

# 2007 University of Idaho Combined Research and Extension Annual Report

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## I. Report Overview

### 1. Executive Summary

This combined report of accomplishments for the College of Agricultural and Life Sciences (CALs) represents the work of 111 and 73.1 faculty/professional research and extension FTEs, respectively, and another 26 FTEs of state supported nutrition advisers, 4-H coordinators, and other paid program staff. The Extension portion of the report reflects about one-half of the total annual budgets of UI Extension, and does not include State or county investment in faculty operating budgets, clerical support, indirect costs, facilities, or administrative costs. The research portion reflects approx. 20 % of the total appropriated funding (state and federal) and does not include grants and contracts. Extension faculty combined to publish 61 unique peer-reviewed articles in professional journals and numbered UI Extension publications. They published hundreds of articles in trade journals and trade magazines, where many Extension faculty find the most direct access to their target audiences. Faculty posted new materials on websites, and created new websites. Thousands of references to their work are noted in published abstracts and proceedings, poster presentations, and similar communications. UI Extension faculty reported 3,376 educational events that reached 256,607 people through direct, face-to-face contact, 37% of whom were children.

#### Total Actual Amount of professional FTEs/SYs for this State

Year:2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	107.3	0.0	71.3	0.0
<b>Actual</b>	111.4	0.0	73.1	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
- Combined External and Internal University External Non-University Panel
- Expert Peer Review
- Other (administrative review )

### 2. Brief Explanation

Topic Teams consist of faculty who conduct research and extension education programs within an area of related issues. These teams meet annually to review the program plans of colleagues and to provide counsel and feedback on planned methods and programs.

Individual Extension and research faculty submit annual position descriptions to university administrators who review, modify, and approve the slate of programs and activities proposed by faculty members. University administration announces and accepts proposals for four annual mini-grant programs to support competitive applications for programs, including: Topic Teams grant program; Critical Issues grant program; Urban Extension grant program; and Community Development grant program. These proposals are evaluated by a panel of peers against a pre-determined set of criteria. Approximately half of the applications receive funding.

County faculty proposes their annual work plans to County governments, as part of their annual budget justification process. Commissioners work with faculty to finalize those work plans, and then provide about 18% of UI Extension's total budget, based on the merits of county work plans.

A significant portion of the work performed by UI faculty is supported by competitive grants from outside of the University. In Extension, approximately \$3.7 million and research, approximately \$15 million in grants and contracts demonstrates the importance and merit these activities.

All faculty in CALS or other colleges within the UI holding a research appointment in the IAES, are required to have an active, approved research project that reflects their major research emphasis. Hatch projects are expected to address problems relevant to Idaho's agriculture with either a regional or national scope of importance. Project outlines must be reviewed internally by a minimum of two colleagues with expertise in the area of research, the investigator's Department Head and a minimum of two external experts in the area not affiliated with the UI.

Research activities of the IAES that contribute to organized multi-state projects/programs approved by CSREES are designated as Multi-state (Regional) Research Projects. In the Western Region, these multi-state projects must be reviewed by a maximum of four outside peer reviewers in addition to the overall regional multi-function committee (RCIC-see below) appointed by the Western Association of Agricultural Experiment Station Directors (WAAESD). The RCIC reviews the proposal and makes recommendation to the WAAESD and, if approved, transmits the project to CSREES.

### **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**

Faculty continue to experiment with efforts 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 have been used during the past several years. To encourage participation in focus groups, few local budgets can support cash payments, but nearly all such activities provide food and refreshment for participants. To gather stakeholder input from our growing Spanish-speaking population, announcements are printed and broadcast in Spanish through appropriate venues. In some cases (community development, for example) targeted invitations were sent representatives of pre-determined sectors of the community, 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.

During 2007, we did not make significant changes to our stakeholder input process and the process described below reflects our current procedures which were used during this reporting period

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

- 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 Cooperative Extension has citizen advisory groups in 42 of Idaho's 44 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.

- 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 sugarbeet 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 twelve 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.

## **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**

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 identifying stakeholders state-wide included Extension Annual Conference (Boise) and annual Ag Summit and legislative strolling dinner also 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. For low income audiences, Extension works with schools, with the Department of Health and Welfare, and with the local faith community to identify potential clientele. Partnerships with AARP-Idaho and other advocacy organizations have been instrumental in reaching targeted audiences.

**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**

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 (Boise) and annual Ag Summit and legislative strolling dinner also 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.

Some much targeted outreach was conducted to bring decision makers and underserved audiences to listening sessions to help direct the Building Sustainable Communities Initiative programs. Outreach included personal phone calls and letters to influential community members, including leadership in minority advocacy positions.

To generate public participation in Horizons programs in northern Idaho, outreach and advertising was designed to effectively reach all residents of the 24 partner communities.

For some programs (Forest Management, for example) stakeholder input was gathered through focus groups in which participants were selected based upon their specific interests in forest lands. For other programs (Water Quality, for example), input was collected by mailing surveys to traditional audiences and known users of those extension programs. 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.

### 3. A statement of how the input was 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

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 is conducted in an annual dean and directors retreat. Strategic planning and priority setting in these sessions is based largely upon stakeholder input.

A significant shift in resources into the area of Family Economics has occurred as a direct result of statewide citizen's stakeholder input. Our research suggested that demand for family financial programming far exceeded our capacity to deliver relevant education. UI Extension has increased capacity in this area by 200% in the past three years. These adjustments have been made through both re-tasking of existing faculty, and through re-directing of vacant positions as they are re-filled. A similar shift in resources into Community Development has also been occurring for the past several years. In this case, rather than hearing from individuals, the input tended to originate from professionals and advocates working for and with State and local agencies and organizations. Discipline-driven programs generally use input gathered at each event to help guide the content of the next. For example, at the international Idaho Potato Conference, participants are surveyed each year to learn what are 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. While administrators have not re-tasked positions in Family and Consumer Sciences to respond to our survey results, our faculty have researched and acquired high quality curricula, received training and certification, and delivered health and fitness programs to help meet the need identified by stakeholders.

Several new faculty positions have been implemented due to redirected resources prioritized based upon stakeholder input during 2007. These include positions in forage production, plant biotechnology, microbial physiology, potato storage physiology, rural sociology, and environmental and water quality.

#### Brief Explanation of what you learned from your Stakeholders

Very high demand for family finance education, community economic development education, personal fitness/health education, water quality, agricultural technology, and that the agricultural commodities within Idaho are changing in relative importance.

### IV. Expenditure Summary

<b>1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)</b>			
<b>Extension</b>		<b>Research</b>	
<b>Smith-Lever 3b &amp; 3c</b>	<b>1890 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
2537000	0	3771007	0

<b>2. Totaled Actual dollars from Planned Programs Inputs</b>				
	<b>Extension</b>		<b>Research</b>	
	<b>Smith-Lever 3b &amp; 3c</b>	<b>1890 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
<b>Actual Formula</b>	2537000	0	3771007	0
<b>Actual Matching</b>	2537000	0	3771007	0
<b>Actual All Other</b>	4126571	0	25588834	0
<b>Total Actual Expended</b>	9200571	0	33130848	0

<b>3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years</b>				
<b>Carryover</b>	0	0	0	0

**V. Planned Program Table of Content**

<b>S. NO.</b>	<b>PROGRAM NAME</b>
1	Beef
2	Water and Environmental Quality
3	Small Acreages and Emerging Specialty Crops
4	Forest Management
5	Forages
6	Civil Society
7	Family Life Education
8	Sugarbeets
9	4-H Youth Development
10	Range Management
11	Family Economics
12	Health and Human Nutrition
13	Community Development
14	Nutrient and Waste Management
15	Farm and Ranch Management
16	Dairy
17	Food Safety
18	Cereals
19	Commercial and Consumer Horticulture
20	Other Idaho Commercial Crops
21	Potatoes

**Program #1****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Beef

**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	10%		20%	
302	Nutrient Utilization in Animals	10%		20%	
305	Animal Physiological Processes	0%		10%	
306	Environmental Stress in Animals	0%		10%	
307	Animal Management Systems	30%		30%	
308	Improved Animal Products (Before Harvest)	30%		10%	
311	Animal Diseases	20%		0%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	3.7	0.0	3.5	0.0
<b>Actual</b>	6.7	0.0	2.5	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
154225	0	184557	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
154225	0	190557	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
214293	0	1178129	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Program activities for the Beef Topic Team were delivered to 5763 contacts in two topic team project areas including Beef Cattle Production and Management, and Beef Production Integrity. Activities included beef schools, workshops, demonstration projects, field days, numerous farm and office visits, and teaching opportunities in 4-H and FFA youth livestock programs. Information regarding the development and maintenance of beef production systems was disseminated in 93 reported publications, of which a large portion (>30) were trade journal articles that reach a wide readership of target audience members and stakeholders. Information presented at various beef topic team events, and through several publications, gave beef producers an opportunity to increase their awareness and knowledge of: 1) tools to select superior animals and make sound selection decisions, 2) animal identification, 3) beef market signals, and 4) beef cattle feeding and rumen anatomy.

Through partnerships between Beef Extension Specialists and county extension faculty, valuable and timely information was distributed to producers about topics important to beef cattle production. In a time of challenging marketplaces (i.e. asian markets for exported beef), increasing feed costs, and increasing fuel costs, producers have provided with tools to improve their management skills and overall profitability. Research results generated were reported in a number of journal articles and provided the foundation for research proposals submitted to the Idaho Beef Council, the National Cattleman's Beef Association, and the USDA NRI.

**2. Brief description of the target audience**

The main target audience is beef cattle producers and veterinarians through direct interaction and through interactions with the Idaho Beef Council and Idaho Cattlemen's Association. Producers can participate with the beef team by serving on planning committees, attending educational events, meeting one-on-one with team members, reading Extension and research publications, seeking information on websites and through other channels, and cooperating with demonstration/applied research projects. Another target audience is comprised of other research scientists to whom research results are disseminated through scientific publications and research conferences.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	1750	600	50	100
2007	4786	0	977	0

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	4	11	15

**V(F). State Defined Outputs**

**Output Target**

**Output #1****Output Measure**

- Beef schools.

Year	Target	Actual
2007	10	7

**Output #2****Output Measure**

- Beef Quality Assurance (BQA) workshops.

Year	Target	Actual
2007	5	21

**Output #3****Output Measure**

- Field days.

Year	Target	Actual
2007	2	2

**Output #4****Output Measure**

- Demonstrations/Applied research projects.

Year	Target	Actual
2007	2	3

**Output #5****Output Measure**

- Tours.

Year	Target	Actual
2007	1	2

**Output #6****Output Measure**

- Extension publications.

Year	Target	Actual
2007	4	4

**Output #7****Output Measure**

- Popular press articles.

Year	Target	Actual
2007	10	30

**Output #8****Output Measure**

- Newsletters.

Year	Target	Actual
2007	8	19

**Output #9****Output Measure**

- Scientific journal articles

Year	Target	Actual
2007	3	15

**Output #10****Output Measure**

- Abstracts.

Year	Target	Actual
2007	3	8

**Output #11****Output Measure**

- Presentations at professional/scholarly conferences and meetings.

Year	Target	Actual
2007	3	7

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Awareness of new, accepted, or recommended production practices.I: Number of participants at educational events
2	O: Adoption of new, accepted, or recommended production practices.I: Percent of participants indicating adoption of recommended practices.
3	O: Awareness/Implementation of beef quality assurance (BQA) recommended practices.I: Number of participants at educational events/BQA certified.
4	O: Awareness/Implementation of new animal identification practices.I: Number of participants at educational events.
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: Awareness/implementation of beef quality assurance (BQA) recommended practices. I: Number of participants becoming BQA certified

**Outcome #1****1. Outcome Measures**

O: Awareness of new, accepted, or recommended production practices.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	Quantitative Target	Actual
2007	480	1132

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The agricultural economy of Lincoln, Gooding, and Blaine counties is well supported by livestock production. Vast areas of those counties are public lands, mostly Bureau of Land Management and U.S. Forest Service. The idea of a school primarily for beef grazers was brought to Extension by the Natural Resources Conservation Service. They recognized the need in this area and wanted the help of Extension in organizing the program.

**What has been done**

A group of advisory council members from both the Big Wood Soil Conservation District and Lincoln County Extension met and determined possible topics that would be of interest and timely for beef cattle producers of the area. We took that information and developed a day-long program, providing a catered lunch. Extension made arrangements for Extension Specialists and State and Federal agency personnel to present the topics of the program.

**Results**

At this first annual program there were 8 attendees. The size of the audience allowed for excellent group discussion of the topics. The topics that were presented were: Managing Grazing Behavior of Livestock on Pasture and Rangeland, Monitoring Range and Pasture Utilization, Livestock Grazing and Fish, Wintering Cattle without Feeding Hay, Management Intensive Grazing, and The Situation and Outlook of the Cattle Market. After the program, participants were given a survey form with each topic listed, and a Likert scale from 5-1 with room provided for open ended responses. Topics were ranked in quality from 2.125-4.25. The topic of Wintering Cattle without Feeding Hay was the best received. With high hay and corn prices, this made logical sense. When asked on the evaluation if they would put any of the management techniques into practice, all participants responded and all listed one of two specific topics: Wintering Cattle without Feeding Hay and Management Intensive Grazing.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)

**Outcome #2****1. Outcome Measures**

O: Adoption of new, accepted, or recommended production practices.I:  
Percent of participants indicating adoption of recommended practices.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	45	57

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

In order to maximize profits, beef producers need to know what consumers desire in the marketplace. By retaining ownership through the feeding and harvest stages, producers can collect accurate data necessary for making management decisions. Profits from individual animals can vary by \$200 or \$300 per head within the same herd. Producers are asking questions like: Which animals are profitable and which are losers and why? What factors influence profitability?

**What has been done**

University of Idaho faculty developed an Idaho Total Beef education program with input from ranchers, bankers, feeders, packers and allied industries. Ranchers participate by enrolling a sample of their calves (5-50 head) in a feeding trial. The calves are preconditioned (weaned and vaccinated) on the ranch and delivered to feedlot for a feeding trial. Owners receive feedlot, carcass and economic information on their calves.

**Results**

Since 1992, 124 ranches from 4 states have consigned 6,538 head of cattle (3,880 steers, 2,658 heifers) to A to Z Retained Ownership, Inc. Incoming value of cattle, feed costs, marketing date, feedlot average daily gain and price premium or discount based on carcass quality and conformity account for most of the variation in profitability among animals. Participants have rated the feeding program as highly successful with the most valuable outcomes being a better understanding of all phases of the cattle industry and obtaining performance and carcass information on their own cattle. They use the information in selecting replacement heifers and bulls, fine-tuning ranch management and enhanced marketing of their calves. Producers use their individual data to market locally or on satellite and internet marketing systems.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
308	Improved Animal Products (Before Harvest)

**Outcome #3****1. Outcome Measures**

O: Awareness/Implementation of beef quality assurance (BQA) recommended practices. I: Number of participants at educational events/BQA certified.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	200	613

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Efforts have been underway to re-invigorate the Idaho Beef Quality Assurance (BQA) Program in Idaho.

**What has been done**

A new Idaho BQA Certification Manual was produced and 1,000 copies were printed for use in Idaho. BQA Certification and recertification in the Idaho BQA Program was offered via 18 workshops held across the state. BQA and the National Animal Identification System (NAIS) topics were combined in efforts to increase workshop attendance. The BQA sessions included information on: 1) proper BQA management and processing techniques, and 2) maintenance of cowherd health and bio-security. The NAIS-related sessions included information on: 1) how the NAIS will be implemented in Idaho, and 2) individual animal identification options. By the end of each workshop, participants had an opportunity to become BQA Certified in the Idaho BQA Program at no cost.

**Results**

A total of over 550 people that attended the 18 workshops. A Microsoft Access database was created to compile Idaho BQA Certification data.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
308	Improved Animal Products (Before Harvest)

**Outcome #4****1. Outcome Measures**

O: Awareness/Implementation of new animal identification practices. I: Number of participants at educational events.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	200	451

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
311	Animal Diseases

**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	Quantitative Target	Actual
2007	7	7

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Timed AI programs help alleviate the difficulties associated with estrus detection and to increase the AI submission rate. In an effort to further improve conception in beef heifers, scientists studied methods to incorporate CIDR (controlled intravaginal progesterone releasing device) in timed AI protocols.

**What has been done**

We hypothesized that shortening the length of CIDR treatment from 7 to 5 days would improve reproductive performance in beef heifers. The objective of this experiment was to determine the effect of reducing the length of CIDR exposure in a CIDR-based timed-AI synchronization protocol (CIDR-PGF2alpha-GNRH and AI) on conception and pregnancy rates in beef heifers.

**Results**

Results from this study indicate that reducing the length of CIDR treatment (5 d vs. 7 d) in a CIDR-based timed-AI synchronization protocol may improve conception to AI in beef heifers. The 5-d CPG protocol was also desirable as it eliminated one injection of GnRH and reduced the need for additional animal handling. All characteristics of the protocol seems desirable for improving the reproductive efficiency of beef heifers but further studies are warranted. This protocol may have a significant impact on increased conception in beef heifers and improve economic efficiency of cow-calf production units.

**4. Associated Knowledge Areas**

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

**Outcome #6****1. Outcome Measures**

O: Awareness/implementation of beef quality assurance (BQA) recommended practices. I: Number of participants becoming BQA certified

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	{No Data Entered}	541

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
308	Improved Animal Products (Before Harvest)

**V(H). Planned Program (External Factors)**

**External factors which affected outcomes**

- Other (none)

**Brief Explanation**

In response to public interest and government priorities, increased activity was required relevant to electronic animal identification systems.

**V(I). Planned Program (Evaluation Studies and Data Collection)**

**1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Comparison between locales where the program operates and sites without program intervention

**Evaluation Results**

**Key Items of Evaluation**

**Program #2**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Water and Environmental Quality

**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	0%		5%	
102	Soil, Plant, Water, Nutrient Relationships	25%		10%	
104	Protect Soil from Harmful Effects of Natural Elements	0%		5%	
111	Conservation and Efficient Use of Water	25%		10%	
112	Watershed Protection and Management	30%		20%	
121	Management of Range Resources	0%		5%	
132	Weather and Climate	0%		5%	
133	Pollution Prevention and Mitigation	10%		5%	
215	Biological Control of Pests Affecting Plants	0%		5%	
312	External Parasites and Pests of Animals	0%		3%	
315	Animal Welfare/Well-Being and Protection	0%		5%	
403	Waste Disposal, Recycling, and Reuse	0%		5%	
721	Insects and Other Pests Affecting Humans	0%		2%	
723	Hazards to Human Health and Safety	0%		5%	
802	Human Development and Family Well-Being	0%		2%	
803	Sociological and Technological Change Affecting Individuals,	10%		5%	
901	Program and Project Design, and Statistics	0%		3%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	0.7	0.0	6.8	0.0
<b>Actual</b>	1.6	0.0	10.1	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
43035	0	452996	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
43035	0	452996	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
53044	0	1725577	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Based on stakeholder input (regional survey conducted in 2002) educational activities conducted include the following formats: (1) PNWWATER UPDATES, (2) internet transmission using our web site (pnwwaterweb.com), (3) public service announcements, (4) satellite broadcast, (5) regional research and extension conferences, and (6) publications. Related research findings were presented (1) in referred scientific journals, at professional scientific meetings, (3) in PNWWATER UPDATES, and (4) on appropriate web sites. Development and distribution of 24 PNWWATER UPDATES per year. These updates addressed current relevant topics in water and environmental resources within the region and were be sent to key stakeholders and posted on our web site: pnwwaterweb.com.

**2. Brief description of the target audience**

Recipients of the PNWATER UPDATES and participants in the workshops included agency and educational professionals and managers of programs that influence or are influenced by water quality and availability.

Additional target audiences for researchers include the scientific community, agriculture producers, the Idaho Dept. of Water Resources, U.S. Bureau of Reclamation, Idaho Water Resources Research Institute, Idaho Dept. Environmental Quality and USDA Natural Resources Conservation Service in addition to hydrologists, ground-water modelers, irrigation system designers and managers, water resources planners, and state legislators.

**V(E). Planned Program (Outputs)****1. Standard output measures****Target for the number of persons (contacts) reached through direct and indirect contact methods**

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1200	220000	200	40000
2007	4060	240000	37	0

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

Year	Target
Plan:	0
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)****Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	6	11	17

**V(F). State Defined Outputs****Output Target****Output #1****Output Measure**

- Number of people participating in Satellite Conferences

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1000	0

**Output #2****Output Measure**

- WQ Updates

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	24	24

**Output #3****Output Measure**

- Number of participants in water quality-related workshops at Commodity Schools

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	700	80

**Output #4****Output Measure**

- Number of participants at Regional WQ Conference

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	225	0

**Output #5****Output Measure**

- Number of Bulletins published

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	5	5

**Output #6****Output Measure**

- Number of Popular press articles published

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	12	11

**Output #7****Output Measure**

- Number of Refereed journal articles published

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	15	17

**Output #8****Output Measure**

- Number of water quality workshops and seminars

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	10	35

**Output #9****Output Measure**

- Number of professional meetings attended

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	10	2

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Improved protection of Ground Water Resource.I: Number of adopting BMPs, number of management and nutrient management plans written with producers.
2	O: Improved protection of surface water resource.I: Number adopting BMPs
3	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates in water and environmental quality graduate training programs.

**Outcome #1****1. Outcome Measures**

O: Improved protection of Ground Water Resource.I: Number of adopting BMPs, number of management and nutrient management plans written with producers.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	25000	3900

**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
112	Watershed Protection and Management

**Outcome #2****1. Outcome Measures**

O: Improved protection of surface water resource.I: Number adopting BMPs

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	25000	2400

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Water conservation in the irrigated agriculture areas of Idaho is a significant priority, as water availability has been curtailed only part way through each of the past several irrigation seasons.

**What has been done**

Demonstration trials, research, educational workshops and consulting about how to monitor soil moisture and to adapt irrigation practices that more nearly match crop requirements; using improved technologies and decision making tools.

### Results

6 Weiser area growers adopted and used soil moisture monitoring equipment due to extension demonstration plots. Impacts from these demonstration plots included examples of growers discovering irrigation inefficiency and then making changes in scheduling, nozzle selection, and line placement to make improvements.

MK Hansen Company has sold 327 data-loggers in Idaho since we began our field demonstration work with soil moisture sensors. In 2007, Hansen sold 66 data-loggers in Idaho, an increase of 25 percent since 2006. Nearly half of the data-loggers sold in 2007 were in the Weiser area.

#### 4. Associated Knowledge Areas

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

### Outcome #3

#### 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 in water and environmental quality graduate training programs.

#### 2. Associated Institution Types

•1862 Research

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7	20

#### 3c. Qualitative Outcome or Impact Statement

##### Issue (Who cares and Why)

Research and development activities for our reactive filtration technology, including some that are cooperative with a small business and a larger Fortune 500 company, have assisted in the commercial advancement of the technology developed by this work. The communities of interest include municipalities, agencies, engineers working in water treatment, and water resource managers and interest groups.

##### What has been done

An exploratory trial of catalytic oxidation was conducted using a flow pre-reactor without the serial acoustic array that will be in the final assembly. Operated at a 10-GPM flow rate with secondary treated, non-chlorinated municipal wastewater at the Hayden Wastewater Research Facility, the trial used a venturi to dose 5 mg/L dissolved ozone prior to a ferric iron dose of 10 mg/L with a flow pre-reactor time of 2 min. The mixture then passed through a gas-liquid separator system and into an up-flow HFOCS moving bed filter. Oxidation-reduction potentials measured 750 mV for post pre-reactor samples and 350 mV for post HFOCS reactor samples.

