the potato industry have indicated the use of phosphorous acid has significantly reduced their risk of quality and economic losses due to these storage diseases. This post-harvest product is now fully integrated into storage management programs in the state of Idaho and nationwide as a tool for disease management. For example, one large potato grower in Idaho was applying it to all his potatoes going into storage for the 2013 season.

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

O: Growers are aware of pest incidence. I: Number of Subscribers to pest alert website

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	980

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In the spring of 2013 there were disease issues related to cold wet weather during planting. During the summer there were issues with occurrence of psyllids. In August and September there were several outbreaks of late blight and issues with bacterial ring rot and pythium leak in grower fields.

What has been done
Pest alerts were published on the potato pathology twitter account @potatodiseases with links to information on how to manage disease problems. Twitter was also used to alert growers to the discovery of psyllids in Idaho and whether or not they were positive for the zebra chip bacteria.

Results
Rapid publication of information on disease outbreaks allowed growers to take management decisions to help control the problem, such as application of additional protective sprays. In some cases information was used to delay application of pesticides. One grower reported that he was able to save $100,000 by having to apply fewer protective pesticide sprays due to information published by UI Extension.

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

Outcome #3

1. Outcome Measures

O: Growers are knowledgeable about best potato management practices. I: Number of growers gaining knowledge about practices who have attended workshops or seminars.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	509

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Disease and seed potato problems have the potential to negatively impact all segments of the Idaho industry. Seed and commercial growers as well as fresh and process potato buyers are concerned about product quality in both raw and finished product.

What has been done
3 workshops on disease and seed management attended by 225 people were presented at the University of Idaho Potato Conference.

Results
Growers and other industry personnel were presented the latest information on soil-borne and foliar disease management, potato storage, management practices, and disease prevention, as well as methods to get the best performance from seed potatoes. This new knowledge will be used by producers to improve productivity and efficiency of production.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants

216	Integrated Pest Management Systems
503	Quality Maintenance in Storing and Marketing Food Products
603	Market Economics

Outcome #4

1. **Outcome Measures**

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

The annual Idaho Potato Conference was successfully planned and implemented in January 2013. Over 1000 people attended the conference. Verbal feedback was very positive. Interactive devices were used during seminar presentations. Questions asked before and after the presentation indicated that knowledge had increased and growers will make changes in their farm management techniques based on information gained at the conference.

Key Items of Evaluation

In 2007, 60% of the seed lots in the Idaho Seed Potato system contained some level of PVY and 27% of the lots contained more than 2% PVY and could not be increased for any additional years (the industry term for this is "ineligible for recertification"). For the 2012 season, the percentage of seed lots with some PVY is down to 39% and the percentage of lots ineligible for recertification is down to only 14%. Because of our extension and research activities targeting the reduction of PVY, Idaho seed potatoes are now some of the highest quality seed available in North America.

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Global Food Security and Hunger: Small Acreages and Emerging Specialty Crops

☑ 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	15%		15%	
111	Conservation and Efficient Use of Water	10%		15%	
202	Plant Genetic Resources	5%		20%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		20%	
204	Plant Product Quality and Utility (Preharvest)	0%		15%	
205	Plant Management Systems	20%		15%	
212	Pathogens and Nematodes Affecting Plants	20%		0%	
602	Business Management, Finance, and Taxation	10%		0%	
604	Marketing and Distribution Practices	20%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	3.2	0.0	1.0	0.0
Actual Paid Professional	3.1	0.0	1.7	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**
66048	0	33310	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
66048	0	33310	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
89434	0	930242	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The Small Acreages and Emerging Specialty Crops team delivered intensive educational programs that focus on sustainable use of lands and natural resources, including the 8-week "Living on the Land" course (delivered in two counties) and a 6-week version adapted to meet stakeholder needs and delivered in the Magic Valley. Elements of the "Cultivating Success" course were incorporated into a variety of programs including programs about starting and planning your business, food safety regulations, and rapid market assessment aimed at farmers' market vendors and producers. Other educational events for small acreage farmers and ranchers were delivered through several conferences and as individual workshops covering topics such as sustainable animal and vegetable production workshops, permaculture, and producer-chef connections.