### Results

With a total process time of 7 min, this work demonstrated 97% total phosphorus removal (the key nutrient in algae growth), 68% total organic carbon removal (a surrogate for micro-pollutant removal), 3.4 log removal of fecal coliform (from 3000 to 0 cells/100 mL), 93% removal of total viral nucleic acids (a surrogate for virus removal), and effluent turbidity at the low levels of 0.1-0.3 ntu. These are very promising initial results. A tangential but very important finding was a greater than 5% increase in P removal with the addition of an oxidant from our typical reactive filtration process. The reactive filtration process (described in the WER publication of this activity period), has demonstrated reliable 90% P removal. The additional P removal demonstrated with oxidation suggests this approach is suitable for non-reactive phosphorous and may allow dischargers with severe P limits on their discharge water to come into compliance. The contaminant and pathogen removal water treatment technologies developed in this work have had three major impacts: 1) removal of nutrient P to level below natural background which can limit or reverse eutrophication from discharges into natural waters; 2) reduced contaminant loads in finished waters can be used to enhance water treatment plant efficiency releasing community from costly infrastructure upgrades as the community grows; and 3) intense water reuse and recycling requires a very high level of purity in treated waters to limit risk - these technology approaches allow a safer, cost effective approach to clean water.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
104	Protect Soil from Harmful Effects of Natural Elements
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
723	Hazards to Human Health and Safety
802	Human Development and Family Well-Being

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Other (none)

##### Brief Explanation

#### V(I). Planned Program (Evaluation Studies and Data Collection)

##### 1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Comparison between locales where the program operates and sites without program intervention
- Other (sales of decision-making tools/technology)

##### Evaluation Results

Surveys indicate that thousands of residents have adopted water conservation and protection best practices. Vendors report increasing sales of soil moisture sensors and data recording devices.

Program participants indicate increased awareness and knowledge about protecting water resources.

##### Key Items of Evaluation

**Program #3****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Small Acreages and Emerging Specialty Crops

**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%		25%	
111	Conservation and Efficient Use of Water	15%		5%	
202	Plant Genetic Resources	5%		25%	
205	Plant Management Systems	50%		25%	
212	Pathogens and Nematodes Affecting Plants	5%		20%	
601	Economics of Agricultural Production and Farm Management	10%		0%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	2.3	0.0	1.8	0.0
<b>Actual</b>	3.3	0.0	2.4	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
53085	0	120781	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
53085	0	120781	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
68388	0	417339	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Program activities for the Small Acreages and Emerging Specialty Crops topic team were delivered to 6560 teaching contacts. Topic team projects included: 1) agricultural entrepreneurs, 2) emerging specialty crops, and 3) small acreage landowners. Activities included short courses, workshops, classes, farm tours, field days, professional presentations, conferences, and several funded research projects. In-depth courses, ranging from 8 to 18 weeks, offered producers and landowners timely information related to small acreage farming, sustainable agriculture and land stewardship, and agricultural entrepreneurship. Workshops covered a wide range of topics including pasture management and direct marketing. Ongoing field trials and demonstrations include work on small fruits, vegetables, nursery stock and Christmas trees. Newsletters, websites, research and extension publications, and research conferences served as key sources of information for small fruit farmers, small acreage landowners, other university and ARS scientists and industry leaders in various commodity commissions and in the Northwest Center for Small Fruits Research.

## 2. Brief description of the target audience

The main target audiences include established and prospective small-acreage, specialty crop producers, processors, and marketers either directly or through commodity commissions such as the Idaho Apple Commission, Idaho Grape Growers and Wine Producers. We also targeted other industry leaders including those in other states in the PNW such as those under the Northwest Center for Small Fruits Research. In addition, we disseminated information to small acreage landowners who desired to learn how to manage their land in a sustainable manner to protect natural resources.

## V(E). Planned Program (Outputs)

### 1. Standard output measures

#### Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1200	10000	50	200
2007	3298	0	144	0

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

#### Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

#### Patents listed

### 3. Publications (Standard General Output Measure)

#### Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	2	3	5

## V(F). State Defined Outputs

### Output Target

**Output #1****Output Measure**

- Small Farms Conference in southern Idaho.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	1

**Output #2****Output Measure**

- Small Farms Conference in northern Idaho.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	0

**Output #3****Output Measure**

- Small Acreage Farming Course.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	3

**Output #4****Output Measure**

- Ag Entrepreneurship Course.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	3	3

**Output #5****Output Measure**

- Direct marketing shortcourse.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	0	4

**Output #6****Output Measure**

- Pasture management shortcourse.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	1

**Output #7****Output Measure**

- Living on the Land course.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	2

**Output #8****Output Measure**

- Living on the Land Tour.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	2

**Output #9****Output Measure**

- LOTL 5 year report.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	0	0

**Output #10****Output Measure**

- Vegetable variety trials.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	4	1

**Output #11****Output Measure**

- Specialty fruit crop trials.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	0

**Output #12****Output Measure**

- Field days at demonstration plots.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	4

**Output #13****Output Measure**

- Small fruit workshops - Huckleberries, etc.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	2

**Output #14****Output Measure**

- Web site - developed on vegetable varieties.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	0

**Output #15****Output Measure**

- Websites maintained quarterly.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	3	0

**Output #16****Output Measure**

- Publication revisions - raspberries and huckleberries.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	1

**Output #17****Output Measure**

- Agricultural tour in Franklin County.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	0

**Output #18****Output Measure**

- Refereed scientific journal articles.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	5

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Growers learn about specialty crops varieties appropriate for their area.I: Number attending field days to observe results of crop variety demonstration trials.
2	O: Producers gain knowledge about successful management of a small farm business.I: Number of graduates in Small Acreage Farming and in Ag Entrepreneurship courses.
3	O: Landowners gain knowledge about practices to monitor and protect their soil and water quality.I: Numbers completing the Living on the Land or Stewardship of Small Acreages courses.
4	O: Growers adopt appropriate specialty crop varieties due to University of Idaho research results.I: Numbers of farmers indicating they intend to plant or did plant UI recommended varieties after attending a field day or reading a UI publication.
5	O: Landowners and farmers achieve success in protecting their natural resources and/or maintaining a successful business.I: Number of past class participants who volunteer to host tours of their farm or speak to new students in classes.
6	O: Livestock owners understand appropriate pasture management principles and practices to maintain optimum grazing for animals.I: Number of participants who attend LOTL or SSAFR courses or a Pasture management short course.
7	O: Livestock owners adopt practices that will help maintain healthy pastures and animals, reduce weed problems and reduce degradation of soils and or erosion.I: Number of participants adopting sustainable and/or best management practices related to pastures.
8	O: New farm businesses have identified goals and conducted a feasibility analysis of the potential of their business.I: Number of students completing the small acreage farming and ranching course and/or the Agricultural Entrepreneurship course.
9	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 learn about specialty crops varieties appropriate for their area.  
I: Number attending field days to observe results of crop variety demonstration trials.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	100	192

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
205	Plant Management Systems

**Outcome #2****1. Outcome Measures**

O: Producers gain knowledge about successful management of a small farm business.  
I: Number of graduates in Small Acreage Farming and in Ag Entrepreneurship courses.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	30	32

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

Cultivating Success is a sustainable small farm and ranching workshop produced by Rural Roots, the Risk Management Agency, University of Idaho, and Washington State University. The Cultivating Success program is an innovative educational program combining classroom and on-farm learning experiences. The courses include discussions led by experts in agriculture and business, tours of successful farm operations, and mentoring by experienced farmers who want to share their knowledge. It is a 10 week course.

### Results

Workshops offered in 2007 included topics on: drip irrigation on small farms, composting on small farms, and enterprise selection for small farm operations. Forty-one students took the course. Other topics we covered included: sustainability on small farms, whole farm goals, whole farm planning, resource evaluation, direct marketing, ecological soils management, sustainable crop production, integrated pest and weed management, organics, soil test kits, sustainable livestock management, equipment and facilities, grazing management on small acres, enterprise budgets, and tools for whole farm success. Sixty-one students completed the Small Acreage farming and/or Ag entrepreneurship course in 2007. Extension faculty also delivered 4 educational workshops for direct marketers. Two workshops focused on Legal Liability for Farm Direct Marketers. Participants were provided a handbook titled "Protecting Your Farm or Ranch Assets: Understanding Legal Liability in the Inland Northwest."

#### 4. Associated Knowledge Areas

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

### Outcome #3

#### 1. Outcome Measures

O: Landowners gain knowledge about practices to monitor and protect their soil and water quality! Numbers completing the Living on the Land or Stewardship of Small Acreages courses.

#### 2. Associated Institution Types

•1862 Extension

#### 3a. Outcome Type:

Change in Knowledge Outcome Measure

#### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	42

#### 3c. Qualitative Outcome or Impact Statement

##### Issue (Who cares and Why)

Small acreage landowners have a significant impact on the condition of soil water, plants, and other natural resources through their cumulative effects. As the population increases, with more and more residents now moving to the urban fringes, there is a huge demand for information and technical assistance to help them be successful stewards for their wildlife, land and water resources. These urban fringe areas have been recently rezoned from large, agricultural enterprises to smaller 1 to 40+ acre parcels that maintain some agricultural uses while attracting a diverse population of owners.

##### What has been done

To address the needs of small acreage landowners, Extension faculty offered 2 Living on the Land (LOTL) courses and tours, pasture management shortcourses, and a Small Farms Conference in the Treasure Valley where urban sprawl is the most prevalent.

### Results

Landowners and farmers who participate in small farms programs have more knowledge to sustain their natural resources and/or maintaining a successful business. An example of programming success is when we have former class participants who volunteer to host tours or their farm or speak to new students in classes. In 2007, seven LOTL alumni hosted tour stops or helped teach class sessions. Three of these alumni have turned their operations into successful businesses including a successful gardening business where customers can purchase fresh produce or vegetable and flower plants and an individual who sells free-range chicken eggs and meat to a local grocery store and in conjunction with a CSA garden.

Landowners have also gained skills to monitor and protect their soil and water quality and have an increased their knowledge of appropriate pasture management principles and practices to maintain optimum grazing for animals.

The Treasure Valley LOTL program was also honored as the Western Region Winner in Search for Excellence in Sustainable Agriculture Programs at the National Association of County Agricultural Agents meeting in July.

#### 4. Associated Knowledge Areas

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

#### Outcome #4

##### 1. Outcome Measures

O: Growers adopt appropriate specialty crop varieties due to University of Idaho research results. I: Numbers of farmers indicating they intend to plant or did plant UI recommended varieties after attending a field day or reading a UI publication.

##### 2. Associated Institution Types

•1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	9

##### 3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
205	Plant Management Systems

#### Outcome #5

##### 1. Outcome Measures

O: Landowners and farmers achieve success in protecting their natural resources and/or maintaining a successful business. I: Number of past class participants who volunteer to host tours of their farm or speak to new students in classes.

## 2. Associated Institution Types

•1862 Extension

### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	7

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

## 4. Associated Knowledge Areas

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

## Outcome #6

### 1. Outcome Measures

O: Livestock owners understand appropriate pasture management principles and practices to maintain optimum grazing for animals. I: Number of participants who attend LOTL or SSAFR courses or a Pasture management short course.

### 2. Associated Institution Types

•1862 Extension

### 3a. Outcome Type:

Change in Knowledge Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	125

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results****4. Associated Knowledge Areas**

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

**Outcome #7****1. Outcome Measures**

O: Livestock owners adopt practices that will help maintain healthy pastures and animals, reduce weed problems and reduce degradation of soils and or erosion. I: Number of participants adopting sustainable and/or best management practices related to pastures.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	10	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems
111	Conservation and Efficient Use of Water

**Outcome #8****1. Outcome Measures**

O: New farm businesses have identified goals and conducted a feasibility analysis of the potential of their business. I: Number of students completing the small acreage farming and ranching course and/or the Agricultural Entrepreneurship course.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	15	61

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

**Outcome #9****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 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	2	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Methods of irrigation affect water consumption. This is a critical issue in many parts of the world including the Pacific Northwest region of the US. Irrigation methods and injection of nutrients, particularly N, through water (fertigation), also play major roles in apple fruit quality and production. Irrigation with a drip system uses less water than sprinkler irrigation. However, irrigation through a micro-jet sprinkler system is extremely important for development of orchard floor cover grass. Micro-jet sprinklers also create a cooler environment in the orchards under fruit-growing conditions of Washington and Idaho. Research has been conducted with orchard fertigation through drip systems in British Columbia; however, other than our recent work with fertigation of Fuji, information on the tree growth and leaf mineral nutrients of new apple cultivars under drip or micro-jet sprinkler irrigation systems in the Pacific Northwest is lacking.

**What has been done**

In one project, water usage, tree growth, leaf mineral nutrients, yield, and fruit quality attributes in Autumn Rose Fuji apple (*Malus x domestica* Borkh) with five irrigation systems and effects of five rootstocks and two irrigation systems on tree trunk cross sectional area (TCSA), yield, and fruit quality in Pacific Gala were studied during the fourth and fifth years after planting.

## Results

Trees with Full Sprinkler (FS) received more water than those with drip systems. Autumn Rose Fuji trees with FS and full drip (FD) had similar TCSA, but both treatments had greater TCSA than those of other irrigation treatments. Autumn Rose Fuji trees with all drip and FS systems had higher yield and larger fruit size than those other systems in 2007. Autumn Rose Fuji fruit soluble solids were lower in trees with FS irrigation treatment, while no significant differences were observed in fruit firmness in 2007. Autumn Rose with partial drip irrigation had a higher starch degradation pattern. In Autumn Rose Fuji, concentrations of leaf N, Mg, and Zn were lower while that of leaf K was higher in FS and FD systems. Bud 9 and RN-29 were found to be superior rootstocks for Pacific Gala. Bud 9 and G 30 advanced fruit maturity of Pacific Gala by increasing fruit color, soluble solids concentrations, and starch degradation pattern and reducing fruit firmness. With Pacific Gala, drip irrigation at full rate increased fruit size and advanced fruit maturity by increasing starch degradation pattern and reducing firmness as compared to sprinklers system. Overall, drip irrigation at full ET c rate, calculated with inclusion of tree spacing and ground shading is advised for both Fuji and Gala production. Results were reported to fruit growers in Idaho and the rest of the nation. Many apple growers are discussing use of our results to establish drip systems with the top-performing rootstocks.

### 4. Associated Knowledge Areas

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

### V(H). Planned Program (External Factors)

#### External factors which affected outcomes

- Other (none)

#### Brief Explanation

### V(I). Planned Program (Evaluation Studies and Data Collection)

#### 1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)

#### Evaluation Results

{No Data Entered}

#### Key Items of Evaluation

{No Data Entered}

**Program #4**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Forest Management

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	90%		25%	
213	Weeds Affecting Plants	0%		25%	
215	Biological Control of Pests Affecting Plants	0%		25%	
216	Integrated Pest Management Systems	10%		25%	
<b>Total</b>		<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	3.6	0.0	0.4	0.0
<b>Actual</b>	4.1	0.0	1.4	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
85450	0	92178	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
85450	0	92178	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
149924	0	698942	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

As part of the Idaho Forest Stewardship program, a cooperative effort with the Idaho Dept. of Lands (IDL) and many other partners, UI Extension provided a series of workshops, field days and other educational activities titled "Strengthening Forest Stewardship Skills" (supported in part by grant funds from the USFS through the IDL).

Woodland Notes, a forestry newsletter providing practical advice on forest management, is mailed out twice annually to over 4,000 Idaho panhandle forest owners

In FY 07, 482 owners of nearly 47,000 private forest acres attended Extension workshops and other educational activities in the Idaho panhandle; In FY 07, 94 owners of nearly 23,000 private forest acres attended Extension workshops and other educational activities in the NCIA. In most program evaluations, fewer than half of participants indicated previous involvement in various forestry education or assistance programs.

Research activities associated with this topic team focused on invasive species and soil composition in forest management and sustainability.

## 2. Brief description of the target audience

The primary audiences for this topic team are 1) family forest owners, 2) loggers and 3) natural resource professionals, and 4) governmental agencies such as the US Forest Service and NRCS. Each target audience receives programming specific to their needs.

## V(E). Planned Program (Outputs)

### 1. Standard output measures

#### Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	500	15000	50	200
2007	6398	0	1078	0

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

#### Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

#### Patents listed

### 3. Publications (Standard General Output Measure)

#### Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	1	4	5

## V(F). State Defined Outputs

### Output Target

**Output #1**

**Output Measure**

- Number of workshops, field days, etc.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	30	43

**Output #2**

**Output Measure**

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

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	750	2049

**Output #3**

**Output Measure**

- Number of articles in popular press.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	15	15

**Output #4**

**Output Measure**

- Number of web site "hits".

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	3000	0

**Output #5**

**Output Measure**

- Number of new or revised publications.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	11

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Family forest owners planning to implement specific improved management practices (e.g., monitor for insect, disease, or animal damage; thin forest trees; complete a forest management plan; etc.).I: Numbers of family forest owners indicating they
2	O: Family forest owners' increased awareness, knowledge, and skills related to forest ecology, silviculture, and forest management.I: Number of family forest owners completing program / percentage increase in awareness and knowledge of specific fore
3	O: Loggers increased awareness, and knowledge related to forest ecology, silviculture, and forest water quality.I: Number of loggers completing LEAP / percentage increase in loggers' awareness and knowledge related to forest ecology, silviculture and forest water quality.
4	O: Loggers planning to implement specific improved forest management practices (e.g., monitor for insect, disease, or animal damage).I: Numbers of LEAP Update participants indicating they will adopt specific improved forest management practice
5	O: Loggers earning continuing education hours that can be applied to logging credentials.I: Number of continuing education hours provided to loggers.
6	O: Loggers enrolled in the Idaho Pro Logger program.I: Number of additional loggers enrolled in the Idaho Pro-logger program.
7	O: Natural resource professionals increased knowledge related to specific science and technology.I: Number of foresters and other natural resource professionals completing Extension forestry programs / percentage increase in knowledge related to specific forest science technology.
8	O: Foresters and other natural resource professionals earn continuing education hours that can be used for forester credentials.I: Number of continuing education hours provided to foresters and other natural resource professionals.
9	O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.
10	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: Family forest owners planning to implement specific improved management practices (e.g., monitor for insect, disease, or animal damage; thin forest trees; complete a forest management plan; etc.). I: Numbers of family forest owners indicating they

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	300	255

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results**

In FY 07, 482 owners of nearly 47,000 private forest acres attended Extension workshops and other educational activities in the Idaho panhandle; and 94 owners of nearly 23,000 private forest acres attended Extension workshops and other educational activities in the NCIA. In most program evaluations, fewer than half of participants indicated previous involvement in various forestry education or assistance programs. Participants indicated knowledge increases ranging from 18% to 115%, with an un-weighted average of 77%. Based on evaluation results:

204 N. Idaho family forest owners will monitor for insect, disease, or animal damage;

166 will thin forest trees;

177 will manage to favor larch and pines;

44 will contact a forester for additional assistance

33 will complete a forest management plan;

110 will reduce vegetation competing with tree seedlings;

15 will pursue additional information on conservation easements;

17 will reduce fuels in the home ignition zone

16 will make their home easier for firefighters to access

40 will purchase a GPS receiver

76 will use a GPS receiver for forest management

35 will look into GIS to manage their forest

17 will use internet data sources to manage their forest

34 will apply adaptive silviculture concepts

40 will attend additional forestry education programs;

32 will prune forest trees;

40 will use safety equipment when thinning

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
216	Integrated Pest Management Systems
123	Management and Sustainability of Forest Resources

**Outcome #2**

**1. Outcome Measures**

O: Family forest owners' increased awareness, knowledge, and skills related to forest ecology, silviculture, and forest management. I: Number of family forest owners completing program / percentage increase in awareness and knowledge of specific fore

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	400	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
123	Management and Sustainability of Forest Resources
215	Biological Control of Pests Affecting Plants

**Outcome #3****1. Outcome Measures**

O: Loggers increased awareness, and knowledge related to forest ecology, silviculture, and forest water quality. I: Number of loggers completing LEAP / percentage increase in loggers' awareness and knowledge related to forest ecology, silviculture and forest water quality.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	40	52

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done****Results**

Graduates of the LEAP program demonstrate that they have acquired the requisite knowledge to be certified to sell their logs to a sawmill in Idaho (all of which require LEAP certification to purchase logs).

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
216	Integrated Pest Management Systems
123	Management and Sustainability of Forest Resources

**Outcome #4****1. Outcome Measures**

O: Loggers planning to implement specific improved forest management practices (e.g., monitor for insect, disease, or animal damage).I: Numbers of LEAP Update participants indicating they will adopt specific improved forest management practice

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	230	164

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results**

One-hundred sixty-four loggers attended LEAP Updates. As a result of 2007 LEAP Updates:  
 117 loggers increased their understanding of variable retention harvesting;  
 159 loggers will work more safely around power lines;  
 131 loggers will identify and respond to spruce budworm;  
 149 loggers will use a GPS unit more effectively; and  
 145 loggers increased their understanding of basic forest measurements.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
216	Integrated Pest Management Systems
123	Management and Sustainability of Forest Resources

**Outcome #5****1. Outcome Measures**

O: Loggers earning continuing education hours that can be applied to logging credentials.I: Number of continuing education hours provided to loggers.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	2000	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

not measured

**What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
216	Integrated Pest Management Systems

**Outcome #6****1. Outcome Measures**

O: Loggers enrolled in the Idaho Pro Logger program.I: Number of additional loggers enrolled in the Idaho Pro-logger program.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	35	82

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results**

Enrollment indicates a change in condition, as loggers have adopted a behavior to seek out and apply new information about natural resources and environmental management.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

**Outcome #7****1. Outcome Measures**

O: Natural resource professionals increased knowledge related to specific science and technology. I: Number of foresters and other natural resource professionals completing Extension forestry programs / percentage increase in knowledge related to specific forest science technology.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	150	570

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
216	Integrated Pest Management Systems

**Outcome #8****1. Outcome Measures**

O: Foresters and other natural resource professionals earn continuing education hours that can be used for forester credentials. I: Number of continuing education hours provided to foresters and other natural resource professionals.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	2000	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

not measured

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

**Outcome #9**

**1. Outcome Measures**

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

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	1	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

**Outcome #10**

**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	Quantitative Target	Actual
2007	2	3

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Volcanic ash-influenced soils are the most productive forest soils in the Inland Pacific Northwest region. However, relatively little comprehensive information exists about either the distribution of or management effects on these soils. Compilation of existing management information can provide a major resource for forest managers and scientists, as well as identifying knowledge gaps and new research questions.

**What has been done**

We collaborate with the Natural Resources Conservation Service (NRCS) to examine formation and properties of volcanic ash-influenced soils in the cool, dry environment at Craters of the Moon. We have developed a new model of soil formation that describes the transformation from bare lava to lava that supports scattered plant communities. This information was presented at a field day at Craters of the Moon in June, and we are currently writing a manuscript to be submitted to a research journal.

**Results**

In cooperation with the US Forest Service, a comprehensive document of management of volcanic ash soils was published in 2007. This document examines the characteristics of volcanic ash soils using a large regional National Soil Survey Center Soil Characterization database and describes current state-of-knowledge of management and restoration in the Inland Northwest Region. Our research into the landscape distribution of volcanic-ash influenced soils is aiding the various soil mapping projects throughout the region. A better understanding of the distribution and properties of these soils can provide a basis for development of management strategies that ensure long-term sustainability of the region's forests. The new model that we have developed for soil and plant community evolution at Craters of the Moon impacts the manner in which these lands are being mapped and inventoried. While previously considered non-soil, our work documents the importance of these areas for wildlife habitat. This information is being incorporated into the soil survey of the Craters of the Moon National Monument and Preserve.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants

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

- Other (none)

**Brief Explanation****V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)

**Evaluation Results**

**Key Items of Evaluation**

**Program #5****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Forages

**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%		10%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plai	20%		20%	
204	Plant Product Quality and Utility (Preharvest)	30%		20%	
205	Plant Management Systems	40%		40%	
215	Biological Control of Pests Affecting Plants	10%		10%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	2.4	0.0	0.2	0.0
<b>Actual</b>	3.6	0.0	0.3	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
83493	0	20980	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
83493	0	20980	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
105984	0	86945	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Program activities for the Forages topic team were delivered to 6,006 teaching contacts. Forage topic team projects included: 1) alfalfa production and harvesting, 2) alternative forages, 3) integration of alfalfa irrigation and harvest management, 4) irrigated pasture management, and 5) PNW intensive pasture training workshop and guide. Activities included workshops, tours, seminars, short courses, demonstration projects, poster presentations offered in a total of 98 events. The Forage topic team distributed unbiased scientific information to target audience members and statewide stakeholders through a series of presentations, Extension and research publications, bulletins, popular press articles, trade journals, and indirect media providing timely information related to alfalfa production, management of pasture systems and the production of less traditional forage crops. Clientele continue to seek information on management intensive grazing related research and extension materials.

**2. Brief description of the target audience**

Producers (Livestock and Forage): Livestock and forage producers are likely to be positively impacted by new and improved production practices that will improve their profitability and ecological sustainability. Seed Producers: 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. Allied Industry Suppliers: Supplies of a variety of production input are likely to be positively impacted since improved practices may include the use of new materials, machinery or other production inputs. Small Acreage Land Owners: 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.

**V(E). Planned Program (Outputs)****1. Standard output measures****Target for the number of persons (contacts) reached through direct and indirect contact methods**

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1090	1115	156	50
2007	5953	0	53	0

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

Year	Target
Plan:	0
2007 :	0

**Patents listed****3. Publications (Standard General Output Measure)****Number of Peer Reviewed Publications**

	Extension	Research	Total
Plan			
2007	1	2	3

**V(F). State Defined Outputs****Output Target**

**Output #1****Output Measure**

- Curricula.

Year	Target	Actual
2007	1	0

**Output #2****Output Measure**

- Demonstrations.

Year	Target	Actual
2007	5	1

**Output #3****Output Measure**

- Extension educators trained.

Year	Target	Actual
2007	29	20

**Output #4****Output Measure**

- Extension Publications (eg CIS).

Year	Target	Actual
2007	3	1

**Output #5****Output Measure**

- Grants.

Year	Target	Actual
2007	2	3

**Output #6****Output Measure**

- Media Interview Articles.

Year	Target	Actual
2007	10	8

**Output #7****Output Measure**

- Operator Posters.

Year	Target	Actual
2007	1	0

**Output #8****Output Measure**

- Operator Presentations.

Year	Target	Actual
2007	1	0

**Output #9****Output Measure**

- Papers.

Year	Target	Actual
2007	2	1

**Output #10****Output Measure**

- Popular Press articles.

Year	Target	Actual
2007	13	13

**Output #11****Output Measure**

- Poster Papers.

Year	Target	Actual
2007	3	2

**Output #12****Output Measure**

- Presentations.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	26	52

**Output #13****Output Measure**

- Professional Education Opportunity.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	2

**Output #14****Output Measure**

- Research Papers.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	2

**Output #15****Output Measure**

- Research Presentations.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	3	0

**Output #16****Output Measure**

- School (group of related presentations).

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	8	2

**Output #17****Output Measure**

- Tour (Guided tour of producers practices).

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	10	5

**Output #18****Output Measure**

- Website.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	0

**Output #19****Output Measure**

- Workshops (Multi-day educational activity).

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	12	10

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Clients will become aware of new or preferred production practices!: Number of clients attending schools, number of popular press articles and interview articles published
2	O: Clients will adopt new or preferred production practices!: Percentage of clients indicating in post- surveys that they intend to implement recommended practices
3	O: Number of clients gaining improved understanding of production and harvesting principles and practices!: Percent of clients who demonstrate improved knowlege in pre- and post- testing

**Outcome #1****1. Outcome Measures**

O: Clients will become aware of new or preferred production practices: Number of clients attending schools, number of popular press articles and interview articles published

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	280	638

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
205	Plant Management Systems

**Outcome #2****1. Outcome Measures**

O: Clients will adopt new or preferred production practices: Percentage of clients indicating in post- surveys that they intend to implement recommended practices

**2. Associated Institution Types**

•1862 Extension  
•1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	20	36

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

For a number of years, Idaho Power personnel have assisted farmers with irrigation system energy audits and subsequent re-design of irrigation systems to achieve maximum energy savings. UI Extension and research personnel demonstrated that in some crops such as alfalfa, sugarbeets or potatoes, designs that minimize power cost may not maximize profit.

**What has been done**

Idaho Power is now beginning to change their design philosophy which will give farmers more profitable and flexible systems. With improved system design and better near-harvest irrigation management, alfalfa yield could be increased by about 1 t/ac (about a 10-20% increase).

**Results**

As a result of inputs from Extension and research faculty, Idaho Power is now cost-sharing on irrigation system maintenance and upgrades which will reduce water application losses and enhance water movement into the soil.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
205	Plant Management Systems

**Outcome #3****1. Outcome Measures**

O: Number of clients gaining improved understanding of production and harvesting principles and practices  
I: Percent of clients who demonstrate improved knowledge in pre- and post- testing

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	50	48

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
205	Plant Management Systems

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

- Other (none)

**Brief Explanation**

**V(I). Planned Program (Evaluation Studies and Data Collection)**

**1. Evaluation Studies Planned**

- After Only (post program)
- Before-After (before and after program)
- Time series (multiple points before and after program)
- Case Study

**Evaluation Results**

{No Data Entered}

**Key Items of Evaluation**

{No Data Entered}

**Program #6**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Civil Society

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
805	Community Institutions, Health, and Social Services	100%		100%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	0.9	0.0	0.0	0.0
<b>Actual</b>	1.0	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
22629	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
22629	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
28557	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

Idaho's Journey for Diversity and Human Rights was delivered to explore the cultures along the Clearwater. Manners Mishaps was offered in eight classes to 154 students in 2007. Fifteen diversity workshops were delivered to community members during 2007.

**2. Brief description of the target audience**

Target audience is community members, volunteer leaders, UI staff and volunteers, youth, educators, business people, social service providers, state and local agencies, etc. Audience participates by attending the workshops.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	75	50	60	25
2007	614	0	160	0

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
Plan:	0
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	1	0	1

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Idaho's Journey for Diversity and Human Rights.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	1

**Output #2**

**Output Measure**

- Manners Mishaps.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	8

**Output #3**

**Output Measure**

- Diversity workshops.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	15

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Participants enroll in Civil Society programsl: Number of program participants
2	O: Participants change in knowledge, attitude and behaviorl: Surveys developed for each program

**Outcome #1****1. Outcome Measures**

O: Participants enroll in Civil Society programs: Number of program participants

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	100	387

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

**Outcome #2****1. Outcome Measures**

O: Participants change in knowledge, attitude and behavior: Surveys developed for each program

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	1	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

Participants in Idaho's Journey completed a retrospective pretest survey at the end of the Journey. All participants individually reported changes in the indicators, and as a group those changes were significant. Participants report increases in knowledge of Idaho's past challenges of diversity and human rights and how past challenges can help us understand today's issues. They also learn strategies that may be successful in addressing issues today.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Other (none)

##### Brief Explanation

#### V(I). Planned Program (Evaluation Studies and Data Collection)

##### 1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)

##### Evaluation Results

100% of the participants on the Idaho's Journey report increase knowledge of Idaho's past challenges of diversity and human rights and how past challenges can help us understand today's issues. The average gain in knowledge and ability for participants was a significant 50% greater understanding.

Participants in numerous "four generations in the workplace" workshops and BaFa BaFa cultural awareness workshops rated the activities as informative and as having changed the attitudes of a majority of participants.

##### Key Items of Evaluation

**Program #7****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Family Life Education

**V(B). Program Knowledge Area(s)****1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	100%		100%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	2.0	0.0	0.0	0.0
<b>Actual</b>	1.9	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
42541	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
42541	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
54773	0	0	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Maintained 13 Parents as Teachers program sites, including personal visits, group meetings, child screenings and referrals. Funding for the program was terminated at the end of the year. Married and Loving It! workshops were delivered in two locations. Supported Grandparents as Parents support groups; Offered workshops on aging life issues; Developed web-based materials on parenting, couple relationships, and aging life issues.

**2. Brief description of the target audience**

Family adults, parents, and grandparents, members of couple relationships.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	250	5000	250	0
2007	3348	0	1622	0

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	0	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1****Output Measure**

- Maintain Parents as Teachers sites.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	13	130

**Output #2****Output Measure**

- Offer Married and Loving It series.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	10

**Output #3****Output Measure**

- Offer workshops on aging life issues.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	0

**Output #4****Output Measure**

- Web-based educational materials.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	0	0

**Output #5****Output Measure**

- Newsletter articles.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	5	3

**Output #6****Output Measure**

- Peer reviewed publications.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	0

**Output #7****Output Measure**

- Conference posters/presentations.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	2

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Parents are involved in Parents as Teachers, and show changes in knowledge, attitude and behavior. I: Number of participants/year, measured changes in knowledge, attitude or behavior.
2	O: Couples will participate in Married and Loving It and will change in knowledge, attitude and behavior. I: Number of participants/year; number of participants who change in knowledge, attitude or behavior.
3	O: Families will participate in workshops on aging life issues and are better prepared for challenges of aging in their families. I: Number of participants/year; number of participants who change in knowledge, attitude or behavior.
4	O: Web-based materials on family life are developed, distributed, and read. Users find information useful. I: Number of participants receiving the information, number of participants who rate the information as useful.

**Outcome #1****1. Outcome Measures**

O: Parents are involved in Parents as Teachers, and show changes in knowledge, attitude and behavior. I: Number of participants/year, measured changes in knowledge, attitude or behavior.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	200	63

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results**

Parents report increased knowledge about child development, in their ability to meet the daily challenges of parenting, and in their confidence in parenting skills. Participating parents also report increases in 3 behavioral dimensions shown by research to be linked to positive outcomes for children: reading more to their children, doing more activities with their children and being better networked with other families with children. PAT children also show higher reading readiness scores than non-PAT children.

Parent evaluations after Block Fest show that they see their children engaging in key developmental tasks in math, science, cognitive, language and social development, and that they find Block Fest to be a fun forum for children and adults. A follow-up survey shows that parents read the materials they took, that they have provided opportunities for their children to continue with block play, and that they have found ways to talk about math and science with their children.

**4. Associated Knowledge Areas**

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

**Outcome #2****1. Outcome Measures**

O: Couples will participate in Married and Loving It and will change in knowledge, attitude and behavior. I: Number of participants/year; number of participants who change in knowledge, attitude or behavior.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	30	27

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

**Outcome #3****1. Outcome Measures**

O: Families will participate in workshops on aging life issues and are better prepared for challenges of aging in their families. I: Number of participants/year; number of participants who change in knowledge, attitude or behavior.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	20	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The 2003 Medicare Modernization Act created dramatic changes in Medicare including the first ever prescription drug benefit. This modernization was not only confusing to seniors and their families but also for nursing homes, hospitals, and physicians. These challenges presented opportunities for federal, state, and local agencies and local civic organizations to coordinate their efforts and provide Medicare beneficiaries unbiased education for purchasing this new insurance product.

**What has been done**

UI Extension in Boundary County facilitated a working group comprised of local pharmacists, senior center employees, civic groups, social service and health care organizations and community volunteers to coordinate outreach, education and enrollment assistance for Medicare beneficiaries in Boundary County to launch an awareness campaign targeting civic and homemaker groups, physicians and healthcare professionals, senior centers and other community groups.

**Results**

Partnering with Idaho Department of Insurance, Boundary Regional Community Health Center, Pan-handle Health District, Idaho Department of Health and Welfare and utilizing the UI Extension District I mobile computer lab, 460 Medicare beneficiaries, family members and caregivers received one-on-one education on the plans and 241 beneficiaries were assisted in enrolling in Part D plans. Local pharmacists answered questions about drugs, helped with plan problems after enrollment and referred customers for assistance. Health and Welfare personnel helped coordinate their system and assisted other beneficiaries in finding additional benefits. As a result of the training, one participant began to save over \$250 per month in medications and another couple was awarded 100% subsidy which pays their premiums, deductible and lowered their co-pays to \$2-\$5. The money saved on prescription costs frees up dollars to spend on food, gas, heat and other necessities.

#### 4. Associated Knowledge Areas

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

#### Outcome #4

##### 1. Outcome Measures

O: Web-based materials on family life are developed, distributed, and read.  
Users find information useful. I: Number of participants receiving the information, number of participants who rate the information as useful.

##### 2. Associated Institution Types

•1862 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

##### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### 4. Associated Knowledge Areas

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

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Competing Public priorities

##### Brief Explanation

Termination of our grant forces retraction from Parents as Teachers, and several faculty transferred their efforts into family economics.

## V(I). Planned Program (Evaluation Studies and Data Collection)

### 1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

### Evaluation Results

Many Fort Hall Reservation residents may be unaware or misunderstand the American Indian Probate Reform Act (AIPRA). To assist with this issue, Extension collaborated with local agencies and attorneys to develop and provide AIPRA education to Fort Hall residents. These educational efforts taught tribal members how AIPRA could impact them and provided them with options to pass their trust property in a manner they desired rather than under AIPRA.

Fort Hall Extension formed a partnership to develop and implement a USDA Risk Management Agency estate planning grant to provide education to tribal members regarding AIPRA. Information was delivered through workshops, fact sheet packets, and articles in the local paper for the Fort Hall Reservation and Fort Hall Agricultural Extension Newsletter. Participants were Native Americans mainly from the Fort Hall Reservation and other reservations across the United States. Ten workshops were held in various locations on the Fort Hall Reservation, with over 102 tribal members participating. Four formal presentations were given to more than 130 participants. Many tribal members stopped by the office to discuss AIPRA and pick up informational packets. Over 115 packets were requested and mailed and more than 150 packets were distributed at various reservation locations. To date, 9 news articles have been printed in the local newspaper. As a result of program efforts, tribal members are becoming more informed about their trust property and estate issues. Many program participants made appointments to write wills after attending a workshop. The situation has now changed from tribal members being uninformed and unaware of AIPRA to being well educated and proactive in protecting their individual trust property.

### Key Items of Evaluation

Long-term care is one of the largest and fastest-growing expenses facing families and government. The average annual cost of an Idaho nursing home stay is near \$60,000, with an average stay of 2.3 years. Yet by some estimates, only one-quarter of workers and one-third of retirees have long-term care insurance, and they report only modest levels of retirement savings. Baby-boomers and their families need to understand long-term care options and plan for a "later life" of health and dignity.

University of Idaho Extension teamed with AARP-Idaho and the Canyon Owyhee Financial Literacy Coalition to provide Long Term Care (LTC) workshops for Ada and Canyon County residents. Over the last four years, seven 4-hour seminars were held in Caldwell, Nampa and Boise. Our partnership with AARP-Idaho and co-sponsors provided over \$53,000 of in-kind funding and enabled Extension to recruit large seminar.

Nearly 1,000 participants from Ada, Canyon and surrounding counties attended the seminars in 2003, 2005, 2006, and 2007. Seminar participants learned how to plan for LTC, manage the risk of LTC, and protect their financial security despite LTC's high costs. The seminars generated very positive comments and evaluations from participants, partners, and speakers. Post-evaluations returned by seminar participants indicate:

- 96% became more aware of long-term care issues.
- 88% gained new resources to help them make long term care decisions.
- 92% became more aware of long-term care options.
- 87% increased their knowledge of long-term care insurance.

Actions participants plan to take as a result of attending the Long Term Care Seminar include:

- 74% will review the publications they received.
- 63% will share the information they gained with a family member or friend.

**Program #8****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Sugarbeets

**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	0%		25%	
205	Plant Management Systems	40%		30%	
212	Pathogens and Nematodes Affecting Plants	40%		25%	
213	Weeds Affecting Plants	20%		20%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.4	0.0	0.9	0.0
<b>Actual</b>	2.5	0.0	1.3	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
49318	0	34756	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
49318	0	34756	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
66701	0	1116237	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Program activities for the Sugarbeet topic team were delivered to 3118 teaching contacts. Sugarbeet topic team programming mostly focused on projects related to sugarbeet crop production. Activities include traditional and web publications, presentations at conferences, schools and workshops, field demonstrations and tours, newsletters, telephone and face to face contacts.

**2. Brief description of the target audience**

Those affected by this program are sugarbeet growers and those who advise growers, i.e. sugar company fieldmen and agronomists, chemical companies, seed companies and consultants. Major formal interactions occur via the Idaho Sugarbeet Growers and the Snake River Seed Committee which provided significant research funding for members of this topic team. The specific target audiences most likely to participate in the program are sugarbeet growers, sugar company fieldmen and agronomists, chemical company representatives and seed companies. The primary stakeholder input is through the University of Idaho Sugarbeet Working Group meeting held annually. The Working Group consists of approximately 15 growers from all areas of the state, four sugar company agriculturalists, and University of Idaho faculty working in sugarbeets. The Pest Management Strategic Plan for Western U.S. Sugarbeets provided major stakeholder input. This Plan was the result of a two-day meeting of 57 growers, commodity group representatives, industry field staff, regulators and university specialists from Colorado, Idaho, Montana, Oregon, Washington and Wyoming. This group met in Boise, Idaho on 15-16 Dec. 2004 to prioritize research, extension and regulatory needs of the sugarbeet industry. The plan was completed on August 5, 2005.

## V(E). Planned Program (Outputs)

### 1. Standard output measures

#### Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	3976	4467	0	0
2007	3110	0	8	0

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

#### Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

#### Patents listed

### 3. Publications (Standard General Output Measure)

#### Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	7	2	9

## V(F). State Defined Outputs

### Output Target

**Output #1****Output Measure**

- Publications as lead author.

Year	Target	Actual
2007	23	22

**Output #2****Output Measure**

- Web publications as lead author.

Year	Target	Actual
2007	10	0

**Output #3****Output Measure**

- Presentations.

Year	Target	Actual
2007	44	31

**Output #4****Output Measure**

- Newsletters.

Year	Target	Actual
2007	6	6

**Output #5****Output Measure**

- Organizing schools or conferences.

Year	Target	Actual
2007	2	1

**Output #6****Output Measure**

- Organizing field days.

Year	Target	Actual
2007	5	0

**Output #7****Output Measure**

- Field tours.

Year	Target	Actual
2007	8	2

**Output #8****Output Measure**

- Individual face-to-face contacts.

Year	Target	Actual
2007	348	0

**Output #9****Output Measure**

- Telephone contacts.

Year	Target	Actual
2007	1028	0

**Output #10****Output Measure**

- Web page visits.

Year	Target	Actual
2007	2700	0

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Adoption of best management practices for sugarbeet production will maximize cost-effectiveness while minimizing potential harm to environmental resources, benefiting sustainability of the agro-ecosystem and human health.I: Percentage reduction in input costs (survey).
2	O: Target audiences will gain knowledge and an awareness of sugarbeet publications and other sources of information.I: A percentage increase in knowledge measured by pre- and post-tests, presentation evaluations, field day attendance, etc.
3	O: An increase in adoption of IPM practices and BMP's.I: Number of growers adopting 1 or more IPM practice or BMP's. Survey, publication use, and website visits.
4	O: Development of new research information.I: Research publications and presentations.
5	O: Adoption of best management practices for sugarbeet production will cause more acres to be planted as a result of maximized cost-effectiveness.I: Increase in the total acreage of sugarbeets.

**Outcome #1****1. Outcome Measures**

O: Adoption of best management practices for sugarbeet production will maximize cost-effectiveness while minimizing potential harm to environmental resources, benefiting sustainability of the agro-ecosystem and human health.I: Percentage reduction in input costs (survey).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	1	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #2****1. Outcome Measures**

O: Target audiences will gain knowledge and an awareness of sugarbeet publications and other sources of information.I: A percentage increase in knowledge measured by pre- and post-tests, presentation evaluations, field day attendance, etc.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	10	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #3**

**1. Outcome Measures**

O: An increase in adoption of IPM practices and BMP's.I: Number of growers adopting 1 or more IPM practice or BMP's. Survey, publication use, and website visits.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	10	0

**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
205	Plant Management Systems
213	Weeds Affecting Plants
212	Pathogens and Nematodes Affecting Plants

**Outcome #4**

**1. Outcome Measures**

O: Development of new research information.I: Research publications and presentations.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	1	2

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Weeds are a major pest problem in sugar beet production. They compete with the crop for nutrients, moisture, and light, which reduces root yield and quality. Weeds also interfere with harvest and contribute to weed problems in successive crops.

**What has been done**

In 2007, 8 sugar beet weed control studies were conducted. Five of these studies were funded by the Idaho Sugar Beet Growers Association and the Snake River Seed Committee.

**Results**

Research related to sugarbeet weed control will be presented in Extension publications, refereed journals, research presentations.

**4. Associated Knowledge Areas**

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

**Outcome #5****1. Outcome Measures**

O: Adoption of best management practices for sugarbeet production will cause more acres to be planted as a result of maximized cost-effectiveness.  
I: Increase in the total acreage of sugarbeets.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	3000	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done**

## Results

### 4. Associated Knowledge Areas

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

### V(H). Planned Program (External Factors)

#### External factors which affected outcomes

- Other (climate)

#### Brief Explanation

### V(I). Planned Program (Evaluation Studies and Data Collection)

#### 1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

#### Evaluation Results

Management of irrigation water during water-short years involves tradeoffs in yield and quality losses for each of the crops being irrigated. Ideally, water could be managed to maximize yield and quality for each crop. However, this requires knowledge of crop yield and quality response to water stress over a range of time in mid to late season. Therefore, the greatest need in sugarbeet irrigation research appears to be conducting well-controlled field trials to better define the yield and sugar content response to irrigation cutoff at dates before and after August 1. In 2007, two types of soil moisture sensors and data loggers were installed in a sugar beet trial to study irrigation and collect useful information for irrigation management with limited water supply. The data set will be included in a W-1128 study comparing ET prediction methods across a number of crops and climate conditions in the western region. Both sets of sensors and data loggers were useful in describing soil moisture changes and served as a good indicator of when and how much to irrigate to avoid either crop stress or excess water application. Field studies in 2006 and 2007 were conducted on high-calcium soils to evaluate the impact of varying stand count on beet tonnage and sugar content on marginal-quality soils. One goal of the study is to maximize the harvestable sugar produced per acre. Observations at harvest indicated noticeable differences in beet size for the different plant populations. In general, as plant population per acre is increased, beet size is reduced. At high plant populations, a significant number of beets that were hand harvested from the plots would not be harvestable by machine. The data will be analyzed and presented at the 2008 Sugarbeet School. This information will help producers determine the best stand count to optimize sugar production on marginal quality soils. Current practice is to increase stand counts above what appears optimum on these soils. Better matching fertilizer application to a realistic yield goal on these soils will also reduce cost of nitrogen fertilizer used, and minimize potential for groundwater contamination by deep movement of unused nitrate. Results from 2006 and preliminary observations from 2007 indicate that plant populations of about 130-150 beets per 100 feet of row produce the highest tonnage and sugar yield.

#### Key Items of Evaluation

**Program #9**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

4-H Youth Development

**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	15%		10%	
803	Sociological and Technological Change Affecting Individuals,	15%		10%	
806	Youth Development	70%		80%	
<b>Total</b>		100%		100%	

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	12.2	0.0	0.0	0.0
<b>Actual</b>	18.4	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
405535	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
405535	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
787672	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

#### Project 1: Expanding Science and Technology Skills

Faculty gave more than 50 presentations to youth and leaders about science and technology, and hundreds of volunteer leaders relayed their learning to 4H members. Events and activities ranged from Wildlife Habitat Fun Days and Science school days to computer science, digital photography, and Lego League robotics. 4,250 youth and 612 adult contacts were classified as science and technology.

#### Project 2: Healthy Lifestyles

Efforts in Healthy lifestyles included activities such as 4-H Cooking Camps, Afterschool 4-H Walking Clubs and other pedometer programs, 4-H Fridays Activity Days and project days and healthy lifestyles programs delivered at the request of 8th grade teachers and county parks and recreation officials.

#### Project 3: Volunteer Development and Leadership

Activities for 4-H volunteer leaders include new leader orientation (taught at the beginning of the 4H year in most Idaho counties); classes about new projects and teaching methods; workshops on dealing with difficult people and working with different cultures; county, state, and regional leaders' forums; and special volunteer recognition events such as Especially for You Day and Celebrate Volunteers Retreat. Programs around the Idaho 4H Hall of Fame, the 4-H Endowment and the State 4-H Advisory Board are other opportunities to learn about leadership and to spotlight excellence in leadership.

Youth leadership activities included Teen Conference and National 4H Congress where youth participated in workshops, tours, cultural activities, and community service projects. Idaho's Teen Ambassadors and our 4H exchange program (this year with Texas) and special trainings such as "Please Stand Up Against Hate" help young leaders grow and learn.

#### Project 4: Reaching Underserved Audiences

Food, Culture and Reading was piloted in two sites for the national 4-H curriculum committee. One site was a low income Boise Elementary School and the other was at Eagle library where more affluent clientele attended. Extension Educators also worked together to provide a 4-H Youth Development Program (ESL 4-H) to youth whose parents attend adult ESL classes. Operation: Military Kids delivered dozens of programs and activities for non-traditional 4-Hers, and the Notus Day Camp was highly effective to reach the low income families in that area. 4-H faculty, staff, and stakeholders advisory boards all implement activities to increase participation in 4-H by underserved audiences.

#### Project 5: Youth Adult Partnerships

Many reoccurring activities in 4-H are conducted with a goal to place youth and adults together in collaborative, learning environments. Such is the case with the planning committees for the Know Your Government conference and the 4-H Teen Conference. Youth and adults are trained together prior to participation in the National 4-H Conference and other events.