There is growing interface among our small farms, horticulture, and nutrition education teams to deliver programs that intersect local food systems, community vitality and nutrition and health. UI faculty members worked with three community advocates from three regions within the State (and including adjacent state partners) to evaluate food systems and investigate potentials for food hubs. Others worked with their communities to invest in local food systems as a way to help end hunger and food insecurity.

Efforts to deliver education about farm business planning continued through an online course: Planning for Profit II. Faculty organized a number of events which focused on Farmers Markets, direct marketing opportunities, opportunities for enterprise development, and agri-tourism. The team delivered educational messages through numerous media including websites (and an on-line course offering), Extension publications and a small farms newsletter.

2. Brief description of the target audience

Target Audiences

Established and prospective small-acreage, specialty crop producers, processors, and marketers. Small acreage landowners who desired to learn how to manage their land in a sustainable manner to protect natural resources.

Underserved Audiences

Provide resources for people with small acreages who wish to start, continue, or expand specialty horticultural enterprises. Women farmers and limited resource farmers are often in this group. There is also the potential to reach Hispanic and Asian farming audiences.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	5398	77513	383	231

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

Patent Applications Submitted

Year: 2013
Actual: 1

Patents listed
201300085 "Durola" Rape, University of Idaho

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	3	7	10

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Small Farms / Marketing Conference

Year	Actual
2013	1

Output #2

Output Measure

- Small Acreage Farming Course.

Year	Actual
2013	0

Output #3

Output Measure

- Small Acreage Business Planning / Entrepreneurship Course.

Year	Actual
2013	0

Output #4

Output Measure

- Land Stewardship course.

Year	Actual
2013	2

Output #5

Output Measure

- Tours, Demonstrations and Field Days

Year	Actual
2013	7

Output #6

Output Measure

- Farmers Market workshop with ISDA

Year	Actual
2013	1

Output #7

Output Measure

- Workshops and Shortcourses

Year	Actual
2013	19

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: Producers and landowners increase their knowledge about natural resource management, sustainable farm production, marketing and/or business management principles and practices. I: Number of participants completing workshops, farm tours, short courses or in-depth courses such as Living on the Land, Stewardship of Small Acreages, Sustainable Small Acreage Farming or Agricultural Entrepreneurship.
2	O: Producers and landowners adopt recommended land management and production practices as a direct result of participating in University of Idaho Extension programming. I: Number of documented best management practices adopted by landowners and producers after participating in educational programming or receiving instructional resources.
3	O: Producers and Small Acreage Landowners who have participated in Extension programs serve as motivating community leaders and models for sustainable practices and small farm enterprise success. I: Number of past program participants who volunteer to teach classes or workshops, host tours of their properties, or act as formal and informal mentors to new program participants.
4	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.
5	More privately owned land in Idaho is being managed to reduce negative environmental impacts and conserve natural resources. Indicator: Number of acres managed by participants in Extension small acreage programming.
6	Small acreage producers start or maintain a sustainable business enterprises that contribute to local food systems as a result of participating in University of Idaho Extension programming. Indicator: Number of course graduates and program participants actively marketing their farm products at farmers markets, through CSAs or other direct or semi-direct marketing channels.

Outcome #1

1. Outcome Measures

O: Producers and landowners increase their knowledge about natural resource management, sustainable farm production, marketing and/or business management principles and practices. I: Number of participants completing workshops, farm tours, short courses or in-depth courses such as Living on the Land, Stewardship of Small Acreages, Sustainable Small Acreage Farming or Agricultural Entrepreneurship.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	612

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Small acreage producers who are trying to be more sustainable production and farm business strategies need accurate information and guidance on best management practices.

What has been done
Sixteen workshops, field days, and the Living on the Land course were delivered for small farm owners. Topics ranged from pruning tree fruit and vineyards to biocontrol of noxious weeds; some programs quite specialized while others focused on a holistic approach to sustainable management.