Family Fun Night was a product of the Youth Adult Forum and funding provided by the Engaging Youth Serving Community 5 Grant. This allowed a group of youth and adults to create an alcohol free family night at the Lemhi County Fair.

Project 6: Strengthening Families and Communities Through Positive Youth Development Programs Extension Educators, Coordinators, Assistants and volunteers offered classes, learning activities, training sessions and curriculum to involve youth and their families in programs that teach skills and personal development.

## 2. Brief description of the target audience

Expanding Science and Technology Skills

- Idaho Youth, ages 5-19
- Adult and youth volunteers
- School enrichment and after school youth
- Teachers and Out-of-school instructors

Healthy Lifestyles

- Idaho Youth, ages 5-19
- Adult and youth volunteers
- School enrichment and after school youth

Volunteer Development and Leadership

- Idaho Youth, ages 12-19
- 4-H /Youth Volunteers
- Youth Development Staff
- Community Leaders

Reaching Underserved Audiences

- Hispanic Youth and Adult volunteers
- Native American Youth and adult volunteers
- Children of Military Families and adult volunteers

Youth and Adult Partnerships

- Idaho Youth, ages 12-19
- 4-H /Youth Volunteers
- Youth Development Staff
- Community Leaders

Strengthening Families and Communities

- Idaho Youth, ages 5-19
- Adult and youth volunteers
- Youth Development Staff
- Community Leaders
- Hispanic Youth and Adult volunteers
- Native American Youth and adult volunteers
- Children of Military Families and adult volunteers

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	6546	1500	32491	8000
2007	45453	0	67045	0

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	1	0	0

**V(F). State Defined Outputs**

**Output Target**

**Output #1****Output Measure**

- Number of youth in educational classes and workshops.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	32500	30272

**Output #2****Output Measure**

- Number of volunteers in educational classes and workshops.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	6560	2001

**Output #3****Output Measure**

- Number of opportunities to market 4-H Youth Development.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	155	17

**Output #4****Output Measure**

- Number of educational classes, workshops taught.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1070	187

**Output #5****Output Measure**

- Number of publications, newsletters and columns.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	330	160

**Output #6****Output Measure**

- Number of 4-H clubs or groups.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2090	1902

**Output #7****Output Measure**

- Number of youth attending statewide 4-H events.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	450	382

**Output #8****Output Measure**

- Number of volunteers attending state, regional events.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	285	82

**Output #9****Output Measure**

- Number of TV/Radio appearances.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	10	1

**Output #10****Output Measure**

- Number of radio stations airing 4-H PSA's.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	20	0

**Output #11****Output Measure**

- Number of hits on the web site each year.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	20000	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	O: More youth will participate in 4-H Youth Development programs designed to expand science and technology skills; these youth will demonstrate increased knowledge and skills.I: Number of youth participating in 4-H Youth Development programs designed to expand science and technology skills.
2	O: More volunteers will be trained to assist with 4-H Youth Development programs designed to increase knowledge and skills in science and technology.I: Number of volunteers trained to assist in expanding these programs.
3	O: More opportunities for youth to gain education and skills in science and technology.I: Number of opportunities offered through 4-H Youth Development programs.
4	O: Youth participating in 4-H Youth development programs will increase their knowledge of healthy lifestyle behaviors.I: Number of youth who increase their knowledge of healthy behaviors.
5	O: Youth participating in 4-H Youth Development programs will increase participation in healthy lifestyle behaviors.I: Number of youth who participate in healthy lifestyle behaviors.
6	O: Volunteers will be trained to assist in expanding healthy lifestyles curriculum through 4-H Youth development programs.I: Number of volunteers trained to assist in expanding this knowledge.
7	O: There will be more opportunities to learn and practice healthy lifestyle behaviors through 4-H Youth programming.I: Number of educational opportunities.
8	O: More adults and youth will volunteer to assist with 4-H Youth Development programs.I: Number of volunteers recruited.
9	O: Volunteers in the 4-H Youth development programs will increase their leadership and volunteer skills through training.I: Number of volunteers trained.
10	O: Trained volunteers will stay with the program longer.I: Number of volunteers retained.
11	O: Increased participation of underserved audiences in 4-H Youth Development programs.I: Number of participants.
12	O: Increased opportunities for underserved audiences to participate in 4-H Youth Development programs.I: Number of opportunities.
13	O: Youth and adult volunteers will assist with programs that serve underserved audiences.I: Number of volunteers.
14	O: Increase the number of youth-adult partnerships developed through training in 4-H Youth Development programs.I: Number of youth trained.
15	O: Increase the number of youth-adult partnerships developed through the 4-H Youth Development programs.I: Number of adults trained.
16	O: There will be more opportunities for youth and adults to form partnerships through the 4-Youth development programs.I: Number of opportunities.
17	O: Increased participation by youth in 4-H Youth Development Programs and activities.I: Number of youth.
18	O: More trained volunteers will assist with 4-H Youth Development programs and activities.I: Number of volunteers.
19	O: More opportunities for youth, volunteers and families to participate in 4-H Youth Development programs and activities.I: Number of opportunities.

**Outcome #1****1. Outcome Measures**

O: More youth will participate in 4-H Youth Development programs designed to expand science and technology skills; these youth will demonstrate increased knowledge and skills. I: Number of youth participating in 4-H Youth Development programs designed to expand science and technology skills.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	2500	2415

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Creating and implementing opportunities to engage youth in Science, Technology, Engineering, and Mathematics (STEM) learning activities have been identified as critical needs and as national educational priorities. In 2003, 1.3 million engineering and engineering technology jobs were available in the U.S. without trained people to fill them. The lack of U.S. students pursuing science and engineering degrees and careers is considered a threat to our economy and our security.

**What has been done**

Idaho 4-H has brought the FIRST activities to Idaho. In the FIRST programs, youth learn to work in teams to solve problems, to explore scientific phenomena, and to use their imaginations and intelligence while learning science and engineering principles. Partnering with members of the Idaho Space Grant Consortium from the UI College of Engineering, a UI Extension 4-H specialist is developing a K-12 program to provide youth with a continuous opportunity to engage in authentic STEM activities.

**Results**

Statewide two primary robotics programs have been implemented: Junior FIRST Lego League (JFLL) for children 6-9 years old and FIRST Lego League (FLL) for children 9-14. In these two programs, 340 youth and 32 adults were trained. Currently, 16 formal FLL Teams and 10 JFLL teams have been organized, trained, and equipped. The Lego Robotics program is more than just science and technology. It is also about helping youth develop life skills. Several 4-H Club and after-school programs have recently requested support in introducing robotics activities in their areas. These programs will be supported by some new funding provided by the Idaho 4-H Endowment. Lego robotics promises to be an excellent opportunity for youth to engage in real-life, problem-solving activities in which they employ technology to learn not only fundamental principles and practices of science and engineering, but also learn and use many of the life skills promoted through 4-H.

**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**

O: More volunteers will be trained to assist with 4-H Youth Development programs designed to increase knowledge and skills in science and technology. I: Number of volunteers trained to assist in expanding these programs.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	165	201

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

**Outcome #3****1. Outcome Measures**

O: More opportunities for youth to gain education and skills in science and technology. I: Number of opportunities offered through 4-H Youth Development programs.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	90	109

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

**Outcome #4****1. Outcome Measures**

O: Youth participating in 4-H Youth development programs will increase their knowledge of healthy lifestyle behaviors. I: Number of youth who increase their knowledge of healthy behaviors.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	8500	13021

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The Healthy Eating Index (HEI) was developed to assess and monitor the dietary status of Americans. The percentage of the population that met the recommendations for MyPyramid consumption was as follows: Fruit (17%), grains (24%), vegetables (28%), milk (30%), and meat (30%). On average, 10% of the population had a good diet, 16% had a poor diet, and the remainder had a diet that needs improvement. School-age children had a mean HEI score of 66 out of 100.

**What has been done**

University of Idaho extension educators in Franklin and Bingham counties developed and presented an educational program to teach and motivate kindergarten- and elementary-age children to follow MyPyramid for Kids. During the 2006-2007 school year, 1840 students from eight schools participated in this program. Ninety-two sessions were taught.

**Results**

Students in 3rd, 4th, and 5th grades completed a questionnaire before the program and immediately after the program (n=723). When asked if they learned something new about MyPyramid from the class, 85 percent (613 students) said yes and 15 percent (110 students) said no. Components of the program where students demonstrated knowledge gain were: grain, vegetable, milk, meat, and physical activity ( $p < 0.05$ ).

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development
724	Healthy Lifestyle

**Outcome #5****1. Outcome Measures**

O: Youth participating in 4-H Youth Development programs will increase participation in healthy lifestyle behaviors. I: Number of youth who participate in healthy lifestyle behaviors.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	5000	1237

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

County 4-H Program Coordinators and Extension Educators from District III Cooperative Extension taught youth about healthy eating and 4-H curriculum. The 4-H Cooking Camp included plenty of cooking, eating, crafts and fun and was developed to provide more education about 4-H Family and Consumer Sciences foods projects curriculum.

**What has been done**

4-H Cooking Camps were held in the spring of 2007 in Blaine and Gooding Counties. These activities were designed by Extension personnel to introduce 4-H cooking curriculum and to encourage participation in foods projects. The 4-H Cooking Camp consisted of an introduction to MyPyramid and the importance of healthy eating and exercise. Basic baking terms, equipment, and food safety were discussed, and then a morning snack was prepared.

**Results**

The majority of the participants attending each camp was from 9-11 years of age and included 4-H and non-4-H members. Evaluations indicated that all the youth and adults learned about healthy eating, developed new cooking skills, and would be more careful about safely handling food. Non-4-H members from Blaine County decided to enroll in a 4-H foods project, and most of the youth also indicated they would encourage their family to enjoy healthier meals. Other comments from the young cooks included, I loved seeing my friends and making new ones. It was very fun, hopefully I may enroll for a 4-H project. and I loved how we went on a walk and learned to cook a few things! It was also apparent that the youth really enjoyed decorating an apron or hat to take home and assembling a scrapbook of completed activities and recipes. Other important information gathered from evaluations showed hands on activities were the favorites.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development
724	Healthy Lifestyle

**Outcome #6****1. Outcome Measures**

O: Volunteers will be trained to assist in expanding healthy lifestyles curriculum through 4-H Youth development programs. I: Number of volunteers trained to assist in expanding this knowledge.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	370	93

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

**What has been done****Results****4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle
806	Youth Development

**Outcome #7****1. Outcome Measures**

O: There will be more opportunities to learn and practice healthy lifestyle behaviors through 4-H Youth programming. I: Number of educational opportunities.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	145	136

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Family meal time provides opportunities for social development. However, fewer families are eating together on a daily basis. In a Harvard study, approximately 17% of more than 16,000 children ate dinner with members of their family never or some days, and only 40% on most days. With fewer meals together, opportunities are lost for parents to teach table manners. When students encounter social situations with meals, they may lack the knowledge and skills of basic table manners.

**What has been done**

University of Idaho Extension Educators developed a program to teach youth table etiquette titled Manner Mishaps which focuses on table etiquette for a target audience of teenagers. Through the use of fun activities, the students can quickly learn a skill they will use the rest of their lives in relationship and work situations. The students learn which piece of silverware to use for each part of the meal, how to eat different types of food and the proper use of a napkin.

**Results**

Program evaluation included a 10 question test administered at the beginning and at the end of the program. The difference in scores on the pre-test and post-tests indicates changes in knowledge.

The average score on the pre-test was 65.9% and the average score on the post-test was 95%, an increase of 29%.

At the conclusion of the class students completed a questionnaire measuring their attitudes and predicted behavior change. Results of the survey indicate:

- 97% agreed or strongly agreed that participating in the program would be helpful in their future.
- 97% agreed or strongly agreed that the program was interesting.
- 98% agreed or strongly agreed that the activities were helpful.
- 56% learned how to set a table and 28% were already setting it properly.
- 65% learned what each piece of silverware is used for and 23% were already using silverware properly.
- 55% learned what to do with the napkin and 32% indicated they were already using a napkin correctly.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development
724	Healthy Lifestyle

**Outcome #8****1. Outcome Measures**

O: More adults and youth will volunteers to assist with 4-H Youth Development programs.I: Number of volunteers recruited.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	2000	183

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #9****1. Outcome Measures**

O: Volunteers in the 4-H Youth development programs will increase their leadership and volunteer skills through training.I: Number of volunteers trained.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	5500	3588

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Boulder Mountain Youth Camp, conducted at the South Central Idaho 4-H Camp since 2002, typically has 100-120 youth and adults participate in the weeklong event. Many youth are 4-H members but the majority of members are not. Participants engage in activities that contribute to the overall theme of the camp. The planning committee has great ideas for workshops and activities, however finding individuals willing to direct and teach youth activities can be a challenge.

**What has been done**

A counselor training is offered prior to camp where counselors either elect to help lead youth from activity to activity, or they conduct a workshop. Counselors who select a workshop must plan, organize, prepare, and lead the workshop. Camp fees provide needed materials for these workshops. Topics have included; building rockets, Costa Rica, France, making cookies in a jar, and making bat houses. Building community service items included what to build, what is needed, and who to give it to.

**Results**

A 2007 survey of camp adults indicated that over the past five years, youth step-up to the challenge of doing a workshop and they grow in leadership skills. One adult stated The counselors leading workshops are becoming more and more comfortable in their teaching role. The planning committee was able to achieve their goals. Camp counselors were able to take a more active role in camp planning and were given the opportunity to build on their organizational and leadership skills. The use of counselors this gave the camp more people resources. One 4-H Program Coordinator stated that our camp counselors are highly recruited for another non 4-H camp. Camp organizers from other organizations, recognize the leadership in our youth. Also, youth have increased in their participation in other activities. This has helped their teen group program be successful.

**4. Associated Knowledge Areas**

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

**Outcome #10**

**1. Outcome Measures**

O: Trained volunteers will stay with the program longer. I: Number of volunteers retained.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	5000	4421

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

806	Youth Development
724	Healthy Lifestyle

**Outcome #11****1. Outcome Measures**

O: Increased participation of underserved audiences in 4-H Youth Development programs. I: Number of participants.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	8900	2162

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

In 2006-2007 the Junior Master Gardener (JMG) pilot has reached over 950 Latino youth. Meeting the needs of Latino youth has been identified as one of its highest priorities in Idaho. Spanish JMG resources are being made more available in Idaho in order to train Latino teachers and parents to become certified JMG facilitators. Also, this pilot program aims to increase the awareness of important Latino health issues such as diabetes, exercise, and healthy eating habits.

**What has been done**

Bilingual JMG programs were delivered to provide appropriate instruction for Latino youth. In 2006, partnerships were formed with the Hispanic Cultural Center of Idaho, Boys and Girls Clubs, Nampa and Boise School Districts, and Padres Unidos. In 2007, the program fostered new alliances with Centro de Comunidad y Justicia, the Bilingual Education Student Association at Boise State University, Wells Fargo, the Caldwell Chamber of Commerce, La Prensa Libre, and Idaho Unido.

**Results**

In 2007 the pilot delivered six programs.

Hispanic Health Disparities Conference. This program reached nearly 40 youth. Participants made Far-out Bird Feeders and became more aware of the birds that are native to this area and the interconnectedness of humans and animals.

Cinco de Mayo in Nampa. Nearly 200 youth planted Clean Air Neck Pets where they discovered the symbiotic relationship of oxygen-carbon dioxide exchange between plants and people.

Fiesta de Salsa workshops. Held on 3 occasions for families at the Hispanic Cultural Center. In the workshops participants learned about the 6 plant parts we eat, the differences between fruits and vegetables, and different herb fragrances.

Summer Migrant School Program. Thirty 4th graders did activities from the JMG Health and Nutrition curriculum. These lessons provided participants with greater awareness of important health topics related to Latinos that included: obesity, making healthy snack choices, reading food labels and diabetes.

**4. Associated Knowledge Areas**

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

**Outcome #12**

**1. Outcome Measures**

O: Increased opportunities for underserved audiences to participate in 4-H Youth Development programs. I: Number of opportunities.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	195	152

**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
724	Healthy Lifestyle
803	Sociological and Technological Change Affecting Individuals, Families and Communities

**Outcome #13**

**1. Outcome Measures**

O: Youth and adult volunteers will assist with programs that serve underserved audiences. I: Number of volunteers.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	200	303

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

## Results

### 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 #14

#### 1. Outcome Measures

O: Increase the number of youth-adult partnerships developed through training in 4-H Youth Development programs. I: Number of youth trained.

#### 2. Associated Institution Types

•1862 Extension

#### 3a. Outcome Type:

Change in Knowledge Outcome Measure

#### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	840	1451

#### 3c. Qualitative Outcome or Impact Statement

##### Issue (Who cares and Why)

Idaho rural families struggle with finding youth motivated to attend college. Livestock judging is part of the 4-H and FFA youth programs that youth can do very well at and get excited about. Many community colleges and universities have college level teams that compete at regional and national contests and offer full or partial scholarships. Livestock judging builds youth life skills in critical thinking, oral presentations, and personal confidence.

##### What has been done

A Judging Camp was organized for youth ages 13-18. Youth and adults learn from top livestock judging coaches and their teams to properly evaluate livestock, and increase oral reasons skills. Camp participants learned about current trends of breeding, and market quality in beef, sheep, and swine species. Ninety youth and adults from five different states attended the 1st annual Southern Idaho Livestock Judging Camp, hosted by University of Idaho Extension.

##### Results

Seventy-eight percent of participants stated that they learned more about college, while 100% surveyed stated they wanted to attend college. Results showed that 79% of those participating were at a judging camp for their first time, while 11% gave their first set of oral reasons. Results also showed that 18% were in the advanced reasons category. What participants liked most about camp included:

- Encouragement to meet new people and learn things we dont know.
- Meeting the Casper College Students.
- Learning about different states (Colleges) Ag. Programs.
- Meeting the college instructors and building confidence for college.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

### Outcome #15

#### 1. Outcome Measures

O: Increase the number of youth-adult partnerships developed through the 4-H Youth Development programs. I: Number of adults trained.

## 2. Associated Institution Types

•1862 Extension

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	242

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

#### What has been done

#### Results

## 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 #16

### 1. Outcome Measures

O: There will be more opportunities for youth and adults to form partnerships through the 4-Youth development programs. I: Number of opportunities.

## 2. Associated Institution Types

•1862 Extension

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Research studies and public opinion polls indicate there are several important issues facing rural youth that can be addressed through existing youth development organizations. By involving youth and adults working together, youth can become more engaged in the decision making within their communities.

#### What has been done

University of Idaho Extension 4-H Youth Development received a \$25,000 from National 4-H Council to address rural youth issues by developing leadership and life skills in youth so they can work in partnership with adults to improve their own lives and the communities in which they live. A core team was trained in community issues identification and meeting facilitation skills. Each rural community received up to \$2,500 in funds to conduct the community forum and to begin implementing their plan.

### Results

A total of 14 youth and 25 adults have been reached through the Notus Engaging Youth, Serving Communities (EYSC) Project. An additional 136 youth and 15 adults were recently approached as part of a recruiting event for the Notus Youth Council. Following community forums, youth and adults will maintain partnerships together to implement community action plans. Completing implementation of the action plans will help youth move through a process of meaningful problem identification and problem solving and will allow youth to see their impact as effective change agents to expand the human, social, cultural and political capitals in their communities. This provides youth with further opportunities for meaningful civic involvement. University of Idaho 4-H Youth Development has been approved to apply for up to \$25,000 in renewal grant funds for further implementation of the community action plans and involvement of additional rural communities.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### Outcome #17

##### 1. Outcome Measures

O: Increased participation by youth in 4-H Youth Development Programs and activities. I: Number of youth.

##### 2. Associated Institution Types

•1862 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	9950	30272

##### 3c. Qualitative Outcome or Impact Statement

###### Issue (Who cares and Why)

University of Idaho and partnering agencies offer a Natural Resources Camp. The 2007 the camp was in its 48th year. The purpose of the camp is to educate Idahos youth on the value of natural resources from many different views. Wise use, conservation, and proper management of resources are the key points of the camp. Five resource areas are highlighted: Forestry, Rangeland, Soils, Water, and Wildlife.

###### What has been done

Professionals deliver classroom lecture and outdoor laboratory experiences focused on understanding the complex natural resource issues facing all Idaho residents. A goal is to help participants realize that whether they live on a farm, ranch, in a small town, or in Idahos largest population center, these issues affect everyone. One activity is the Big Wood Simulation Game where campers are broken into special interest groups representing competing and conflicting interests.

### Results

Extension Specialists and Educators designed a pre-post test with questions from all the resources areas. Participants are given the test when they first arrive at camp, and then again after the camp is complete. The results are compared and awards are given for highest post-test score and most improved. The pre-test composite score was 27.24/55. The post-test composite score was 44.82/55. This equated to a 67.5% improvement in the composite score. The highest pre-test score was 38/55, while the highest post-test score was 55/55. The most improved score was 142.1% going from a pre-test score of 19/55 to a post-test score of 46/55. The lowest individual improvement was 28%.

The camp presents a unique learning and premier camping opportunity for youth of Idaho. We will strive to see this camp celebrates its 50th anniversary and more importantly, to see that this type of learning opportunity is continued for our young people.

#### 4. Associated Knowledge Areas

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

#### Outcome #18

##### 1. Outcome Measures

O: More trained volunteers will assist with 4-H Youth Development programs and activities. I: Number of volunteers.

##### 2. Associated Institution Types

•1862 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1650	4279

##### 3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

#### 4. Associated Knowledge Areas

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

#### Outcome #19

##### 1. Outcome Measures

O: More opportunities for youth, volunteers and families to participated in 4-H Youth Development programs and activities. I: Number of opportunities.

##### 2. Associated Institution Types

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	950	8530

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

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

- Government Regulations

**Brief Explanation****V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)

**Evaluation Results**

Snake River Jr. High students completed an assessment on their money personality and made choices on spending habits. All of the students learned about their spending habits. Due to learning their spending habits 60% said they would spend their money differently.

Both boys and girls participating in the weekly English as a Second Language 4-H program included youth from Hispanic, Iranian, and Bosnian families. Youth were asked about the ESL 4-H program and they stated that they enjoyed the games, learning about projects, and liked the help with homework. The last class was surveyed about their participation; 71% stated they made new friends. 57% developed a new skill in an area that they enjoyed. 71% stated that they could be more independent and take care of themselves. And 30% stated that because of the ESL 4-H program they had improved their self-confidence.

Parents stated that they liked the program because it allowed their children to gain socialization skills and to practice their English more. The program also prepared one of the youth for starting Pre School. One parent stated that she and her child were bonding better because they were "going to school together".

**Key Items of Evaluation**

**Program #10**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Range Management

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
121	Management of Range Resources	40%		25%	
133	Pollution Prevention and Mitigation	0%		5%	
213	Weeds Affecting Plants	20%		25%	
216	Integrated Pest Management Systems	0%		5%	
302	Nutrient Utilization in Animals	0%		5%	
307	Animal Management Systems	25%		25%	
605	Natural Resource and Environmental Economics	10%		5%	
610	Domestic Policy Analysis	5%		0%	
901	Program and Project Design, and Statistics	0%		5%	
<b>Total</b>		100%		100%	

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	2.6	0.0	0.6	0.0
<b>Actual</b>	4.0	0.0	1.1	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
86309	0	82270	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
86309	0	82270	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
124035	0	980919	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

A winter forage trial was conducted in Birch Creek near Lone Pine, Idaho. Four range grass cultivars were planted in November 2005 and four forage kochia cultivars were planted in December 2005. During 2006, 2007 and subsequent years, data was collected and information disseminated to stakeholders.

The winter forage trial demonstrated forages that can be grazed in late fall and winter, allowing for extended grazing periods and reduced hay feeding costs. Utah State University economists say that feeding cattle hay cost about \$1.00/head/day. This is the largest single expense for cattle producers. Economists also report that grazing cost about \$.24 to \$.50/head/day.

In 2007 two plot tours were conducted. A total of 41 people attended the tours. These included ranchers, educators, college students, and NRCS personnel.

In cooperation with USDA-ARS Forage and Range Research Laboratory, a Range and Pasture Management Workshop was held in Pocatello, Idaho on January 25th. Speakers were from USDA-ARS, Utah State University Extension, and U of I Extension. Subjects included grass, legume, and forbs selection and management, pasture and range renovation and establishment, weed management, animal nutrition and grazing management. 110 people attended.