Results
Over 95% of participants at the Sustainable Livestock Production workshop reported an increase of knowledge about sustainability in practice, pasture management, sustainable animal husbandry, animal behavior and handling, livestock processing options and marketing. Over 97% of attendees surveyed at the Sustainable Vegetable Production workshop indicated their knowledge increased on the following topics: Appropriate cover crops for our area, sustainable pest manag3ment strategies and equipment/tools for small acreage farms. Over 86% reported increased knowledge on the importance of organic matter to soils and how to build quality soils.

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
212	Pathogens and Nematodes Affecting Plants
604	Marketing and Distribution Practices

Outcome #2

1. Outcome Measures

O: Producers and landowners adopt recommended land management and production practices as a direct result of participating in University of Idaho Extension programming. I: Number of documented best management practices adopted by landowners and producers after participating in educational programming or receiving instructional resources.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	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
202	Plant Genetic Resources
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants

Outcome #3

1. Outcome Measures

O: Producers and Small Acreage Landowners who have participated in Extension programs serve as motivating community leaders and models for sustainable practices and small farm enterprise success. I: Number of past program participants who volunteer to teach classes or workshops, host tours of their properties, or act as formal and informal mentors to new program participants.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Our classes focus on teaching people to protect their natural resources and run successful small farm businesses. Having students who implement those practices and are able to demonstrate/share what they learned to new/beginning farmers is one positive indicator of success.

What has been done
Past participants of Sustainable Small Acreage Farming and Ranching and Living on the Land programs have returned to teach classes or host workshops/tours explaining or demonstrating adoption of sustainable practices in their operations in Idaho in 2013.

Results
Class participants rated returning graduates presentations and tours as "valuable" to "very valuable" in helping them to achieve their goals. Newer graduates continue to have contact with some of the farmer mentors, which encourages peer-to-peer learning. The individuals who returned to teach and host have also reported increased traffic at their market booths/farm businesses as a result of their increased visibility through participation in our classes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources
205	Plant Management Systems

212 Pathogens and Nematodes Affecting Plants

Outcome #4

1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
For this planned program and reporting cycle, there were no advanced degrees completed.

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants

Outcome #5

1. Outcome Measures

More privately owned land in Idaho is being managed to reduce negative environmental impacts and conserve natural resources. Indicator: Number of acres managed by participants in Extension small acreage programming.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	16418

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Sustainable and productive land is necessary to increase profitability, food production and value.

What has been done
An 8 week LOTL course was delivered to 18 participants in Gem County who owned and operated a total of 75 acres of land. Topics pertaining to soil, water, waste management, weed control, animal health, garden marketing, and rodent pest control were taught.

Results
After completing the class, the educator conducted site visits at each alumni's home to determine best management practices. Since the 18 participants completed the class there had been a total of 89 Best Management practices adopted on their properties.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
202	Plant Genetic Resources
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants

Outcome #6

1. Outcome Measures

Small acreage producers start or maintain a sustainable business enterprises that contribute to local food systems as a result of participating in University of Idaho Extension programming. Indicator: Number of course graduates and program participants actively marketing their farm products at farmers markets, through CSAs or other direct or semi-direct marketing channels.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	17

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Empowering individuals and families to create sustainable farm-based enterprises is an important goal of all our programs. These businesses contribute to the local economy and to food security in our communities.

What has been done
Through conversations and follow up interviews with past program participants, visits to the local Farmers' Markets and farm stands, we are able to identify numerous graduates of our programs who start or sustain small acreage farm-based businesses.

Results
At least 17 recent graduates of our previous Living on the Land and Cultivating Success classes are actively marketing farm products through area Farmers' Markets, Community Supported Agriculture Programs or direct to restaurants, schools or other marketing channels.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

A retrospective evaluation was given to participants after completing the sustainable small farms class. The evaluation showed significant knowledge gained and improvements in knowledge, preparedness, understanding skills, and the ability to implement best management practices on their small acreage. Participants also gained knowledge in networking to gain additional resources and tips on working with agency partners. The site visits conducted after six months after class, indicated several best management practices being implemented as well as beginning a small business.

Key Items of Evaluation

Our small acreage and specialty crop programs have a proven track record for helping jump start new small farm enterprises in the Treasure Valley. At the Nampa Farmer's Market in 2013, at least three regular vendors are graduates of our programs. At least a dozen others are engaged in selling their farm products through Cooperatives, CSAs, Farm Markets, on farm stands and a number of other direct marketing strategies.

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Global Food Security and Hunger: Sugar Beets & Minor Crops

☑ 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	15%		5%	
111	Conservation and Efficient Use of Water	10%		5%	
201	Plant Genome, Genetics, and Genetic Mechanisms	5%		10%	
202	Plant Genetic Resources	10%		10%	
205	Plant Management Systems	15%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		10%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
213	Weeds Affecting Plants	10%		10%	
215	Biological Control of Pests Affecting Plants	5%		10%	
216	Integrated Pest Management Systems	10%		10%	
402	Engineering Systems and Equipment	0%		5%	
511	New and Improved Non-Food Products and Processes	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	4.2	0.0	6.0	0.0
Actual Paid Professional	4.1	0.0	9.3	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**
139577	0	550361	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
139577	0	550361	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
153335	0	4227753	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The sugar beet and minor crops team integrated field research, demonstration, and outreach education primarily related to numerous crop pests and diseases, and to irrigation systems and soil moisture relationships. Studies exploring relationships between irrigation, soil moisture, and soil-borne pathogens such as rhyzomania and rhyzoctonia are underway in multiple settings. Field studies and tours were conducted in collaboration with growers and in UI Agricultural Experiment Station fields to study onions, sugar beets, dry beans, and sweet corn. Pest diagnostic services and treatment recommendations are provided for growers. Economically important pests studied and reported include onion thrip, Rhizoctonia, Aphanomyces, leaf minor and curly top. Significant efforts were devoted to weed management, pesticide registration, development and extension of knowledge about IPM tools, and soil moisture/irrigation protocols influencing pests and diseases. A survey was conducted to learn about IPM practices currently used by sugar beet growers.

New and practical information was shared through a dozen regional conferences and commodity schools. PNW pest management handbooks were updated and IR-4. Faculty prepared a host of Extension publications and research publications explaining their findings to end users and to other scientists.

2. Brief description of the target audience

Growers of minor crops in Idaho and western U.S., EPA, USDA, ISDA and other western departments of agriculture, regional land grant institutions, public interest groups, crop advisers and farm workers throughout Idaho are a targeted audience of this program. Other targeted audiences include sugar beet growers, growers of minor crops, and those who advise growers (i.e. sugar company fieldmen and agronomists, chemical companies, seed companies and consultants).

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	4603	93377	2	25

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

Patent Applications Submitted

Year: 2013

Actual: 1

Patents listed

201300085 - Durola, University of Idaho, (RAPE)

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	5	16	21

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Presentations at grower conferences and other non-extension venues.

Year	Actual
2013	27

Output #2

Output Measure

- Extension workshops, schools and conferences.

Year	Actual
2013	13

Output #3

Output Measure

- Field tours and demonstration projects.

Year	Actual
2013	10

Output #4

Output Measure

- Applied and basic laboratory and field research experiments

Year	Actual
2013	37

Output #5

Output Measure

- Professional invited presentations.

Year	Actual
2013	2

Output #6

Output Measure

- Presentations at Extension Workshops, schools, and conferences

Year	Actual
2013	13

Output #7

Output Measure

- Sugarbeet costs and returns estimates

Year	Actual
2013	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	O: growers use best practices in the production of sugar beets and minor crops. I: Number of Idaho growers indicating adoption of recommended practices (follow-up survey data).
2	O: Development of new research information. I: Research publications (peer reviewed).
3	Growers use best practices in regard to irrigation management and nutrient use efficiency in the production of sugar beet and minor crops. Indicator: Number of Idaho growers indicating adoption of recommended practices (follow-up survey data).
4	Producers have increased knowledge of pest management and water / nutrient management practices that affect the environmental and economic sustainability of sugar beet and other minor crop production. Indicator: Number of participants who demonstrate increased knowledge following Extension education programs.