The Natural Resource 4-H Day Camp was organized in cooperation with Jefferson Soil and Water Conservation District and U of I Jefferson County Extension 4-H. 14 youth attended. Subjects included plants, animals, ecosystems, soils and water conservation. Each child planted a tree seedling in a pot to take home.

Several research projects were funded to address key issues related to rangeland ecology, especially issues associated with invasive species and noxious weeds.

## 2. Brief description of the target audience

Ranchers, land managers, youth, policy makers, environmental restoration advocacy groups, and other research scientists.

## V(E). Planned Program (Outputs)

### 1. Standard output measures

#### Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	2500	500	90	175
2007	5657	0	573	0

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

#### Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

#### Patents listed

### 3. Publications (Standard General Output Measure)

#### Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	5	5	10

**V(F). State Defined Outputs****Output Target****Output #1****Output Measure**

- Range and weed tours.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	4	4

**Output #2****Output Measure**

- Range monitoring and grazing workshops.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	4	5

**Output #3****Output Measure**

- Weed workshops and presentations.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	38

**Output #4****Output Measure**

- 7th grade science school.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	2

**Output #5****Output Measure**

- BEHAVE training.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	8	1

**Output #6****Output Measure**

- Extension publications.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	5

**Output #7****Output Measure**

- Refereed scientific journal articles.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	{No Data Entered}	5

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Awareness of new, accepted or recommended grazing and weed management practices.I: Number attending educational events.
2	O: Youth learning about rangeland ecology and management.I: Number of youth participating in school programs on range.
3	O: Extension Educators & NRCS personnel understanding and teaching BEHAVE principles.I: Number of Extension Educators & NRCS trainers trained.
4	An increase in the number of trained graduate students prepared to enter the workforce.

**Outcome #1****1. Outcome Measures**

O: Awareness of new, accepted or recommended grazing and weed management practices. I: Number attending educational events.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	270	1604

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The annual stewardship ride, held on the Muleshoe Ranch, is co-sponsored by the Lemhi Country Cattle and Horse Growers Association, Lemhi Soil and Water Conservation District and Lemhi County Extension. The Muleshoe Ranch wanted input on issues with the BLM allotment so the ride was organized to offer an on-the-ground discussion about the ranchers challenges. One of the suggested changes was the use of protein barrels to help scatter the cattle and keep them in the high country.

**What has been done**

Low-moisture blocks have been successfully used in Montana and New Mexico to alter grazing patterns and extend grazing seasons, but never in the summer or on steep terrain. Under the guidance of University of Idaho Dr. Karen Launchbaugh, the rancher and cooperators applied for and received a grant to start this project. Beginning in June of 2007, low moisture blocks were placed on various pastures within the Gould Basin allotment and cattle use was monitored with gps then mapped.

**Results**

The maps showed cattle utilization patterns over the pastures where low-moisture blocks were located. Approximately 500 acres of range went from being slightly utilized to light to moderate utilization. Gould Basin was grazed for 30 days with 200 head of cows with calves in both 2006 and 2007. Though there wasnt an increase in grazing days, there was better distribution of the cattle throughout the pasture. This was a major accomplishment considering it was over 100 degrees during the grazing period.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
121	Management of Range Resources
307	Animal Management Systems
213	Weeds Affecting Plants

**Outcome #2****1. Outcome Measures**

O: Youth learning about rangeland ecology and management. I: Number of youth participating in school programs on range.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	110	573

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results**

A survey was done of youth who attended the 7th grade science day. Things they recalled include:

- \* certain kinds of insects live in them
- \* come back every year
- \* goats eat weeds
- \* grow fast almost anywhere
- \* hard to get rid of
- \* how to kill or contain them
- \* knapweed has roots about 7 feet long
- \* not always ugly
- \* seeds spread easily
- \* sheep are used to control them
- \* the have a billion seeds in each little stem thing
- \* the have people that try to keep it from spreading
- \* they spread rapidly and easily

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
121	Management of Range Resources
213	Weeds Affecting Plants
307	Animal Management Systems

**Outcome #3****1. Outcome Measures**

O: Extension Educators & NRCS personnel understanding and teaching BEHAVE principles. I: Number of Extension Educators & NRCS trainers trained.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	8	1

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)****What has been done**

One workshop was delivered to 20 participants, in an effort to train professionals who would then extend the information to other end users.

**Results**

At the Pasture Management Professional Development Workshop regarding animal behavior as it relates to grazing management. Understanding animal behavior and applying those concepts can help producers meet their grazing objectives. Participants in the workshop gained knowledge of how important it is to consider where the animal was raised, what the mother utilized as forage and how that can affect the grazing goals. To solidify the point of the introduction of "novel/new" foods and an animal's hesitancy to try it I passed around a treat bowl filled with various mini candy bars and also "novel/new" foods that included bar-b-que larva and suckers with crickets in them. Of 29 participants, only 1 selected the "novel/new" food. Some were disappointed that there was none of their favorite chocolate and had to take what was left. As animals graze, they have the same reaction to new forages.

**4. Associated Knowledge Areas**

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

**Outcome #4****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 Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	{No Data Entered}	9

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Hoary cress is one of the most invasive plant species in rangelands, grasslands and natural areas in the western U.S. Research contributing to a better understanding of the factors that facilitate the invasiveness of herbaceous plant species in the U.S is needed. Also needed by land managers and policy makers are access to effective biological control mechanisms for this and other invasive species so that better long term management strategies without excessive use of herbicides can be achieved.

**What has been done**

UI researchers compared the growth and insect herbivory of the invasive mustard weed hoary cress (*Lepidium draba*) in the western U. S. and Europe.

**Results**

The data set represents one of the most comprehensive bio-geographic comparisons of an invasive herbaceous plant between its native and invasive range and greatly helps to identify why this and similar plant species may be invasive in North America. These results indicate that plant competition is less in the U.S. and open space to invade is greater in the U.S. when compared to Europe. The comparison of the herbivorous insect communities associated with hoary cress in Europe and the U.S. revealed that species richness, and number and diversity of specialist herbivores, i.e., those that feed exclusively on hoary cress and few closely related plant species is greater in Europe. The research concluded that a lack of biotic resistance and the release from specialist natural enemies may explain the invasiveness of hoary cress in North America. Therefore, our involvement in the foreign exploration for biological control agents for *L. draba* seems highly justified as a result of the research conducted under this project.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
121	Management of Range Resources
216	Integrated Pest Management Systems
213	Weeds Affecting Plants
133	Pollution Prevention and Mitigation

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

- Economy
- Public Policy changes
- Competing Programatic Challenges
- Other (personnel retirement)

##### Brief Explanation

Because of a mid-year retirement, the Behavior workshop was delivered to a single group of professionals, rather than to several groups of end users.

#### V(I). Planned Program (Evaluation Studies and Data Collection)

##### 1. Evaluation Studies Planned

- After Only (post program)

##### Evaluation Results

Participants in the 7th grade science day demonstrated information that they had learned. Participants in the Behavior workshop indicated new knowledge gained about how the life experiences of the grazing animal affect grazing behavior. Participants in dozens of weed programs and workshops indicate new knowledge and motivation to cooperate in weed control efforts.

##### Key Items of Evaluation

**Program #11****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Family Economics

**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%		100%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	2.5	0.0	0.0	0.0
<b>Actual</b>	6.0	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
131629	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
131629	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
174251	0	0	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

The Family Economics Topic Team has conducted the following programs and activities:

- Marketed, conducted and evaluated the following educational programs- Dollar Decision\$, Gaining Financial Fitness, Credit Cents, Guarding Against Identity Theft, Organizing Financial Records, Retirement Planning, Long Term Care, Legally Secure Your Financial Future, Who Gets Grandma's Yellow Pie Plate, Money on the Bookshelf, Welcome to the Real World, High School Financial Planning Program, Succeeding in the Working World and others that meet identified audience needs.

- Met with advisory committees, cooperating agencies, partners and decision-makers to solicit input and to update them about family economics issues and programs.

- Interact with professionals at meetings to share knowledge, build partnerships, and gain insights into national, regional and local issues and priorities.

- Kept updated on current research and trends in the field.

- Developed, sought peer reviews, pilot test, publish, and market curriculums- Spanish language version of Dollar Decision\$, Credit Cents, Succeeding in the Working World, Retirement education and others that meet audience needs.

- Authored and published popular press articles, newsletters, and Extension publications. Author and submit professional journal articles, abstracts and proceedings papers.

- Developed posters that describe programs outcomes and impacts.

- Developed and maintained a financial education website.

- Worked with the media to increase program awareness and participation.

- Developed innovative marketing methods to increase program awareness and participation.

- Documented and reported family economics programs and accomplishments.

**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. Professionals 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.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	4000	90000	1500	2000
2007	4320	100000	1600	2500

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)****Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	8	0	0

**V(F). State Defined Outputs****Output Target****Output #1****Output Measure**

- Newsletters.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	22	23

**Output #2****Output Measure**

- Extension bulletins.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	2

**Output #3****Output Measure**

- Popular Press articles.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	6	9

**Output #4****Output Measure**

- Refereed journal articles, peer reviewed abstracts.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	6	14

**Output #5****Output Measure**

- Professional or paraprofessional trainings.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	4	15

**Output #6****Output Measure**

- Classes, workshops.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	100	96

**Output #7****Output Measure**

- Websites developed or updated.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	1

**Output #8****Output Measure**

- EFNEP/ENP graduates taught financial education.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	500	618

**Output #9****Output Measure**

- Lesson/curriculum developed and published.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	1

**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 will reach new audiences through an Urban Extension website.I: Number of sessions and pages visited.
5	O: Extension family economics publications will be used by consumers and professionals.I: Number of publications distributed.

**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	Quantitative Target	Actual
2007	1000	4000

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**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	Quantitative Target	Actual
2007	800	3075

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

In 2000, the AARP reported that 36% of survey respondents 50 and older had neither advance directives for health care nor up-to-date wills, trusts, and only 17% had all three. Although these legal documents are essential to preparing for financial security, a 2004 survey revealed that 70% of respondents lacked both a living will and medical directives and only 27% had filed powers of attorney for health care. The American Bar Association estimates that 3 in 5 Americans die without a will.

**What has been done**

The Canyon/Owyhee Financial Literacy Coalition, led by UI Extension educator, teamed with community organizations to provide unbiased, low-cost education on the important legal issues associated with later life. With local attorneys, they offered 10 Legally Secure Your Financial Future (LSYFF) seminars. Participants were guided through an evaluation of their important documents and legal affairs and suggested resources to contact for self-help or professional assistance.

**Results**

Over 920 people attended the ten seminars. When pre-assessments were compared to 6-month follow-up surveys, participants reported having started or completed the following:

- 87% completed living wills
- 91% inventoried important papers
- 81% completed health care durable power of attorneys
- 88% organized family records
- 87% developed household record-keeping systems
- 81% written wills
- 93% organized property records
- 92% organized financial records

Fall 2006 seminars in Boise and Nampa filled to capacity weeks before the registration deadline and over 200 people were placed on a waitlist for future seminars. 2007 seminars were well attended and more are planned for 2008.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
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**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	300	500

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
801	Individual and Family Resource Management

**Outcome #4****1. Outcome Measures**

O: Extension Family economics will reach new audiences through an Urban Extension website. I: Number of sessions and pages visited.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	3000	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
801	Individual and Family Resource Management

**Outcome #5****1. Outcome Measures**

O: Extension family economics publications will be used by consumers and professionals. I: Number of publications distributed.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	1000	9988

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### 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

- Competing Public priorities

##### Brief Explanation

#### V(I). Planned Program (Evaluation Studies and Data Collection)

##### 1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)

##### Evaluation Results

EFNEP participant food resource management practices improved as indicated by the following:

- 65% more often planned meals in advance;
- 44% more often compared prices when shopping;
- 58% less often ran out of food before the end of the month; participants
- 60% more often used a list for grocery shopping.

Participants of Guarding Against Identity (GAIT) Theft completed a retrospective survey at the conclusion of the workshop. Results of the survey are:

Prior to attending GAIT 81% of the participants reported "I know how identity theft occurs." After the class 100% of the participants reported "I know how identity theft occurs."

Prior to attending GAIT 48% of the participants reported "I know how to determine if I am a victim of identity theft." After the class 100% of the participants reported "I know how to determine if I am a victim of identity theft."

Prior to attending GAIT 52% of the participants reported "I know how to reduce my risk for identity theft." After the class 100% of the participants reported "I know how to reduce my risk for identity theft."

Prior to attending GAIT 29% of the participants reported "I know what to do if I am a victim of identity theft." After the class 100% of the participants reported "I know what to do if I am a victim of identity theft."

Prior to attending GAIT 33% of the participants reported always regularly obtaining their credit report and checking it. After the class 86% of the participants reported they will regularly obtain their credit report and it for possible identity theft.

Prior to attending GAIT 71% of the participants reported "I have password protection on my accounts and computer." After the class 100% of the participants reported they will place password protection on their accounts and computer.

Prior to attending GAIT 48% of the participants reported "I limit identification information and the number of credit cards I carry." After the class 100% of the participants reported they will limit identification information and the number of credit cards they carry.

##### Key Items of Evaluation

**Program #12****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Health and Human Nutrition

**V(B). Program Knowledge Area(s)****1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
206	Basic Plant Biology	0%		5%	
301	Reproductive Performance of Animals	0%		10%	
311	Animal Diseases	0%		15%	
313	Internal Parasites in Animals	0%		5%	
701	Nutrient Composition of Food	20%		15%	
703	Nutrition Education and Behavior	50%		15%	
712	Protect Food from Contamination by Pathogenic Microorgani	0%		5%	
721	Insects and Other Pests Affecting Humans	0%		5%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		10%	
723	Hazards to Human Health and Safety	0%		10%	
724	Healthy Lifestyle	30%		0%	
803	Sociological and Technological Change Affecting Individuals,	0%		5%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	3.8	0.0	7.4	0.0
<b>Actual</b>	6.4	0.0	12.6	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
121661	0	523502	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
121661	0	523502	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
394036	0	6503660	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

ENP: Conduct 60 classes on MyPyramid to 600 adult participants.EFNEP: More than 500 classes were held in District 4 covering a range of nutrition, food safety, and family economics topics.Diabetes: Conducted 52 classes reaching more that 300 adults through 1510 personal teaching/learning contacts.Overweight/Obesity Intervention: Conducted 32 classes ( Steps To A New You and weight management classes) to 229 adults.Meal Time In Less Time: Conducted 37 classes reaching 328 adults.Got Calcium?: Was presented directly to 19 youth (indirect contacts were not measured.) 177 public school teachers were trained to use the Got Calcium? curriculum, and delivered the curriculum to hundreds of indirect learners.MyPyramid/Dietary Guidelines: Conducted20 classes for 310 adults; Conducted 91 classes reaching 2180 youth.Miscellaneous Health and Nutrition: Conduct 15 classes to 190 adults.Factors Influencing Food Intake of Young Children: Observe food habits of young children.

A variety of research projects that also involved undergraduate and graduate student training and which generated refereed research publications were conducted by UI faculty. The major areas of emphasis include basic physiology, microbial pathogenesis, microbial physiology and molecular genetics, pathogen detection through biosensors, vaccine development, and analysis of school nutrition programs.

**2. Brief description of the target audience**

The Extension target audiences include children, low income families, school teachers, people interested in losing weight, seniors, and individuals concerned with diabetes and other nutrition-related health problems. Target audiences for research programs included governmental agencies such as the NIH, biotechnology and pharmaceutical companies, basic and applied research scientists at other universities and ARS.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	3325	3000	6050	6000
2007	18890	0	17537	0

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	1	22	23

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Conduct classes on nutrition and health.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	988	782

**Output #2**

**Output Measure**

- Publish a nutrition curriculum.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	0

**Output #3**

**Output Measure**

- Submit refereed journal articles.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	23

**Output #4**

**Output Measure**

- Submit other publications.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	4

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Increase awareness of nutrition and health classes.I: Number of participants in nutrition and health classes.
2	O: Change in level of physical activity of individuals in the Diabetes Pedometer Program.I: Number of daily steps individuals enrolled in the Diabetes Pedometer Program walk.
3	O: Adult ENP participants will plan to change a behavior after completing MyPyramid class.I: Number of adult ENP participants who plan to eat a variety of foods from all five food groups every day.
4	O: Approximately 87% of Adult EFNEP participants will improve their diets after completing 6 core lessons.I: Use pre/post 24 hour recalls to determine the number of adults that improve their diets by at least one food group.
5	O: Steps To A New You participants will change their attitude toward physical activity.I: The number of Steps To A New You participants that complete pre, post, and follow-up surveys with questions on attitudes toward physical activity.
6	O: Kalispel children will improve their eating habits.I: Number of children changing their calorie, protein, fat, and vitamin intake.
7	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: Increase awareness of nutrition and health classes. I: Number of participants in nutrition and health classes.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	525	1751

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Breakfast is considered to be the most important meal of the day. Studies from around the United States have shown: 1) Kids who eat breakfast seem to have easier time learning than kids who do not eat breakfast; 2) Kids who eat breakfast behave better in school than hungry kids; and 3) Kids who eat breakfast are more likely to be in school than non-breakfast eaters. (Breakfast Boosts Brain Power, National Dairy Council, 2003.)

**What has been done**

A UI Extension educator developed and presented Be Your Best with Breakfast to K-8 students from 7 local schools participated in this program. Students were encouraged to eat breakfast daily and to eat a variety of foods from each food group each day. Students also heard childrens literature illustrating the importance of breakfast and enhance the learning process. Seventy-nine sessions were taught to a total of 1,665 students this school year.

**Results**

Third-, fourth-, and fifth-grade students were given a questionnaire before the program and immediately after the program. Results of the survey include the following: (B = Before, A = After)

- What is the most important meal of the day? 89% (B), 92%(A)
- How many days a week should you eat breakfast? 96% (B), 96% (A)
- How many days a week do (will) you eat breakfast? 80% (B), 89% (A)
- What kind of food could you eat for breakfast? 34% (B), 79% (A)

School enrichment nutrition education programs will continue to be taught in area elementary schools. The topics are taught on a six-year cycle so that students will participate in a different class in each of their elementary school years.

**4. Associated Knowledge Areas**

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

**Outcome #2****1. Outcome Measures**

O: Change in level of physical activity of individuals in the Diabetes Pedometer Program. I: Number of daily steps individuals enrolled in the Diabetes Pedometer Program walk.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	2000	5000

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done**

Participants in a nine-week course made significant improvements in their health and in their choices related to best practices for diabetes care.

**Results**

(1) Weight and blood sugar levels: During this nine week period, there was an increase in the percentage of participants who reported: (1) that their weight remained constant (33% at pre, 67% at post and 56% at follow-up); (2) that their blood sugar levels (29% at pre, 57% at post, 86% at follow-up) and Hemoglobin A1C levels (29% at pre, 57% at post, 72% at follow-up) were under good control. These positive results may be related to their changes in physical activity.

(2) Physical activity levels: Physical activity results showed a 61-65% increase in the number of times per week participants reported (3.3 times/week at pre, 5.3 times/week at post, and 5.4 times/week at follow-up) that they met the 30 minutes/day of physical activity recommendation. This increase may be related to the increase in number of average daily steps recorded by participants. Their average daily steps at baseline was 5481 steps/day, which classified them as low active (5000-7499 steps a day = low active). At the time of the post-survey (week 5), their average daily steps had increased to 10,094, an 84% increase over baseline, and placed them in the active category (10,000 -12,499 steps a day = active). Between post and follow-up, their average steps/day remained in the active category (10,383 - 11403) and at week 9, they had increased their steps by 108% over baseline.

Having an instructor conducting strength training activities in each class may be related to two physical activity results. The first was that the percentage of people who reported that they liked strength training exercises doubled from 10-20% and the percentage of individuals who reported they liked to exercise with a partner increased from 50% (at pre) to 67% (at post).

(3) Changes in eating habits: Pre- and post-survey results showed that participants increased their intake of foods from all food groups. There was approximately a 50% increase in grain, whole grain and fruit intake; vegetable and milk/yogurt intake increased by approximately 20% and meat intake by 10%. Follow up results were very similar to post results indicating that participants had maintained these healthier eating habits.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle
701	Nutrient Composition of Food

**Outcome #3****1. Outcome Measures**

O: Adult ENP participants will plan to change a behavior after completing MyPyramid class.  
I: Number of adult ENP participants who plan to eat a variety of foods from all five food groups every day.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	325	1543

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The Extension Nutrition Program (ENP) is Idaho's Food Stamp Nutrition Education (FSNE) program. ENP targets adult food stamp participants to teach them how to make healthy food and lifestyle choices.

The USDA Food and Nutrition Service (FNS) encourages FSNE programs to focus their efforts on the following behavioral outcomes: (1) eat fruits and vegetables, whole grains, and nonfat or low-fat milk or milk products every day; and (2) be physically active every day as part of a healthy lifestyle.

**What has been done**

In FY2007, ENP collected data on nutrition and physical activity behaviors. Adult participants completed a post-survey. For the 6 general nutrition classes the survey asked them if they planned to: eat more fruits and vegetables, whole grains, or low-fat milk/dairy. For the five food group lessons, they were asked how they would include more of these foods in their diet. For the physical activity class, they were asked how many minutes/day they planned to be physically active.

**Results**

During FY2007, adult ENP participants completed 1,449 general nutrition, 1,359 food group and 57 physical activity surveys. Results from the surveys collected indicated that participants were most likely to make changes in their fruit and vegetable consumption (46%), followed by whole grain (23%) and low-fat dairy consumption (13%). Food group changes selected by the greatest number of participants included: eating at least 2 cups of fruit/day (37%), eating vegetables as a snack (44%), making half the grains they consumed whole grains (49%), and eating 3 cups of low-fat dairy foods daily (43%). The physical activity behavior that participants most planned on implementing was to be active for 30 minutes a day (49%). Research has shown that individuals who follow a healthy diet and are physically active are less likely to develop heart disease, type 2 diabetes and certain cancers. Following a healthy lifestyle could reduce health care costs by an estimated one trillion dollars a year.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
701	Nutrient Composition of Food
724	Healthy Lifestyle
703	Nutrition Education and Behavior

**Outcome #4****1. Outcome Measures**

O: Approximately 87% of Adult EFNEP participants will improve their diets after completing 6 core lessons. I: Use pre/post 24 hour recalls to determine the number of adults that improve their diets by at least one food group.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	330	618

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle
701	Nutrient Composition of Food

**Outcome #5****1. Outcome Measures**

O: Steps To A New You participants will change their attitude toward physical activity. I: The number of Steps To A New You participants that complete pre, post, and follow-up surveys with questions on attitudes toward physical activity.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	50	40

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The 2005 Dietary Guidelines for Americans recommend that adults consuming a 2,000 calorie diet include the following foods daily: 2 cups of fruit, 1½ cups of vegetables, 3 or more ounces of whole grains, and 3 cups of fat-free or low-fat. Recent studies indicate that approximately 30 % of adults met fruit and vegetable recommendations and consumed only one serving of whole grain and one cup of milk per day. Carbonated soft drinks contributed almost 30 % of daily beverage intake.

**What has been done**

Three FCS Educators taught a 9-lesson curriculum, Steps To A New You, which focuses on pleasurable and healthy eating, a realistic body image, and physical activity. The nutrition topics included: (1) recommendations from the 2005 Dietary Guidelines for Americans and MyPyramid; (2) food portion sizes, (3) fast food, and (4) how to become an intuitive eater. Participants completed an eating habits survey at three points: (1) Pre, (2) Post (week 9), and (3) Follow-up (week 20).

**Results**

1) Food intake by food group: Grain and whole grain consumption increased by ½ serving/day. Fruit, vegetable, and milk/yogurt consumption increased by ½ cup/day. There was a 12 % increase in the number who consumed fat-free or skim milk products. Meat consumption decreased by ½ oz/day.

2) Beverage and fast food consumption: There was an 11% decrease in the number of participants who drank 2 or more sodas/day; a 10% decrease in the number of individuals who ate fast food 2-5 times per week; and a 9% increase in the number who never ate large portions at fast food restaurants.

3) Eating Style: 50% of participants ate when they were hungry. There was a 21% increase in the number of participants who learned to stop eating when they were full and a 12% decrease in those who did other activities while they were eating.