Outcome #1

1. Outcome Measures

O: growers use best practices in the production of sugar beets and minor crops. I: Number of Idaho growers indicating adoption of recommended practices (follow-up survey data).

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	594

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
76% of the growers in SW Idaho now utilize drip irrigation in onion fields. There is a need to educator growers on pesticide applications through drip irrigation systems, and the benefits of drip irrigation.

What has been done
Onion plots were established to test thrip control with drip irrigation three years ago; various pesticide treatments were applied. A field tour was held in summer of 2013 to discuss the benefits of drip irrigation, and the results of pesticide trials. A survey of growers was administered at the field trial

Results
90% of the growers attending the field day indicated an increase in knowledge of thrip management using chemigation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
202	Plant Genetic Resources
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants

213	Weeds Affecting Plants
216	Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

O: Development of new research information. I: Research publications (peer reviewed).

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	21

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The publication of sugar beet research results benefit the scientific community, growers and industry.

What has been done
Over the course of the last reporting cycle, there were 21 peer reviewed research and extension publications.

Results
Information generated can be used as preliminary or supporting information for the sugar beet industry.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants

Outcome #3

1. Outcome Measures

Growers use best practices in regard to irrigation management and nutrient use efficiency in the production of sugar beet and minor crops. Indicator: Number of Idaho growers indicating adoption of recommended practices (follow-up survey data).

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	204

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Field scouting is necessary to insure that pests are present in sufficient numbers above an economic threshold before taking treatment action. Unnecessary pesticide treatments impact the grower's economic viability and may harm the environment.

What has been done
Research based information about pests and treatment thresholds was disseminated on the PNWPestAlert.net website.

Results
Based on a user survey conducted in 2012, PNWPestAlert.net subscribers used field scouting to document pest levels before taking treatment actions. In some cases growers were able to reduce the number of sprays applied because information received through the website is dynamic.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

Producers have increased knowledge of pest management and water / nutrient management practices that affect the environmental and economic sustainability of sugar beet and other minor crop production. Indicator: Number of participants who demonstrate increased knowledge following Extension education programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	224

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
In order to maintain pest management programs that are effective and economically and environmentally sound, growers need to be armed with knowledge of integrated pest management practices and options.

What has been done
IPM has been taught at sugar beet schools, grower conferences, field days and tours through the 2013 growing season. Growers and crop consultants attended these meetings in high numbers. Surveys conducted during many of these events indicate up to 90% of the attendees are better equipped with new knowledge relevant to their systems, compared to before the educational events.

Results
Based on interviews with irrigation equipment dealers from Parma to Idaho Falls, cooperators reported an increase of about 20-30% in sales of maintenance-related equipment this year. The exception was the Parma area where conversion from surface irrigation to sprinkler occurred more recently, and grower spending tends to be focused on additional conversion of surface to sprinkler irrigation. Sales of new nozzles, gaskets and sprinkler heads will help reduce leak and worn nozzle losses. The reported reduction in the time between replacement of center pivot packages from 7-10 years historically to 3-5 years currently is a response to the center pivot uniformity data and should reduce excess irrigation (and energy costs), and improve crop yield and quality within fields.

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
- Public Policy changes
- Government Regulations
- Other (climate)

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

UI minor crops topic team members developed a drip irrigated onion plot at the Parma R & E Center three years ago. The purpose of the trial was to demonstrate drip irrigation for onion production and conduct pesticide trials using drip irrigation, or chemigation for the management of onion thrip. Throughout the last two growing seasons, data was collected on thrip counts and emergence dates, beneficial insects present in each plot, and timing and rates of pesticides used. These data were summarized and displayed on two posters at a summer field tour. The tour was help in August at the Parma R & E Center in collaboration with the Natural Resource Conservation Service, allied industry and pesticide registrants. A survey was administered during the 2013 field tour to determine impacts from conducting a field tour. The following impacts were measured:

90% of the growers indicated an increase in knowledge of thrip management using chemigation treatments

79% plan to use information they learned from the tour for their own farm management decisions

72% gained knowledge of the benefits of drip irrigation for water conservation and water quality protection

62% learned about NRCS programs to help offset initial costs of installing drip irrigation

76% of the onions planted in 2013 are irrigated with drip irrigation

66% of the growers are still interested in learning more and drip irrigation and the benefits

all growers who participated in the tour indicated that the tour was worth their time, and they acquired quality and useful information for their farming operations.