These improved eating habits may decrease participants' risk of developing certain chronic diseases such as cardiovascular disease, diabetes, and some cancers.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle
703	Nutrition Education and Behavior
701	Nutrient Composition of Food

**Outcome #6****1. Outcome Measures**

O: Kalispel children will improve their eating habits.I: Number of children changing their calorie, protein, fat, and vitamin intake.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	30	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #7****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	Quantitative Target	Actual
2007	3	15

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

UI Researchers participate in the Northwest Regional Center of Excellence for Biosecurity. The expertise in immunology and Gram-negative pathogenesis at the UI is being directed toward vaccine development for Class A Biosecurity agents which present significant risks, particularly if administered via aerosols. Currently, there is no widely available vaccine for organisms such as *Yersinia pestis* (plague) and *Francisella tularensis* (tularemia).

**What has been done**

Experiments were conducted to elucidated how the direct manipulation of the mammalian innate immune response can provide protection against plague and tularemia and enhance antibiotic therapy in otherwise immunologically naive individuals. This work was reported at two international meetings and in two peer-reviewed publications, and also trained technicians and graduate students in the use of Category A microorganisms under BioLevel Safety 3 conditions.

**Results**

A protective vaccine has been developed for pneumonic plague using a rat and mouse model. These findings have initiated steps in testing the vaccine efficacy in a nonhuman primate model. The efforts of this work have a key societal benefit in protection against illicit or accidental exposure to these biological agents. Our dissection of the basic pathogenesis of these organisms has also shown that pathogenesis is due to genetic loss in *Y. pestis*.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins
703	Nutrition Education and Behavior
722	Zoonotic Diseases and Parasites Affecting Humans
311	Animal Diseases
206	Basic Plant Biology
723	Hazards to Human Health and Safety
724	Healthy Lifestyle
803	Sociological and Technological Change Affecting Individuals, Families and Communities

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

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

**Brief Explanation****V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Other (Paired control)

## Evaluation Results

Of the 1449 adult ENP participants who completed a general nutrition behavior survey, 92% or 1333 planned on implementing a change in their eating habits or a change in a nutrition behavior. Approximately 46% planned to consume more fruits and vegetables; 23% planned to consume more whole grains; 13% planned to consume more low-fat dairy; 9% wrote in other behaviors they planned to implement; 8% did not plan on making any changes and 1% planned on making more than one nutrition behavior change.

There were 1359 adult ENP participants who completed a food group survey that asked specific questions on how they would change their diet. Approximately 50% reported they would make half of the grains they ate whole grains; 44% planned on eating vegetables as a snack; 43% said they would include 3 cups of calcium-rich foods daily; 42% said they would choose lean cuts of meat, and 37% said they would try and consume at least 2 cups of fruit per day,

## Key Items of Evaluation

### Meal Time in Less Time curriculum

Fewer meals are being prepared and eaten in-home. One study found a higher prevalence of obesity in those who ate the most meals away from home. Additional, studies have shown that teens that eat five or more meals a week with their families were more stable emotionally and socially, received higher grades, and attained a higher level of education. Teens that ate regular meals with their families were also less likely to use alcohol and drugs, be sexually active, or commit suicide.

The Health and Nutrition Topic Team received a grant to develop a curriculum on meal planning and preparation. They developed Meal Time in Less Time, a three-lesson curriculum for adult and young-adult audiences. It teaches individuals and families how to plan quick and healthy meals, shop to save time and money, and prepare healthy meals in less time.

A retrospective post-/pre-survey was administered to 101 participants at the end of each of the three lessons. The surveys asked participants to indicate their attitudes, knowledge and behaviors before taking the class and if they were planning to change as a result of taking the class. Survey results indicate an increase in the following behaviors ( $p < 0.05$ ):

#### Behavior changes:

- Have accessible resources for menu planning
- Evaluate menus for nutrition
- Evaluate menus of ease of preparation
- Practice thrifty shopping strategies to save time and money
- Use nutrition fact labels to evaluate nutrition contents of foods
- Add whole grains, fruits, vegetables and dairy products to meals

### Got Calcium? Curriculum

UI Extension educators trained teachers enrolled in the Agriculture in the Classroom (AITC) workshops in 2007 on the Got Calcium? Curriculum, developed by UI Extension educators.

Funding was obtained to provide each teacher with a copy of the curriculum plus supplementary materials. The training was designed so that teachers of all grade levels could incorporate this information into their classroom. The curriculum emphasizes the importance of calcium in the diet; factors involved in building strong bones, food sources of calcium, and how to increase the calcium content of their diet. Additional materials that helped illustrate these main concepts were provided.

There were 177 teachers that attended the workshop. Teachers evaluated the main concepts covered in each of the lessons and the activities using a 5 point scale, (5 was the highest rating). Teachers gave the Got Calcium? curriculum high ratings in covering the main calcium concepts (4.7-4.9/5.0) and the hands-on activities (4.5-4.9/5.0). It is estimated that if each of the 177 teachers used just one lesson from the Got Calcium? curriculum and there is an average of 30 students/class, then 5,310 students will learn the importance of calcium in the diet. Students who increase the calcium content of their diet will develop strong bones and be less likely to experience a bone fracture. If they continue this practice, then they will decrease their likelihood of developing osteoporosis.

**Program #13****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Community Development

**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%		10%	
601	Economics of Agricultural Production and Farm Management	10%		20%	
608	Community Resource Planning and Development	40%		30%	
609	Economic Theory and Methods	0%		5%	
610	Domestic Policy Analysis	0%		5%	
803	Sociological and Technological Change Affecting Individuals,	20%		10%	
805	Community Institutions, Health, and Social Services	20%		10%	
903	Communication, Education, and Information Delivery	10%		10%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	6.3	0.0	2.3	0.0
<b>Actual</b>	12.8	0.0	4.0	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
186492	0	181052	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
186492	0	181052	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
372736	0	1131821	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Major program areas included: Leadership Development & Civic Engagement: Including the EVOLVE program and the HORIZONS program. Activities included formation of local leader steering committees to guide design, implementation and evaluation of community leadership program. Community members and faculty are engaged in leadership trainings, field trips, meeting observations, completing community projects, and individual leadership assessments. Data Tools for Understanding Communities: County demographic up-to-date data is collected and published in 42 individual county brochures for use by local businesses and governments. Data is presented in PowerPoint format by UI Extension Educators. Reference materials to build capacity of faculty have been prepared and distributed. Economic Development, Diversity & Vitality Projects (Customer Relations, Business & Community Entrepreneurship, and Analysis of Economic Viability of Planned Businesses): Projects include teaching in-depth workshop series; completion and delivery of the curriculum Idaho's Gold Standard (for Customer Service); workshops for business owners & employees, consulting with business owners, and completing economic viability analysis.

**2. Brief description of the target audience**

1) Small business owners in Idaho and Idaho Agricultural Water users  
 2) Government organizations/agencies including the the Idaho Department of Water Resources, Idaho Water Board, US Department of Interior, Bureau of Reclamation, and Corp of Engineers  
 3) Community non-profit organizations  
 4) Entrepreneurs - current and future  
 5) Elected officials & decision makers (state & local)  
 6) State & local employees  
 7) New leaders and individuals currently serving in leadership roles

8) Research scientists

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

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	820	0	23	0
2007	8181	0	2736	0

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	0
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	5	6	11

**V(F). State Defined Outputs**

**Output Target**

**Output #1****Output Measure**

- Steering Committees/Teams formed.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	14

**Output #2****Output Measure**

- Materials/Curriculum developed.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	3	2

**Output #3****Output Measure**

- Presentations/Workshops.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	46	116

**Output #4****Output Measure**

- Trainings- Series/Short Courses.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	9	18

**Output #5****Output Measure**

- Conferences organized or implemented.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	0

**Output #6****Output Measure**

- Analysis conducted.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	3	0

**Output #7****Output Measure**

- Ind/Boards/Com- Mentored/Coached.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	12	13

**Output #8****Output Measure**

- Communities served.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	16	31

**Output #9****Output Measure**

- Counties served.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	20	20

## V(G). State Defined Outcomes

## V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	O: Elected officials, decision makers, government agencies, and civic organizations will become knowledgeable about data relevant to their communities.I: Percent of participants who increase knowledge about local data & how to find it. (Retrospective post).
2	O: Elected officials, decision makers, government agencies and civic organizations will use data to make decisions to better their communities.I: Percent of participants/organizations who use data to make decisions or use data in project development (follow-up survey).
3	O: Elected officials, decision makers, governmental agencies and civic organizations will implement practices to increase the quality of life in their communities.I: Percent of residents reporting an increased quality of life in their communities (bi-annual quality of life survey).
4	O: Individual communities/government entities make good decisions based on analysis results.I: Percent of communities reporting use of analysis data. (Survey).
5	O: Entrepreneurs and business owners make good decisions based on analysis results.I: Percent of entrepreneurs and business owners reporting use of data. (Survey).
6	O: Current and future Idaho Entrepreneurs learn business practices and develop skills needed for starting a business.I: Percent of participants learning skills.
7	O: Current and future Idaho Entrepreneurs adopt customer-oriented operating practices.I: Percent of participants completing at least 50% of their business plan. (Count class conclusion and 6 mo. follow-up).
8	O: Entrepreneurs establish or expand their business.I: Percent of business owners establishing or expanding their business. [Or making informed decision not to start.] (Annual survey/3 yrs.).
9	O: Business owners sustain businesses.I: Number of businesses still operating after 5 years. (5 yr follow up checklist/count).
10	O: Small business owners and government organizations in Idaho learn customer relation practices.I: Percent of participants achieved a threshold level of knowledge. (Pre/post test).
11	O: Small business owners and government organizations adopt customer oriented operating practices.I: Percent of participants indicated adoption of 1/2 recommended practices. (6 mo. follow-up checklist survey).
12	O: Business owners increase sales and business.I: Percent of business owners reporting increased sales and/or business. (12 mo. follow-up survey).
13	O: Business owners sustain businesses thus contributing to local economy.I: Number of businesses still operating after 5 years. (5 yr. follow-up checklist/count).
14	O: Emerging leaders learn skills for leadership positions.I: Percent of leaders with increased skills. (Retrospective Post).
15	O: Current leaders strengthen their skills needed for leadership roles.I: Percent of leaders with increased skills. (Retrospective post test).
16	O: Leaders adopt best practices in leadership.I: Percent of leaders will adopt 50% of best practices in leadership. (Checklist of best practices/follow-up survey).
17	O: New leaders will assume leadership roles.I: Percent of new leaders engaged in leadership roles. (2 yr. follow up checklist/count).
18	O: Existing leaders are more confident in roles.I: Percent of leaders better equipped and more confident. (Self-reporting survey - 2 yrs).
19	An increase in the number of trained graduate students prepared to enter the workforce.

**Outcome #1****1. Outcome Measures**

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

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	80	95

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Since 1992, the population change for counties in the Treasure Valley has ranged from 4.5-32% growth. Every 6 years the Agribusiness Committee hosts a tour for the entire Idaho Legislature. The Treasure Valley Legislative Ag Tour is unique in that it is the only legislative tour which focuses solely on agriculture

**What has been done**

Tour sites were selected to demonstrate agriculture change in response to population growth, increased regulation and rising input costs. University of Idaho Extension served vital roles on the planning committee along with 68 other sponsors. Participants toured 14 different locations in Canyon, Payette and Owyhee counties. Issues and topics covered during the tour included: water, beef and dairy production, crop and fresh fruit production, potato manufacturing, and biodiesel production.

**Results**

At the conclusion of the tour participants completed an evaluation.

- 88% were very satisfied with how the tour addressed current issues; that the tour would improve communication between industry, agency, and private sector to work cooperatively; and that the concepts and ideas presented would help them in their decision-making responsibilities related to Idaho agriculture
- 96% rated the overall quality of the tour as excellent.

Some of the comments were:

- I've learned so much about agriculture and its many emerging and constantly changing issues. It really informs my voting.
- All these field trips help us understand how the laws we make affect the industry.
- As legislators we really need the exposure to see all this agriculture industry that creates so much of Idaho's overall capital and economy.
- Agriculture varies so much from Northern Idaho to Southern Idaho to Southeast Idaho. It is great to get a perspective from other areas of the state.

**4. Associated Knowledge Areas**

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

**Outcome #2****1. Outcome Measures**

O: Elected officials, decision makers, government agencies and civic organizations will use data to make decisions to better their communities.I: Percent of participants/organizations who use data to make decisions or use data in project development (follow-up survey).

## 2. Associated Institution Types

- 1862 Extension

### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	100

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

To make informed decisions, it is important that Idaho leaders and citizens can understand and retrieve data quickly and efficiently. University of Idaho Extension is uniquely situated to be the leader in providing credible, accessible data to its stakeholders. In addition, educators can explain the implications of data and provide stakeholders with the tools they need to make decisions that will help communities not only survive, but also prosper during times of rapid change

#### What has been done

UI Extension Data Tools for Understanding Communities Focus Committee developed tools to help communities understand the economic, social, and demographic circumstances of their county in relationship to other counties and to the state. They created brochures, called County at a Glance along with a companion CD and presentation which contain information useful for county leaders to understand the countys needs and make decisions about the countys future

#### Results

Since the inception of the statewide program in 2006, Extension Educators have printed 3,437 brochures and distributed them to chambers of commerce, economic development groups, county employees, hospital employees, school district staff and teachers, and at county and state fairs. Brochures are also available in county extension offices. County at a Glance brochures are updated periodically and posted to county web pages. As of 2007, 577 individuals have viewed the presentation. Evaluation data reveals that:

- 95% of participants increased their knowledge of facts about their county.
- 100% of participants feel more competent in their ability to use and interpret statistical information and know how to locate data.

One county commissioner commented, Too often we make decisions based on what is politically expedient. This publication provides easily accessible and reliable data that makes decision making more systematic.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

## Outcome #3

### 1. Outcome Measures

O: Elected officials, decision makers, governmental agencies and civic organizations will implement practices to increase the quality of life in their communities.I: Percent of residents reporting an increased quality of life in their communities (bi-annual quality of life survey).

### 2. Associated Institution Types

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	0	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Jefferson County is experiencing rapid population growth. New and long time residents are not always aware of what the University of Idaho Extension has to offer in their county and many residents of Jefferson County are not informed of what local services and public organizations are available in the county. Many residents have never met the local leaders such as the county commissioners who do not often have the opportunity to visit with residents in an informal setting.

**What has been done**

Extension Educators proposed the idea of an open house to the county commissioners called Welcome to Our Area. Welcome to Our Area offered Jefferson County residents the opportunity to see what extension has to offer and meet the county commissioners. In March of 2006 the Mud Lake/Terreton Welcome to Our Area involved fourteen public organizations representing local, county, state, and federal entities. In April 2006 the Welcome to Our Area was held in Rigby.

**Results**

Fifty residents attended the 2005 Rigby Welcome to Our Area. Thirty residents from the West Jefferson area attended the 2006 Mud Lake Welcome to Our Area. The responses by the public and the represented organizations were similar to the comments from the 2005 Rigby Welcome to Our Area. A survey was given to those who attended the Welcome to Our Area venue. The following were the results:

- 67% percent said that there were community services represented that evening that they were not aware of before.
- 57% responded that prior to this evening they were not aware of the services offered by the University of Idaho Extension.
- 60% said that they had not used extension services prior to this evening.
- 69% said they received additional information about county services that they were already familiar with.
- 96% responded that they would like to see this kind of event again.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development
903	Communication, Education, and Information Delivery
805	Community Institutions, Health, and Social Services

**Outcome #4****1. Outcome Measures**

O: Individual communities/government entities make good decisions based on analysis results. I: Percent of communities reporting use of analysis data. (Survey).

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	75	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services
111	Conservation and Efficient Use of Water
608	Community Resource Planning and Development

**Outcome #5**

**1. Outcome Measures**

O: Entrepreneurs and business owners make good decisions based on analysis results. I: Percent of entrepreneurs and business owners reporting use of data. (Survey).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	75	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
609	Economic Theory and Methods
608	Community Resource Planning and Development

**Outcome #6****1. Outcome Measures**

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

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	40	100

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
609	Economic Theory and Methods
803	Sociological and Technological Change Affecting Individuals, Families and Communities
601	Economics of Agricultural Production and Farm Management

**Outcome #7****1. Outcome Measures**

O: Current and future Idaho Entrepreneurs adopt customer-oriented operating practices. I: Percent of participants completing at least 50% of their business plan. (Count class conclusion and 6 mo. follow-up).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	40	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
609	Economic Theory and Methods
803	Sociological and Technological Change Affecting Individuals, Families and Communities

**Outcome #8**

**1. Outcome Measures**

O: Entrepreneurs establish or expand their business.I: Percent of business owners establishing or expanding their business. [Or making informed decision not to start.] (Annual survey/3 yrs.).

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	15	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

**Outcome #9**

**1. Outcome Measures**

O: Business owners sustain businesses.I: Number of businesses still operating after 5 years. (5 yr follow up checklist/count).

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	0	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

**Outcome #10****1. Outcome Measures**

O: Small business owners and government organizations in Idaho learn customer relation practices. I: Percent of participants achieved a threshold level of knowledge. (Pre/post test).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	40	100

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

**Outcome #11**

**1. Outcome Measures**

O: Small business owners and government organizations adopt customer oriented operating practices. I: Percent of participants indicated adoption of 1/2 recommended practices. (6 mo. follow-up checklist survey).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	40	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Customer Service is an important tool that all businesses, government agencies, and non-profit organizations have to consider. With advances in technology, customers have choices; they can either go down the block, across town, or on the internet to get the product or service they are wanting. For a small business owner this can be detrimental and the only way they can compete is through the quality of service they provide.

**What has been done**

University of Idaho Extension Faculty started offering customer service programs as a result of requests from businesses, Chamber of Commerce and local schools. Curriculum was adapted from Oklahoma State and the rewritten version of this is called "The Gold Standard of Public Relations." This curriculum is currently in the external review process for publication. The program includes a combination of hands-on activities and training videos on customer service.

**Results**

Since November of 2005, Extension Educators in District III have delivered 24 customer service workshops to 516 participants. As a result of these workshops, other community businesses and organizations have learned about the ability of the University of Idaho Extension System to conduct customer service programs.

Participants evaluations indicated:

- They would emphasize teamwork
- All employees should be familiar with all aspects of the business
- They would remember to understand what "our boss" the customer needs/expects
- Positive attitude is important to make customers feel more satisfied with their experiences
- They would greet customers as soon as possible
- They would listen to the customers
- They would make a positive last impression
- They would be clear about company policies

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery

**Outcome #12****1. Outcome Measures**

O: Business owners increase sales and business. I: Percent of business owners reporting increased sales and/or business. (12 mo. follow-up survey).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	10	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
609	Economic Theory and Methods
805	Community Institutions, Health, and Social Services

**Outcome #13****1. Outcome Measures**

O: Business owners sustain businesses thus contributing to local economy. I: Number of businesses still operating after 5 years. (5 yr. follow-up checklist/count).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	0	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
609	Economic Theory and Methods
805	Community Institutions, Health, and Social Services
601	Economics of Agricultural Production and Farm Management

**Outcome #14****1. Outcome Measures**

O: Emerging leaders learn skills for leadership positions. I: Percent of leaders with increased skills. (Retrospective Post).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	60	100

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #15****1. Outcome Measures**

O: Current leaders strengthen their skills needed for leadership roles. I: Percent of leaders with increased skills. (Retrospective post test).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	60	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

## Results

### 4. Associated Knowledge Areas

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

### Outcome #16

#### 1. Outcome Measures

O: Leaders adopt best practices in leadership.I: Percent of leaders will adopt 50% of best practices in leadership. (Checklist of best practices/follow-up survey).

#### 2. Associated Institution Types

•1862 Extension

#### 3a. Outcome Type:

Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	0

#### 3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
903	Communication, Education, and Information Delivery
608	Community Resource Planning and Development
609	Economic Theory and Methods
805	Community Institutions, Health, and Social Services

### Outcome #17

#### 1. Outcome Measures

O: New leaders will assume leadership roles.I: Percent of new leaders engaged in leadership roles. (2 yr. follow up checklist/count).

#### 2. Associated Institution Types

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	10	20

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #18**

**1. Outcome Measures**

O: Existing leaders are more confident in roles.I: Percent of leaders better equipped and more confident. (Self-reporting survey - 2 yrs).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	10	85

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
610	Domestic Policy Analysis
609	Economic Theory and Methods
805	Community Institutions, Health, and Social Services

**Outcome #19****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 Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	{No Data Entered}	1

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

As development of new water supplies have been exhausted or have become prohibitively expensive, conflicts have increased to meet increasing water demands. Agriculture, municipal, industrial, and environmental demands in western states limited water supplies have exploded. In the past year in Idaho: (1) The state of Idaho has spent millions on water buyouts, conservation, and leases. (2)Unprecedented number of lawsuits and water calls with the summer of 2007 threaten to shut off water for over 66,000 acres. (3)Idaho's Conservation Reserve Enhanced Program has been authorized and is estimated to cost close one third of a billion dollars and idle 100,000 acres for the water rights in the Snake River Plain. (4) Idaho's governor has proposed three new dams.

**What has been done**

UI research examines and analyzes key issues as a basis for developing effective and efficient policies for inter-sector water transfer in the western U.S. and assesses the effectiveness of alternative management institutions, laws, and policies for water allocation.

**Results**

Results of this research are being used to formulate policy on key Idaho issues regarding water allocation and agricultural development. The research has been cited by state policy makers in the current water legal and political water disputes. We have added a new word to the vocabulary of water planners in the state of Idaho - externalities. The crisis in water allocation that is being experienced in Idaho is largely due to the fact that externalities were not recognized in Idaho water law, water trading mechanisms, water conservation programs, and conservation infrastructure. The benefit and cost of these programs and policies are provided to decision makers using the research tool of a hydro/economic a spatial partial equilibrium model of the Eastern Snake River Plain. As evidenced by recent testimony given to the state legislature, our climate change research continues to frame water policy issues for Idaho.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
609	Economic Theory and Methods

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

- Populations changes (immigration,new cultural groupings,etc.)
- Other (Significant grant funding enabled greater investment in community development program.)

**Brief Explanation**

## V(I). Planned Program (Evaluation Studies and Data Collection)

### 1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Other (Long-term evaluations scheduled for future years)

### Evaluation Results

Participants that took the Customer Relations workshop (small business owners and government agencies in District II) learned customer relations best practices to better serve their customers. 100% reported in a post evaluation that they learned one new best practice they planned to use in their job when serving customers. The participants learned customer relation practices. Employees and businesses adopted customer-oriented operating practices.

Participants in the small business series were surveyed immediately following the program. Respondents indicated that each of the four sessions (Basic Bookkeeping, Business Planning, Financing Your Business, and Health Care and Retirement) an increase in knowledge. Respondent also positively responded to additional classes.

There are 6 participants from Leadership Plenty program in Cascade that are now in leadership roles. When conducting meetings they are applying the practices they have learned. Existing leaders are more confident and knowledgeable in current roles. The Mayor of Cascade reports that he has increased his knowledge and is applying what he has learned in the Horizons project.

Bonnors Ferry had 15 community members who were trained as Study Circle facilitators in January 2007. These trained facilitators led 7 study circle groups comprised of 8-12 community members.

Participants in the leadership institute were given a retrospective before and after assessment once each class session was completed. Following includes thier responses.

I understand the components of effective communication. Before class: 27%, After class: 100%

I understand the components of effective conflict resolution. Before class: 9%, After class: 91%

I know how to actively listen when communicating. Before class: 55%, After class: 73%

I know of more than one strategy for resolving conflicts. Before class: 30%, After class: 91%

I consciously make an effort to resolve conflicts instead of considering them the "problems of others." Before class: 9%, After class: 92%

I am confident when I communicate with others. Before class: 0%, After class: 75%

I regularly use active listening skills as a means of communication. Before class: 9%, After class: 83%

I evaluate and try to improve my communication skills. Before class: 18%, After class: 75%

I engage in culturally diverse activities. Before class: 17%, After class: 100%

I am able to think critically without using stereotypes. Before class: 17%, After class: 100%

I understand the components of effective meetings. Before class: 50%, After class: 92%

I understand the components of effectively managing my own time. Before class: 42%, After class: 100%

I know how to make meetings short and effective. Before class: 36%, After class: 75%

I know how to improve the management of my own time. Before class: 33%, After class: 82%

I consciously make an effort to increase the effectiveness of meetings I attend. Before class: 17%, After class: 83%

I regularly assess my time management habits. Before class: 9%, After class: 83%

I understand what skills are required for good team building. Before class: 58%, After class: 100%

I know what it takes to be an effective team member. Before class: 58%, After class: 100%

I know what type of leadership style best fits my personality. Before class: 33%, After class: 100%

I practice team building skills. Before class: 0%, After class: 86%

I quickly identify leadership styles in myself and others. Before class: 17%, After class: 100%

I become a team player in problem solving situations. Before class: 33%, After class: 75%

My leadership style reflects my understanding of the situation. Before class: 8%, After class: 83%

### Key Items of Evaluation

**Program #14**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Nutrient and Waste Management

**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	20%		20%	
102	Soil, Plant, Water, Nutrient Relationships	15%		10%	
133	Pollution Prevention and Mitigation	20%		20%	
205	Plant Management Systems	15%		10%	
403	Waste Disposal, Recycling, and Reuse	30%		30%	
601	Economics of Agricultural Production and Farm Management	0%		10%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.8	0.0	1.2	0.0
<b>Actual</b>	2.9	0.0	1.1	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
58337	0	52708	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
58337	0	52708	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
72149	0	359217	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

The University of Idaho developed Extension Bulletin (CIS 1138) Dairy Ammonia Control Practices. Producers then selected which BMPs were installed or implemented on the farm and were subsequently reviewed for compliance by the Idaho Department of Agriculture. In 2006 and 2007, the University of Idaho took leadership in presenting the Dairy Air Quality Symposiums, sponsored by the Western States Dairy Products Trade Association. In cooperation with Iowa State University, University of Idaho, Purdue University, Michigan State University, University of Tennessee and the USDA- Natural Resources Conservation Service a comprehensive Nutrient Management Planning (CNMP) Training Curriculum was developed to educate NRCS personnel and private individuals interested in becoming USDA Technical Service Providers. As part of this comprehensive, multi-disciplinary educational program, two hour-long training curricula (Air Quality Issues and Air Quality Technologies) were developed, peer-reviewed and published to educate participants on the air quality issues and control technologies that are available to livestock operations across the country. During the 3-year project, over 500 technical service providers, and 300 NRCS personnel were trained representing all 50-states, and 5 countries. The curriculum has been published through the Midwest Plan Service for open dissemination to the state universities, livestock companies and the public.

In 2006, an NRI funded project entitled "Air Quality Extension and Education: Enhanced Learning Opportunities for Addressing Air Quality Issues in Animal Agriculture" was funded and initiated to develop a comprehensive extension and classroom educational curriculum. The curriculum, developed and peer-reviewed, by experts across the country, focuses on air quality issues, air quality monitoring and reporting, air quality modeling and air quality control technologies. The curriculum will be pilot tested in graduate classrooms at 5 universities across the country, including the University of Idaho, as well as used as part of extension programs across the Pacific Northwest.

In 2006 and 2007, the University of Idaho took leadership in presenting the Dairy Air Quality Symposiums, sponsored by the Western States Dairy Products Trade Association. In 2006, the Symposium brought together researchers, extension personnel, and dairymen from across the country who is investigating air quality issues on dairies. The Symposium allowed for networking and discussion on how to address many dynamic issues facing the dairy industry. In 2007, the Symposium was expanded to include state and federal regulators in the discussion. During the 2006 Symposium 110 people attended and in 2007 there were 150 participants. As a direct result of the collaborative intention of the Symposium, several research and extension programs have been initiated. In Idaho the Western SARE funded educational program "Dairy Odor and Air Quality Educational Program" and the research program "Investigation of Area Source Measurement Techniques for Ammonia" has been initiated with cooperation from the University of Idaho, USDA-Agricultural Research Service, the Idaho Department of Environmental Quality, Utah State University - Civil Engineering and the Utah Space Dynamics Laboratory. The project will quantify the differences between various ammonia monitoring techniques conducted simultaneously at the same large scale dairy lagoon in south-central Idaho. This information will greatly assist engineers, scientists and regulators understand the inherent differences in open-space gaseous measurement on dairies.

Several additional funded research projects focused on optimal use of fertilizer applications and use of microbial communities for remediation of contaminants from the environment. These projects emphasized graduate student training and interdisciplinary research.

## 2. Brief description of the target audience

Producers and Processors  
Professional Consultants  
The public affected by NWM issues  
Local and/or state officials  
Basic and applied research scientists

## V(E). Planned Program (Outputs)

### 1. Standard output measures

#### Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	500	750	20	20
2007	2713	0	760	0

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

#### Patent Applications Submitted

Year    Target  
Plan:   0

2007 : 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	13	3	16

**V(F). State Defined Outputs**

**Output Target**

**Output #1****Output Measure**

- NWM Conference.

Year	Target	Actual
2007	0	0

**Output #2****Output Measure**

- NM Field Day.

Year	Target	Actual
2007	1	0

**Output #3****Output Measure**

- NWM Training and Recertification.

Year	Target	Actual
2007	40	0

**Output #4****Output Measure**

- Odor Workshops.

Year	Target	Actual
2007	50	150

**Output #5****Output Measure**

- CCA Credits, Online Testing.

Year	Target	Actual
2007	20	0

**Output #6****Output Measure**

- Precision Ag Field Day.

Year	Target	Actual
2007	1	0

**Output #7****Output Measure**

- CID Training.

Year	Target	Actual
2007	40	0

**Output #8****Output Measure**

- Industrial and Municipal Land App. Training.

Year	Target	Actual
2007	100	0

**Output #9****Output Measure**

- R&E Center Field Days.

Year	Target	Actual
2007	1	15

**Output #10****Output Measure**

- Commodity Schools.

Year	Target	Actual
2007	700	561

**Output #11****Output Measure**

- MiG Workshops.

Year	Target	Actual
2007	40	35

## V(G). State Defined Outcomes

## V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	O: Sufficient certified people to make irrigation designs that improve fertilization and irrigation efficiency.I: Number of People passing CID exam.
2	O: Sufficient certified people to make irrigation designs that improve fertilization and irrigation efficiency.I: Number of people attending teaching and review sessions.
3	O: Sufficient certified people to make irrigation designs that improve fertilization and irrigation efficiency.I: (Behavior) Number of approved plans by graduates.
4	O: More people with sufficient skill to write plans.I: Number of people certified.
5	O: Improve understanding of NMP principles.I: Percent adoption of NMP practices by course attendees.
6	O: Improve understanding of NMP principles.I: Reduced NMP violations from yearly survey.
7	O: Reduce risk of lagoon discharges.I: Reduced number of discharges or freeboard conditions based yearly survey.
8	O: Use of UI recommendations in NM Planning.I: Integration of UI nutrient recommendations into OnePlan Software.
9	O: Use of UI publications in planning and education.I: Number of publications downloaded/accessed.
10	O: Use of UI publications in planning and education.I: Number of publications developed.
11	O: Pasture managers will understand benefits of proper NM.I: Number of students attending workshop.
12	O: Pasture managers will understand benefits of proper NM.I: Number of students adopting soil testing (survey).
13	O: Pasture managers will understand benefits of proper NM.I: Number of students adopting MiG.
14	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.
15	O: Producers implementing Precision Ag technologies.I: Number of growers attending PA educational events.
16	O: Producers implementing Precision Ag technologies.I: Percent of growers using PA technologies (survey).
17	O: Producers implementing Precision Ag technologies.I: Percent of acres farmed using PA Technologies.
18	O: Improve application of odor and emissions control principles.I: Percent adoption of odor and emissions control practices by course attendees.
19	O: Improve access and convenience of online CCA Testing.I: Number of credits awarded.
20	O: Reduced nutrient levels in soil and water.I: Reduced average soil and water test values in sensitive areas.
21	O: Improve water and N use efficiency under reduced water conditions.I: Number of People attending UI extension classes at beet school.
22	O: Improve water and N use efficiency under reduced water conditions.I: Improvement in Water and N use efficiency.
23	O: Improve odor control of lagoons.I: Reduce number of spring odor complaints.

**Outcome #1****1. Outcome Measures**

O: Sufficient certified people to make irrigation designs that improve fertilization and irrigation efficiency. I: Number of People passing CID exam.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	20	0

**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
205	Plant Management Systems

**Outcome #2****1. Outcome Measures**

O: Sufficient certified people to make irrigation designs that improve fertilization and irrigation efficiency. I: Number of people attending teaching and review sessions.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	20	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results****4. Associated Knowledge Areas**

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

**Outcome #3****1. Outcome Measures**

O: Sufficient certified people to make irrigation designs that improve fertilization and irrigation efficiency. I: (Behavior) Number of approved plans by graduates.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	30	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #4****1. Outcome Measures**

O: More people with sufficient skill to write plans. I: Number of people certified.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	20	0

**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

**Outcome #5**

**1. Outcome Measures**

O: Improve understanding of NMP principles.I: Percent adoption of NMP practices by course attendees.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	40	0

**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

**Outcome #6**

**1. Outcome Measures**

O: Improve understanding of NMP principles.I: Reduced NMP violations from yearly survey.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	70	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

**Outcome #7**

**1. Outcome Measures**

O: Reduce risk of lagoon discharges.I: Reduced number of discharges or freeboard conditions based yearly survey.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	12	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

**Outcome #8**

**1. Outcome Measures**

O: Use of UI recommendations in NM Planning.I: Integration of UI nutrient recommendations into OnePlan Software.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	0	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #9**

**1. Outcome Measures**

O: Use of UI publications in planning and education.I: Number of publications downloaded/accessed.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	300	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management
102	Soil, Plant, Water, Nutrient Relationships
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse
101	Appraisal of Soil Resources
205	Plant Management Systems

**Outcome #10****1. Outcome Measures**

O: Use of UI publications in planning and education.I: Number of publications developed.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	5	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
601	Economics of Agricultural Production and Farm Management
205	Plant Management Systems
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation
101	Appraisal of Soil Resources

**Outcome #11****1. Outcome Measures**

O: Pasture managers will understand benefits of proper NM.I: Number of students attending workshop.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	100	0

**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
205	Plant Management Systems

**Outcome #12**

**1. Outcome Measures**

O: Pasture managers will understand benefits of proper NM.I: Number of students adopting soil testing (survey).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	20	0

**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
101	Appraisal of Soil Resources

**Outcome #13**

**1. Outcome Measures**

O: Pasture managers will understand benefits of proper NM.I: Number of students adopting MiG.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	10	0

**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
101	Appraisal of Soil Resources

**Outcome #14****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	Quantitative Target	Actual
2007	3	2

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

The most common contaminants in US soils and ground waters include heavy metals and recalcitrant organics. Remediation technologies used at polluted sites usually combine general approaches including: isolation, immobilization, toxicity reduction, physical separation, and extraction of contaminants. Microbially mediated processes are gaining more interest as they often present solutions that are more cost-effective and have lower environmental impact.

**What has been done**

For potential use in remediation reactions, the siderophores in 12 *Pseudomonas* isolates were identified and analyzed using molecular and bioinformatic techniques.

**Results**

This research identified two types of siderophores produced by *Pseudomonas*, one of which has never before been found in the genus. The outcome of this research has helped us to understand how microbes interact with anthropogenic pollutants and will in the long run lead to a cleaner environment with lesser negative impact on community health.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
133	Pollution Prevention and Mitigation

**Outcome #15****1. Outcome Measures**

O: Producers implementing Precision Ag technologies.I: Number of growers attending PA educational events.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	50	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #16****1. Outcome Measures**

O: Producers implementing Precision Ag technologies.I: Percent of growers using PA technologies (survey).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**  
Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	15	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #17**

**1. Outcome Measures**

O: Producers implementing Precision Ag technologies.I: Percent of acres farmed using PA Technologies.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**  
Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	15	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #18**

**1. Outcome Measures**

O: Improve application of odor and emissions control principles.I: Percent adoption of odor and emissions control practices by course attendees.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	10	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

**Outcome #19**

**1. Outcome Measures**

O: Improve access and convenience of online CCA Testing.I: Number of credits awarded.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	20	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

**Outcome #20****1. Outcome Measures**

O: Reduced nutrient levels in soil and water. I: Reduced average soil and water test values in sensitive areas.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	5	0

**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
101	Appraisal of Soil Resources

**Outcome #21****1. Outcome Measures**

O: Improve water and N use efficiency under reduced water conditions. I: Number of People attending UI extension classes at beet school.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	80	0

**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
205	Plant Management Systems

**Outcome #22**

**1. Outcome Measures**

O: Improve water and N use efficiency under reduced water conditions.I: Improvement in Water and N use efficiency.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	0	0

**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
205	Plant Management Systems

**Outcome #23**

**1. Outcome Measures**

O: Improve odor control of lagoons.I: Reduce number of spring odor complaints.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	15	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation

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

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

**Brief Explanation**

The Nutrient and Waste Management Team experienced significant turn-over during 2007, including resignation of the team leader and hiring of several new faculty to participate on the team. The outcomes and indicators have been significantly restructured to allow for more collaborative reporting than was possible with the previous plan.

**V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- After Only (post program)

**Evaluation Results**

During the 2006 Symposium 110 people attended and in 2007 there were 150 participants. As a direct result of the collaborative intention of the Symposium, several research and extension programs have been initiated. In Idaho the Western SARE funded educational program "Dairy Odor and Air Quality Educational Program" and the research program "Investigation of Area Source Measurement Techniques for Ammonia" has been initiated with cooperation from the University of Idaho, USDA-Agricultural Research Service, the Idaho Department of Environmental Quality, Utah State University - Civil Engineering and the Utah Space Dynamics Laboratory.

Our first outcome was to raise onion growers' awareness of the benefits of using proper irrigation scheduling and fertility practices. We have made significant progress toward this outcome by employing field demonstrations, making presentations at commodity schools, writing publications, and visiting with growers and crop consultants.

There are several areas where we are seeing additional outcomes. We have seen increased water use efficiency (WUE), increased nitrogen use efficiency (NUE) and yield increases. Increased efficiencies mean more yield per unit of applied water and nitrogen. For example, in 2007 the drip irrigated onion field yielded 30.8 Cwt per inch of water per acre, while on the furrow irrigated field the average WUE value was 20.2. The yield response came from growers' awareness of when to irrigate to meet the onion crop's water needs which was made possible by using soil moisture monitoring and datalogging equipment.

#### **Key Items of Evaluation**

An ex post-facto review, conducted by the University of Idaho, of the first-year on-farm inspections found that 95% of all permitted dairies were in compliance with the Rule, with an average of  $32.9 \pm 6.1$  points of BMPs exceeding the 27 points required. Solid separation of manure, corral harrowing, low pressure irrigation, composting and rapid manure removal from outdoor lots were found to be the most common BMPs. Results of this study were presented to the Idaho Dairymen's Association, the DEQ and Idaho Department of Agriculture, at an international ammonia management conference in The Netherlands, and have been submitted for peer-review publication.

**Program #15****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Farm and Ranch Management

**V(B). Program Knowledge Area(s)****1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	45%		30%	
602	Business Management, Finance, and Taxation	25%		25%	
603	Market Economics	15%		15%	
605	Natural Resource and Environmental Economics	15%		10%	
606	International Trade and Development	0%		10%	
607	Consumer Economics	0%		5%	
610	Domestic Policy Analysis	0%		5%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	2.8	0.0	2.2	0.0
<b>Actual</b>	4.7	0.0	4.3	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
136422	0	218421	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
136422	0	218421	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
171730	0	215192	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Program activities for the Farm & Ranch Management topic team were delivered to 4,367 teaching contacts at 117 events. Farm & Ranch topic team projects included: 1) crop and livestock costs and returns estimates, 2) development of farm management resources, 3) economic situation, commodity outlook and policy, 4) farm management education, and 5) production management economics. Topic team activities provided farmers and ranchers with information, training, and resources related to profitability and sustainability. Activities included workshops and classes offered in conjunction with major commodity schools (sugarbeets, potatoes, cereals, forages, beef, etc.), stand alone programs on farm management, livestock enterprise budget updates, and publication of cost and return estimates. Faculty also conducted farm and office visits to provide farmers assistance with budgeting, planning, and resource management questions. UI researchers also conducted work to assess trade policies affecting Idaho commodities, performed economic analyses of invasive species and environmental factors, and conducted risk threat assessments.

## 2. Brief description of the target audience

State and Federal policy makers, as well as farmers, ranchers and agribusiness managers in Idaho who are interested in improving farm business management skills comprise the target audience for the farm management research and education programs. This included 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.

## V(E). Planned Program (Outputs)

### 1. Standard output measures

#### Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	2200	6300	0	0
2007	4228	0	139	0

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

#### Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

#### Patents listed

### 3. Publications (Standard General Output Measure)

#### Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	2	2	4

## V(F). State Defined Outputs

### Output Target

**Output #1****Output Measure**

- Farm Management Classes.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	2

**Output #2****Output Measure**

- Livestock Costs and Returns Estimates.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	0	10

**Output #3****Output Measure**

- Crop Costs and Returns Estimates.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	90	0

**Output #4****Output Measure**

- ID Agriculture's Economic Situation Pamphlet.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2000	3000

**Output #5****Output Measure**

- Media Contacts.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	30	31

**Output #6****Output Measure**

- Workshops at Commodity Schools.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	5	5

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Increased understanding of issues, management practices or marketing tools.I: Number of clientele contacting extension: phone calls, emails, office walk-ins.
2	O: Use of crop and livestock costs and returns estimates by clientele will increase.I: Number of CAR estimates downloaded by clientele or distributed on CDs.
3	O: Increased understanding by clientele on how to develop and used costs and returns estimates.I: Number of costs and returns estimates distributed.
4	O: Increased understanding by clientele on how to develop and used costs and returns estimates.I: Number of clientele contacting extension directly for costs and returns estimates.
5	O: Ranchers participating in A to Z can determine the benefits of retaining ownership of calves in the feedlot.I: Number of calves consigned under the A to Z Program.
6	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.
7	O: Educational material made available to clientele.I: Number of publications and other resources distributed.
8	O: Requests for resource material by clientele.I: Number of clientele contacting extension for resource material.
9	O: Use of resource material by clientele.I: Number of hits on AERS web site.
10	O: Increased understanding of issues, management practices or marketing tools.I: Number of clientele attending educational programs.
11	O: Increased understanding of issues, management practices or marketing tools.I: Number of clientele attending educational programs that indicate a change in knowledge.
12	O: Increased understanding of issues, management practices or marketing tools.I: Number of clientele attending educational programs that indicate an intention to change a practice.

**Outcome #1****1. Outcome Measures**

O: Increased understanding of issues, management practices or marketing tools. I: Number of clientele contacting extension: phone calls, emails, office walk-ins.

**2. Associated Institution Types**

- 1862 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	50	190

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Frustration with the lack of regional information in the agricultural section of a local newspaper prompted the Nez Perce County Extension Educator to bring the services of the land-grant university to provide current, research-based information to the citizens of the north-central Idaho region through the Ag Page of the Lewiston Morning Tribune (LMT).

**What has been done**

Nine Extension Educators and Specialists from UI and WSU formed an editorial team with the LMT. As of January 1, 2007, these Extension authors have written 165 columns covering livestock, crops, farm management, soils, insects, diseases, weeds and more. This represents about 650 faculty work hours on this project. An average circulation of reaches a readership of 24,000 in north-central Idaho.

**Results**

This program has been very successful. A wide variety of subjects of immediate and educational interest have been covered. Lewiston Morning Tribune editors have been happy with the columns written in personal information style, allowing each author to have an individual style and tone reflected in their work. All columns are agriculture-related, original, and are aligned with Extensions mission. Each column includes email contact information for the author. Team members report contacts for additional information from nearly every column they write. An informal survey of Camas Prairie area residents found that 87% at least occasionally read the Ag Page of the Lewiston Morning Tribune, and 44% indicated they read it often or always. All of the readers of the Ag Page found it at least occasionally useful, while 38% of the readers found it often or always useful.

**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

**Outcome #2****1. Outcome Measures**

O: Use of crop and livestock costs and returns estimates by clientele will increase. I: Number of CAR estimates downloaded by clientele or distributed on CDs.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	100	78

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #3**

**1. Outcome Measures**

O: Increased understanding by clientele on how to develop and used costs and returns estimates.I: Number of costs and returns estimates distributed.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	200	5

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #4**

**1. Outcome Measures**

O: Increased understanding by clientele on how to develop and used costs and returns estimates. I: Number of clientele contacting extension directly for costs and returns estimates.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	50	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #5****1. Outcome Measures**

O: Ranchers participating in A to Z can determine the benefits of retaining ownership of calves in the feedlot. I: Number of calves consigned under the A to Z Program.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	100	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #6****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	Quantitative Target	Actual
2007	2	1

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Better decisions by producers can stabilize or increase revenue for an important PNW industry whose economic viability is threatened by income variability. The organic production alternative offers an opportunity to more effectively compete with imported products, enhance revenue by capturing price premiums, and provide environmental improvements by using more sustainable fertilization and pest control practices. Agricultural producers need more effective tools to assess risk management.

**What has been done**

A computer program was demonstrated to USDA's Risk Management Agency, and is now ready to be evaluated in the field by a selected group of apple producers in the Wenatchee and Yakima production regions. Survey data from organic apple producers have been assessed to identify those factors influencing apple quality in organic apple production. In the area of small grain production and marketing, basis tables for the three classes of wheat in the PNW using Chicago, Kansas City, and Minneapolis futures are in the process of being updated. Data have been secured, and updates will be provided to producers on the departmental farm management extension website. The CRC revenue insurance product was evaluated as a price risk management tool for wheat in north Idaho. Results were presented to a producer group in Grangeville, ID in September before the signup deadline for the fall crop insurance products. Mustard as an alternative crop is being evaluated from two perspectives. One is assessing the competitiveness of biodiesel made from mustard oil assuming the primary by-product (mustard meal) is marketed as a high-value biopesticide. The other perspective is assessing the value of mustard as a rotation crop in the Palouse region of the PNW.

**Results**

The primary impact for Pacific Northwest (PNW) organic apple producers is the capability of using a readily available computer program to assess complex price and production relationships that impact the revenue risk associated with organic apple production as opposed to conventional production. Small grain producers better understand the use of crop insurance products to manage price and production risk. Previous results suggest using the more optimal risk management strategies (which consistently include crop insurance products) can enhance producer well-being by \$2.00 to \$3.50 per acre, depending on location. Mustard has the potential to provide a valuable alternative crop, provide a low-cost oil for domestically-produced biodiesel, and produce a competitive biopesticide for organic and home garden producers.

**4. Associated Knowledge Areas**

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

**Outcome #7****1. Outcome Measures**

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

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	140	2025

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Clientele need annual updated information related to the financial condition of Idaho Agriculture.

**What has been done**

The Financial Condition of Idaho Agriculture is an annual publication which forecasts Idaho farm cash receipts, net farm income, and government payments to Idaho agriculture. For the last three years the document has been published in the form of a tri-fold and has been the most widely publicized extension publication coming from the College of Agriculture.

**Results**

Each year 800 to 1,000 copies are printed and distributed throughout the state. The tri-fold and a power-point presentation are delivered each year, by the Dean of the College of Agriculture, to the Idaho Legislature's Joint Legislative Economic Committee. The forecast is used to make statewide budget planning decisions. This year the presentation was also delivered to the House Agricultural Affairs Committee and the Senate Agricultural Affairs Committee. The information is sent out annually in a press release and is reported in every major newspaper and is also announced on several farm radio programs. The tri-fold, PowerPoint presentation, and press release are also posted on the Department of Agricultural Economics and Rural Sociology web site

**4. Associated Knowledge Areas**

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

**Outcome #8****1. Outcome Measures**

O: Requests for resource material by clientele.I: Number of clientele contacting extension for resource material.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	155	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

**Outcome #9****1. Outcome Measures**

O: Use of resource material by clientele.I: Number of hits on AERS web site.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	250	3600

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
607	Consumer Economics
610	Domestic Policy Analysis
601	Economics of Agricultural Production and Farm Management
606	International Trade and Development
602	Business Management, Finance, and Taxation

603	Market Economics
605	Natural Resource and Environmental Economics

**Outcome #10****1. Outcome Measures**

O: Increased understanding of issues, management practices or marketing tools.  
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	Quantitative Target	Actual
2007	100	507

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Farmers and ranchers need good business management skills in order to maintain a profitable operation when input prices are escalating and commodity prices are falling or stagnant. Farmers and ranchers also need timely access to farm management resource material, resource management tools and unbiased market and management information.