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

Childhood Obesity: 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
724	Healthy Lifestyle	25%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	25%		0%	
806	Youth Development	50%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	15.7	0.0	0.0	0.0
Actual Paid Professional	18.0	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**
365816	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
365816	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
592643	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The 4-H Youth Development Team engaged about 70,000 youth participants in life-skills focused learning, through traditional club programs in each county in Idaho, summer camps, day camps, science camps (including robotics, GPS, Entomology, Geology, Aeronautics, and more), livestock camps, and other project camps (some in collaboration with neighboring States), and a host of other venues for reaching children. Much of the focus on individual club programs is a multidisciplinary approach to learning. For example, youth were taught kitchen skills through the science of baking; they explored how baked goods are leavened and how each of the leavening agents were used and how they work; and they learned the math of measuring ingredients and the art of knowing when the product is mixed and baked, and they learn nutrition and the value of eating whole grains.

Faculty and 4-H Coordinators supported or managed 4-H afterschool programs, school enrichment programs, and managed 4-H activities at County Fairs, including training of judges. 4-H professionals coordinated the work of 5,000 adult 4-H volunteers and to youth volunteers and provided leadership and curriculum training to more that 4,100 of those volunteers. UI Extension 4-H professionals collaborated with school teachers to present the National Science Project and to recruit youth to other 4-H programs. Primary emphases were placed on projects and activities that promote interest in science, engineering and technology, and that promote healthy living choices.

4-H faculty are engaged in multistate efforts to train livestock judges, to provide professional development for 4-H professionals, and to collaborate with adjacent states to share resources for program delivery. Older 4-H members were challenged to become productive citizens through the 4-H Ambassadors program, Teen Training, Camp Counselors programs, Know Your Government. Outreach to underserved youth included significant efforts with the Shoshone-Bannock and Nez Perce Tribes, with numerous afterschool programs (two partially supported by CYFAR grants), through Operation Military Kids, and with targeted day camps.

2. Brief description of the target audience

- Idaho youth, ages 5-18
- 4-H Volunteers
- Adult and youth volunteers
- Teachers and Out-of-school instructors
- Youth in school enrichment and afterschool programs
- Low income youth and families
- Youth-at-risk
- Youth Development staff
- Community Leaders
- Hispanic youth and adult volunteers
- American Indian youth and adult volunteers
- Children and families with military ties

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	46223	181645	99053	98509

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

Patent Applications Submitted

Year: 2013

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	3	1	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of youth in educational classes, workshops, trainings, seminars taught (individual teaching contacts).

Year	Actual
2013	28877

Output #2

Output Measure

- Number of volunteers in educational classes and workshops.

Year	Actual
2013	4108

Output #3

Output Measure

- Number of opportunities to promote 4-H Youth Development (publications, newsletters,

columns, radio PSA's, radio/TV appearances) written or developed.

Year	Actual
2013	388

Output #4

Output Measure

- Number of educational classes, workshops, trainings, seminars taught (teaching contacts).

Year	Actual
2013	1236

Output #5

Output Measure

- Number of 4-H clubs or groups.

Year	Actual
2013	325

Output #6

Output Measure

- Number of youth attending statewide 4-H events.

Year	Actual
2013	2337

Output #7

Output Measure

- Number of volunteers attending county, multi-county, district, state, regional, and national events.

Year	Actual
2013	1528

Output #8

Output Measure

- Number of hits on the web site each year.

Year	Actual
2013	47543

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Professional Development for 4-H professionals and volunteers, increasing awareness for 4-H Science project areas. Indicator: Number of workshops offered.
2	Youth and adults will learn how their processing skills and practices affect the consumer acceptability of the product/project. Indicator: Knowledge increase and skill gained
3	Increased knowledge of healthy beverage choices Indicator: Number of program participants who are able to identify what a healthy beverage is and why it is a healthy choice.
4	Increase the number of volunteers per year to reflect the needs of 4-H POW project areas. Indicator: A net increase of 200 volunteers per year accounted for on the annual ES237 volunteer categories.
5	Increase youth and adult volunteer participation and knowledge in Essential Elements and experiential learning methodology. Indicator: Total number of youth and adults who attend training and demonstrate knowledge gain.
6	The total number of youth and adults who assume leadership roles will increase. Indicator: The total number of youth and adults trained in communication and teamwork skills.
7	Increase support for culturally appropriate programs. Indicator: Number of grants or other funding sources received specific to reaching underserved audiences.
8	Policy changes and cultural climate support to create acceptance of non-traditional programs and their participants. Indicator: Number of faculty and staff involved in making a systematic review of institutional structure and cultural climate through the lens of underserved audiences.
9	Policy changes and cultural climate support to create acceptance of non-traditional programs and their participants. Indicator: Training on the use of culturally relevant curricula and resources

Outcome #1

1. Outcome Measures

Professional Development for 4-H professionals and volunteers, increasing awareness for 4-H Science project areas. Indicator: Number of workshops offered.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	66

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
There are several developments for engaging youth in authentic STEM activities and in how teachers (leaders) should provide STEM learning opportunities for youth (e.g., Inquiry-based Instruction). 4-H Professionals need training in this area to enhance their abilities to conduct their jobs and provide the best STEM learning opportunities for their clientele.

What has been done
State STEM Specialist developed and conducted seminars/workshops and webinars to help 4-H professionals learn more about robotics opportunities for youth, how to work with robotics, how to use the curriculum, and how to conduct robotics programs. I also trained another colleague to conduct workshops for 4-H Professionals.

Results
Participants responded through post-class survey that they better understood how robotics can engage youth in STEM, that they were more comfortable using the robotics equipment, that they knew how to find and use resources, that they were more comfortable with the curriculum and program activities. As a result of my trainings, 10 new WeDo Robotics (ages 5-9) programs were created in counties and have been successfully involving several youth. My trainings have also resulted in the development of 17 new FLL Teams (ages 9-14) and 3 new FTC teams (ages 14-18).

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

Youth and adults will learn how their processing skills and practices affect the consumer acceptability of the product/project. Indicator: Knowledge increase and skill gained

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	131

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Previous Beef Quality Audits have identified quality challenges in the beef industry including excess external fat, inadequate tenderness, insufficient marbling, and lack of marbling. It is important we educate our youth livestock exhibitors, who are raising a product for human consumption, about factors that affect consumer acceptability of their product.

What has been done
Presented beef end-product quality workshops at 2 BEEF Camps (Shoshone & Rexburg) and 1 Cattle Clinic (Pingree). Topics included: Understanding Carcass Evaluation, Factors that Determine Meat Quality, a Taste Testing Exercise, and a Retail Beef Identification Contest.

Results
Surveys from pre & post events have indicated an increase in knowledge. All attendees have indicated they have learned something new regarding the relationship of livestock management and end product beef quality.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #3

1. Outcome Measures

Increased knowledge of healthy beverage choices Indicator: Number of program participants who are able to identify what a healthy beverage is and why it is a healthy choice.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	427

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Drinking sugary beverages contributes to poor eating habits, weight gain, damage to teeth when sugary drinks are available other nutrients are eaten

What has been done
A lesson was provided to 4-H volunteers on the benefits of drinking water, milk or fruit juice. Handouts and other resources were provided for club meetings.

Results
County 4-H events that served food and drinks reduced the number of sugary drinks served. No soda pop has been served at a county event including camp counselor training and youth trainings a more nutritious drink was served.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #4

1. Outcome Measures

Increase the number of volunteers per year to reflect the needs of 4-H POW project areas. Indicator: A net increase of 200 volunteers per year accounted for on the annual ES237 volunteer categories.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	59

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #5

1. Outcome Measures

Increase youth and adult volunteer participation and knowledge in Essential Elements and experiential learning methodology. Indicator: Total number of youth and adults who attend training and demonstrate knowledge gain.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Volunteers didn't understand the value of teaching 4-H projects using Essential Elements and experiential learning. Essential elements and experiential learning is accepted as the way to make sure students learn skills to help them be productive citizens. Education and learning has been declining in Idaho. Increased participation will hopefully keep education and learning levels from declining anymore.

What has been done
Training was conducted for youth and adults to participate in Essential Elements and experiential learning activities.

Results
Youth and adults attended the training and then used the skills learned to teach activities during 4-H club meetings.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
803	Sociological and Technological Change Affecting Individuals, Families, and Communities
806	Youth Development

Outcome #6

1. Outcome Measures

The total number of youth and adults who assume leadership roles will increase. Indicator: The total number of youth and adults trained in communication and teamwork skills.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	502

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Successful 4-H programs have leader directed programs. Camp counselors across the state needed to be trained to work with and assist 4-H campers at all 4-H camps.

What has been done
Alpine Leadership College 2013 is one example of a two-day workshop designed to train teenage camp counselor to more effectively assist campers. Programs taught at the workshop include: Problem Solving, Leadership Styles, Communication Skills, Dealing with Difficult Situations, On the Spot Games, Cabin Activities, Basic First Aid and Safety, Identifying Poisonous Plants, Camp Fire Program Basics.

Results
New volunteers gained knowledge on what is expected of them and how they can work with parents. Camp Counselors work better together and are more prepared and better counselors for the youth they work with. The communications skills also help them work better with

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #7

1. Outcome Measures

Increase support for culturally appropriate programs. Indicator: Number of grants or other funding sources received specific to reaching underserved audiences.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Under-served youth are those who currently, or in the recent past, were not served by 4-H Youth Development. Under-served youth may include specific racial/ethnic groups, youth from military families, special needs, or youth from low-income families. Proven delivery methods for reaching underserved youth include afterschool, day and overnight camps, and special interest programs.

What has been done
Faculty in two counties applied for and obtained six grants specifically to expand outreach to minority youth. One Blue Cross grant supports the Healthy Living with Challenged Youth program which works with youth from the alternative high school. One critical issues grant is focused on reaching youth that don't currently participate in 4-H. This program was delivered to a local day care. Three grants in Canyon County have helped initiate new programs for minority youth. In addition, the 4-H participation fee money is focused on expanding our 4-H program to our more remote communities resulting in the formation of new community clubs.

Results
UI Extension 4-H Youth Development is more able to reach Latino, minority, and low-income youth. In Cassia County, 88 youth received multiple experiences with new 4-H programs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #8

1. Outcome Measures

Policy changes and cultural climate support to create acceptance of non-traditional programs and their participants. Indicator: Number of faculty and staff involved in making a systematic review of institutional structure and cultural climate through the lens of underserved audiences.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Institutional policies often create barriers to participation for undeserved and minority youth and families. Reviewed a policy on volunteer certification and made a recommendation for change.

What has been done
Educators requested a policy change in volunteer certification requirement because it is a barrier for recruiting minority and young adult volunteers.

Results
As a result of the new policy, Extension professionals are able to certify more adult and minority volunteers in a timely manner.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #9

1. Outcome Measures

Policy changes and cultural climate support to create acceptance of non-traditional programs and their participants. Indicator: Training on the use of culturally relevant curricula and resources

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual

2013 1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

A large scale ongoing evaluation of camping programs throughout the state is being conducted to determine the effect of 4-H camps in Idaho on outcomes of interest for exploration, affinity for nature, teamwork, and problem solving.

Using an evaluation tool developed by the American Camping Association, Idaho 4-H topic team members surveyed over 400 youth on their camping experience in 2012 and 2013. The tool is a post activity reflection that asks youth to estimate how much they have learned about the given topic.

Preliminary results show that compared to a national data bank, Idaho Camps rank in the 48th percentile for interest for exploration, the 49th percentile for affinity for nature, the 60th percentile for teamwork, and the 64th percentile for problem solving. This information is useful for showing that our camps do have an impact on the youth that attend them, and also help us identify areas in which we can improve our programming efforts.

Key Items of Evaluation