**What has been done**

As part of the many educational programs offered in 2007, one example includes a series of 90-minute workshops that were conducted at the University of Idaho's 2007 Potato Conference. Topics included equipment economics and machinery management, potato storage economics, and cost of production.

**Results**

Results of surveys conducted at farm economics workshops offered in conjunction with the 2007 Potato Conference demonstrated that 60% of respondents indicated intention to change practices as a result of information presented.

**4. Associated Knowledge Areas**

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

**Outcome #11****1. Outcome Measures**

O: Increased understanding of 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 Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	75	27

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

**Outcome #12****1. Outcome Measures**

O: Increased understanding of issues, management practices or marketing tools.  
I: Number of clientele attending educational programs that indicate an intention to change a practice.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	40	18

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Beef cattle producers in North Central Idaho have historically marketed at local auction markets. Producers perceived that they were not receiving the true market value for their calves and wanted to explore marketing alternatives to gain more control of their marketing program and increase exposure of their calves to more buyers. These producers needed education on marketing options and how to form a marketing alliance which would allow them to market their cattle cooperatively.

**What has been done**

With help from University of Idaho Extension, the group formed the Clearwater Valley Beef Alliance (CVBA) with a goal to market their spring born calves collectively in truck load lots. Several marketing options and calf management programs were explored. The members of the CVBA agreed to manage their calves identically, utilize similar genetics and market their calves each year collectively. They also formed a legal partnership in which each member was an equal partner and elected a treasurer.

**Results**

With help from University of Idaho Extension, the group formed the Clearwater Valley Beef Alliance (CVBA) with a goal to market their spring born calves collectively. The members of the CVBA agreed to manage their calves identically, utilize similar genetics and market their calves each year collectively. They also formed a legal partnership in which each member was an equal partner and elected treasurer. The alliance has marketed their calves using the video auction, the internet and through direct marketing channels. The CVBA has been a success for the participating ranches. In 2006, the price received was \$20 per hundred weight higher than local auction market prices. Producers net returns have increased and they have learned about the quality of their cattle. They have made genetic improvement over the last ten years and have learned to study marketing options and trends and have explored working together in other areas besides marketing.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
603	Market Economics
602	Business Management, Finance, and Taxation
601	Economics of Agricultural Production and Farm Management

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

- Other (none)

**Brief Explanation****V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Case Study

**Evaluation Results**

{No Data Entered}

**Key Items of Evaluation**

{No Data Entered}

**Program #16****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Dairy

**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%		20%	
302	Nutrient Utilization in Animals	20%		20%	
305	Animal Physiological Processes	20%		20%	
307	Animal Management Systems	10%		10%	
308	Improved Animal Products (Before Harvest)	10%		10%	
311	Animal Diseases	20%		20%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	2.1	0.0	2.9	0.0
<b>Actual</b>	3.2	0.0	2.7	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
297716	0	242601	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
297716	0	242601	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
441394	0	274928	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Program activities for the Dairy Topic Team were delivered to 7651 contacts through three topic team project areas: 1) Dairy Management and Education, 2) Dairy Nutrition, and 3) Dairy Reproduction. Activities included dairy training schools, workshops, forums, tours, and presentations, totaling 65 teaching events. Dairy production and management schools covered specific topic areas such as milking management, feeding management, AI techniques, and calf rearing practices. Schools were held in both formal classroom and informal settings on dairy operations and were offered in both English and Spanish. Pre- and post-tests were used to evaluate the effectiveness of the trainings. Publications included 12 popular press articles, numerous articles for trade journals, and 6 Extension publications. UI faculty continue to conduct a number of basic and applied research projects; the dairy research program is one of the largest at our institution. Projects focused on increased performance, reproduction, nutrition, animal health, and environmental impact minimalization.

## 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.

## V(E). Planned Program (Outputs)

### 1. Standard output measures

#### Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	2000	220000	150	0
2007	5671	0	1890	0

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

#### Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

#### Patents listed

### 3. Publications (Standard General Output Measure)

#### Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	1	12	13

## V(F). State Defined Outputs

### Output Target

**Output #1****Output Measure**

- Winter Dairy Forums.

Year	Target	Actual
2007	2	1

**Output #2****Output Measure**

- Milker schools.

Year	Target	Actual
2007	6	4

**Output #3****Output Measure**

- Calf Schools.

Year	Target	Actual
2007	2	2

**Output #4****Output Measure**

- Artificial Insemination Schools.

Year	Target	Actual
2007	2	1

**Output #5****Output Measure**

- Feeder Schools.

Year	Target	Actual
2007	2	1

**Output #6****Output Measure**

- Spanish for Veterinarians.

Year	Target	Actual
2007	0	0

**Output #7****Output Measure**

- Milk Quality trial (cooperators).

Year	Target	Actual
2007	7	0

**Output #8****Output Measure**

- Popular Press articles.

Year	Target	Actual
2007	10	12

**Output #9****Output Measure**

- University Publications.

Year	Target	Actual
2007	3	6

**Output #10****Output Measure**

- Abstracts and Proceedings.

Year	Target	Actual
2007	5	6

**Output #11****Output Measure**

- Journal articles.

Year	Target	Actual
2007	2	14

**Output #12**

**Output Measure**

- Heifer reproduction trials.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	0

**Output #13**

**Output Measure**

- TMR survey (# Farms).

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	30	0

**Output #14**

**Output Measure**

- Corn Silage Demonstration (# Farms).

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	10	0

## V(G). State Defined Outcomes

## V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	O: Dairy Producers will send workers to training schools.I: Number attending schools.
2	O: Producers will continue to attend Winter Dairy Forums.I: Number of participants.
3	O: Attending the schools will increase knowledge and understanding of dairy management practices by dairy workers.I: Percent knowledge change by attendees (as evaluated with pre/post testing).
4	O: Sound dairy management practices will be adopted by dairy operations as a result of attending the management schools.I: Percent intent to adopt recommended dairy management practices by attendees (assessed with post/pre testing).
5	O: Improved calf health on participating farms.I: Percent reduction in calf mortality and scours (farm survey).
6	O: Improved compliance with approved milking practices.I: Percent improved compliance (survey of participant operations).
7	O: Proper placement of AI pipette in cow's uterus during insemination.I: Percent correct placement (assessed at AI school during animal insemination).
8	O: Feeders correctly identify required feeding adjustments due to added water.I: Percent correct feeding adjustment calculations (assessed during the feeder schools).
9	O: Conception rates are improved with heifer synchronization protocols.I: Percent difference in conception rate (statistical evaluation of on-farm research data).
10	O: Web based Milking SOP writer will be utilized by dairy operators to develop standard operating procedures.I: Number of hits on web site.
11	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: Dairy Producers will send workers to training schools. I: Number attending schools.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	155	124

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
307	Animal Management Systems
301	Reproductive Performance of Animals
308	Improved Animal Products (Before Harvest)

**Outcome #2****1. Outcome Measures**

O: Producers will continue to attend Winter Dairy Forums. I: Number of participants.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	40	25

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

## Results

### 4. Associated Knowledge Areas

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

### Outcome #3

#### 1. Outcome Measures

O: Attending the schools will increase knowledge and understanding of dairy management practices by dairy workers. 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	Quantitative Target	Actual
2007	30	55

#### 3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
307	Animal Management Systems

### Outcome #4

#### 1. Outcome Measures

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

#### 2. Associated Institution Types

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	30	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
307	Animal Management Systems

**Outcome #5**

**1. Outcome Measures**

O: Improved calf health on participating farms.I: Percent reduction in calf mortality and scours (farm survey).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	20	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
305	Animal Physiological Processes
311	Animal Diseases
307	Animal Management Systems

**Outcome #6**

**1. Outcome Measures**

O: Improved compliance with approved milking practices.I: Percent improved compliance (survey of participant operations).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	20	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
307	Animal Management Systems

**Outcome #7**

**1. Outcome Measures**

O: Proper placement of AI pipette in cow's uterus during insemination.I: Percent correct placement (assessed at AI school during animal insemination).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	90	100

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
301	Reproductive Performance of Animals

**Outcome #8****1. Outcome Measures**

O: Feeders correctly identify required feeding adjustments due to added water. I: Percent correct feeding adjustment calculations (assessed during the feeder schools).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	90	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
307	Animal Management Systems

**Outcome #9****1. Outcome Measures**

O: Conception rates are improved with heifer synchronization protocols. I: Percent difference in conception rate (statistical evaluation of on-farm research data).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	5	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #10**

**1. Outcome Measures**

O: Web based Milking SOP writer will be utilized by dairy operators to develop standard operating procedures. I: Number of hits on web site.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	200	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
307	Animal Management Systems

**Outcome #11**

**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	Quantitative Target	Actual
2007	2	3

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Lipids are an important nutrient and also affect milk content, quality and animal health. Milk contains many fatty acids that inhibit the growth of bacteria. The potential to alter milk fatty acid content to reduce the risk of mastitis would be of tremendous economic importance to the dairy industry.

**What has been done**

An alternative dietary lipid source for dairy cattle was evaluated. Fatty acids of palm oil were fed to lactating dairy cows. Activity of the delta-9 desaturase enzyme in lactating cows was evaluated using <sup>13</sup>C labeled fatty acids. The desaturation of lauric (LA), myristic (MA), palmitic (PA), stearic (SA), and vaccenic (VA) acids by the lactating dairy cow fed a saturated or unsaturated lipid was investigated. Multiparous ruminally cannulated Holstein cows were continuously abomasally infused with 400 g/d of coconut oil or corn oil for 7 d in a cross over design with 3 d between each period. On d 5, a bolus of [1-<sup>13</sup>C] labeled fatty acids (7 g LA, 7.5 g MA, 50 g PA, 65 g SA, and 2 g VA) was abomasally infused to determine desaturase activity. Work also is continuing that examines the impact of various fatty acids found in milk on growth of *Staphylococcus aureus* and to evaluate the potential role of milk fatty acids in inhibiting the risk of mastitis.

**Results**

In animals fed palm oil fatty acids, milk yield and milk fat increased without affecting dry matter intake or milk protein suggesting this highly saturated fat supplement had little impact on rumen function. Milk yield was greater with corn oil compared to coconut oil (32.9 vs 34.8 kg/d). Delivering coconut or corn oil post-ruminally resulted in increased LA (9.1 vs. 3.0 %) or linoleic acid (3.7 vs. 15.8 %) concentrations in milk fat, respectively. Lipid treatment did not alter the percent of product originating from substrate or percent of substrate desaturated.

**4. Associated Knowledge Areas**

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

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

- Other (none)

**Brief Explanation****V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- After Only (post program)
- Before-After (before and after program)
- During (during program)

**Evaluation Results**

On a statewide (or an individual herd) basis, indicators of dairy reproductive efficiency do not change rapidly in the current records systems utilized by dairy producers. Therefore, more time must elapse before an accurate assessment of the outcome of an overall project may be accomplished. The goal of Extension dairy programs is to serve the Idaho dairy industry and secure a profitable future for Idaho dairy farm families, their employees, milk processors and allied industry. In August 2007, there were approximately 517,000 lactating cows in Idaho, an increase of 48,000 cows compared to September, 2005. Idaho is currently the fourth largest milk producing state in the nation. In 2006, the most recent year for which data is available, milk was the number one agricultural commodity in Idaho (in terms of income received by farmers). Eleven senior veterinary students were given a three-hour lecture on dairy facilities at the Caine Veterinary Teaching Center, Caldwell, Idaho. On the following day, students toured two local dairy facilities and evaluated facility design. For evaluation purposes, students were asked to indicate their degree of confidence in fielding questions on various topics before the lecture and after the lecture. The post/pre questionnaire used the following scale (1= not too confident, 2 = somewhat confident, 3 = moderately confident, 4 = very confident, 5 = extremely confident). Pre and post responses were compared statistically with a paired t-test. Highly significant improvements ( $p < 0.001$ ) in confidence were observed for eleven categories including 1) facility planning, 2) dry lots, 3) free stalls, 4) natural ventilation, 5) flooring, 6) mangers, 7) cold stress, 8) heat stress, 9) stray voltage, 10) cow handling, and 11) diagnosing cow discomfort issues. Teaching the class to senior veterinary students is valuable for training future leaders in animal agriculture. Results from a paired t-test of pre/post questionnaire responses from attendees at calf schools indicate significant improvements ( $p < 0.05$ ) in practice adoption rate in nine categories. Adoption rates were categorized as always, usually, seldom, and never. Intent to change was evident for the following practices: 1) use individual cow pens, 2) dip navels of newborns, 3) feed 4 quarts of colostrums to newborns, 4) use a colostrometer to evaluate quality, 5) check calf antibody levels, 6) use calf scorecard, 7) feed calves more milk during cold months, 8) space hutches to avoid nose to nose by calves, and 9) wean calves one week before grouping.

#### **Key Items of Evaluation**

**Program #17****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Food Safety

**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%		15%	
308	Improved Animal Products (Before Harvest)	0%		10%	
311	Animal Diseases	0%		10%	
315	Animal Welfare/Well-Being and Protection	0%		5%	
501	New and Improved Food Processing Technologies	10%		10%	
503	Quality Maintenance in Storing and Marketing Food Products	5%		10%	
504	Home and Commercial Food Service	35%		10%	
712	Protect Food from Contamination by Pathogenic Microorgani	40%		15%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		5%	
723	Hazards to Human Health and Safety	10%		10%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	3.0	0.0	2.3	0.0
<b>Actual</b>	3.9	0.0	2.5	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
74274	0	134556	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
74274	0	134556	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
94143	0	936732	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

- Just in Time Food Safety - Educators and volunteers used “teachable moments” when a consumer calls with a question to disseminate current researched-based information.
- Consumer Food Safety Programs - Extension educators offered classes and workshops on general food safety and food preservation topics.
- Food Industry Assistance - The Extension Food Processing Specialist continued to deliver general food safety and HACCP (Hazard Analysis Critical Control Points) workshops and specific food safety consulting (including on-site HACCP training, prerequisite programs training, preparation for food safety inspections and general food safety information) to the Idaho food processing industry.
- Food Safety Advisor/Master Food Preserver - UI Extension trained FSA/MFP volunteers shared their expertise in their communities in a variety of ways including: answering consumer calls, providing written materials as requested, teaching classes for community organizations, preparing and manning educational displays and information booths, surveying clientele on home food preservation methods, and assisting with awareness and service activities such as pressure canner gauge testing and county fair open class food preservation class judging.
- Food Service Food Safety Training - Ready, Set, Food Safe curriculum was taught in high school FCS classes throughout the state. ServSafe was taught to food service workers/mangers or food industry personnel requiring this level of training.
- Hand Washing Education - Hand washing technique and effectiveness was taught in a fun, “hands-on” learning experience with the use of black light sensitive lotion (such as Glo-Germ or Glitterbug lotions) and a black light.
- ENP/EFNEP -Food Safety - ENP/EFNEP clients received 15% of their education on food safety topics. These lessons varied by county in accordance with client needs.
- Research programs involving providing safer and healthier crop and animal commodities.

**2. Brief description of the target audience**

Just in Time Food Safety Information 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). 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) .Consumer Food Safety Programs Consumers who need general and specific information to keep food safe or to avoid risky foods (Programs can cover a variety of topics, requested, 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 a targeted food safety program: for example, senior centers, parents of young children, caregivers of children, volunteers who cook for groups. Food Industry Assistance Idaho citizens interested in developing and marketing a food product. Food companies needing assistance with implementation of food safety systems, such as HACCP. 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 washing 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)

Idaho and Northwest Agricultural Industries (dairy, fruit/berries, beef)  
Food Processing Industries

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	9222	0	14160	0
2007	6004	0	4655	0

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

**Patent Applications Submitted**

Year Target  
Plan: 0

2007 : 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	0	12	12

**V(F). State Defined Outputs**

**Output Target**

**Output #1****Output Measure**

- Number of food safety calls answered.

Year	Target	Actual
2007	4075	5269

**Output #2****Output Measure**

- Consumer food safety classes taught.

Year	Target	Actual
2007	69	23

**Output #3****Output Measure**

- Classes.

Year	Target	Actual
2007	45	104

**Output #4****Output Measure**

- Food industry consults.

Year	Target	Actual
2007	35	0

**Output #5****Output Measure**

- Number of certified Food Safety Advisors (MFPs).

Year	Target	Actual
2007	22	40

**Output #6****Output Measure**

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

Year	Target	Actual
2007	35	12

**Output #7****Output Measure**

- Number of volunteer hours logged by FSA/MFPs.

Year	Target	Actual
2007	1360	1088

**Output #8****Output Measure**

- Students receiving a RSFS certificate.

Year	Target	Actual
2007	315	1404

**Output #9****Output Measure**

- Participants in hand washing education programs.

Year	Target	Actual
2007	10220	3604

**Output #10****Output Measure**

- Number ENP/EFNEP graduates.

Year	Target	Actual
2007	550	537

**Output #11****Output Measure**

- Number ENP/EFNEP one-time classes.

Year	Target	Actual
2007	1650	608

**Output #12**

**Output Measure**

- Refereed journal publications

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	12

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: People will use requested advice.I: Percentage or number of people who plan to use requested advice.
2	O: People will change behavior.I: Change in intent.
3	O: Companies achieving licensing.I: Number of companies that achieve licensing.
4	O: Interested consumer will be certified or re-certified in FSA.I: Number of certifications.
5	O: High school students will take and pass RSFS.I: Number of certifications.
6	O: Participants will identify an opportunity for improving hand washing behavior.I: Percentage of participants who identify an opportunity for improving hand washing behavior.
7	O: Participants will increase level of knowledge.I: Percentage with increased level of knowledge.
8	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.
9	O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.

**Outcome #1****1. Outcome Measures**

O: People will use requested advice. I: Percentage or number of people who plan to use requested advice.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	2853	2573

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

98 % of those surveyed followed the advice of food safety experts.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxi

**Outcome #2****1. Outcome Measures**

O: People will change behavior. I: Change in intent.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	483	822

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

822 individuals indicated their intent to adopt new behaviors that reduce risk of food-borne illness.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
504	Home and Commercial Food Service
723	Hazards to Human Health and Safety
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxi

**Outcome #3****1. Outcome Measures**

O: Companies achieving licensing.I: Number of companies that achieve licensing.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	2	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
501	New and Improved Food Processing Technologies

**Outcome #4****1. Outcome Measures**

O: Interested consumer will be certified or re-certified in FSA.I: Number of certifications.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	57	52

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxi
504	Home and Commercial Food Service

**Outcome #5****1. Outcome Measures**

O: High school students will take and pass RSFS.I: Number of certifications.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	221	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The goal of food safety education is that food handlers will implement their knowledge to reduce the risk of foodborne illness. Educational research indicates that music provides a powerful, yet often overlooked, medium for learning and memory. An Extension Specialist at the UC Davis has developed a unique musical approach to food safety education and outreach. He has modified the lyrics of popular songs into humorous, yet informative, musical parodies appropriate for food safety education.

**What has been done**

UI Extension uses a 9-lesson curriculum, Ready, Set, Food Safe, for teaching food service food safety to high school students. When students pass the Ready, Set, Food Safe certification test with a score of 80% or better, they receive food safety and sanitation certificate. In an effort to enhance the effectiveness of this food safety education program, musical parodies were incorporated into the Ready, Set, Food Safe curriculum. Student knowledge, attitudes and behaviors were measured.

**Results**

Knowledge. When the data were broken out by teacher/educator experience and classroom size, significant differences were observed. In smaller classrooms or in classrooms where the teacher was more experienced with the Ready, Set Food Safe curriculum, students in the Music-added Group scored significantly higher in food safety knowledge than Control Group students.

Attitudes. In classrooms where the teacher was more experienced with the curriculum, students in the Music-added Group scored higher than the Control students.

Opinions. The 9 teachers/educators in the Music-added Group were universally positive about the addition of the songs. The teachers noted that the songs made a positive contribution to the teaching of the food safety lessons, particularly in making it more enjoyable.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service

### Outcome #6

#### 1. Outcome Measures

O: Participants will identify an opportunity for improving hand washing behavior. I: Percentage of participants who identify an opportunity for improving hand washing behavior.

#### 2. Associated Institution Types

•1862 Research

#### 3a. Outcome Type:

Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	9198	2967

#### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

**What has been done**

**Results**

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxi
723	Hazards to Human Health and Safety

### Outcome #7

#### 1. Outcome Measures

O: Participants will increase level of knowledge. I: Percentage with increased level of knowledge.

#### 2. Associated Institution Types

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	1320	520

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxi
723	Hazards to Human Health and Safety

**Outcome #8****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	Quantitative Target	Actual
2007	2	5

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Drying of sugar-rich food products like berries is ordinarily problematic and novel methods for preservation are crucial for this industry. One component of these foods is anthocyanins which have beneficial health properties. Quantifying the level of anthocyanins in dehydrated fruit products is beneficial to US consumers because it will help them in making informed choices on foods that have potential to provide more health benefits. The information will support the processing and marketing of Northwest berry products that satisfy consumers' needs.

**What has been done**

Three drying methods (spray drying, freeze drying, and Refractance Window drying) were set with the objective of successfully producing blueberry powder. Blueberry juice concentrate with 64.5% dissolved solids was dried by the three three methods. Various amounts of drying aids such as corn maltodextrin were added to the juice concentrate before being diluted with deionized water to a consistency that could either be applied on the belt of the RW dryer or pumped into the atomizer of the spray dryer. The freeze-dried product was prepared in a pilot-scale freeze-dryer with the heating plate temperature set at 20 degrees Celcius and 3.3kPa chamber absolute pressure. The samples were collected after drying for analysis of anthocyanins.

### Results

Total anthocyanin contents were from 41.2 to 46.3 Abs/g for RW dried blueberry with and without drying aid and 47.52 Abs/g for freeze dried counterparts. A spray-dried blueberry powder that was formulated with rice oligodextrin showed an absorbance of 61.7 Abs/g. The anthocyanin content of blueberry concentrate powders prepared using RW were similar with and without use of drying aids. Anthocyanins are more stable when concentrated or dehydrated and their recovery during the spray drying process most likely improved due to the encapsulating effect of the rice polysaccharide. The conclusions are that RW is a relatively inexpensive alternative to freeze drying for preparation of blueberry juice concentrate powder without addition of drying aids. Investigations are continuing to further improve this process to retain anthocyanin pigments and other antioxidants in Northwest berries.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
722	Zoonotic Diseases and Parasites Affecting Humans
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxi
308	Improved Animal Products (Before Harvest)
503	Quality Maintenance in Storing and Marketing Food Products
315	Animal Welfare/Well-Being and Protection
311	Animal Diseases
723	Hazards to Human Health and Safety

#### Outcome #9

##### 1. Outcome Measures

O: Other scientists are aware of our research findings.

I: Number of refereed scientific journal articles.

##### 2. Associated Institution Types

- 1862 Extension
- 1862 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	12

##### 3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
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504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxi
723	Hazards to Human Health and Safety

#### **V(H). Planned Program (External Factors)**

##### **External factors which affected outcomes**

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

##### **Brief Explanation**

#### **V(I). Planned Program (Evaluation Studies and Data Collection)**

##### **1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)

##### **Evaluation Results**

In the Treasure Valley over 2,482 adults and children participated in Germ City. Individuals participating in the activity were asked to indicate when they would be willing to increase their efforts at hand washing by placing a self-sticking dot next to one of six categories. Fourteen percent of participants indicated they would increase hand washing after coughing & sneezing, 12% after playing or working outside, 9% before preparing or eating food, 29% after using the restroom, 34% after playing with animals, and 2% reported that they were not planning on making a change in their behavior.

##### **Key Items of Evaluation**

**Program #18****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Cereals

**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	10%		20%	
202	Plant Genetic Resources	20%		20%	
205	Plant Management Systems	30%		20%	
211	Insects, Mites, and Other Arthropods Affecting Plants	20%		20%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
502	New and Improved Food Products	10%		10%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	5.2	0.0	4.9	0.0
<b>Actual</b>	5.5	0.0	7.5	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
143492	0	516106	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
143492	0	516106	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
183582	0	2816997	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Program activities for the Cereals Topic Team were delivered to 9943 contacts. Project areas included: 1) Development and Adoption of Improved Varieties, 2) Integrating Cereal Production Practices into a Productive Cropping System, 3) Applying Beneficial Cultural and Fertilization Crop Management Practices, and 4) Using Economical, Effective, and Environmentally Friendly Crop Protection Practices. Activities included cereal schools, workshops, field demonstrations, tours, and presentations. Six cereal schools were offered in 2007 providing growers with technology related to new varieties, pest management practices and problems, management decisions, and integration of cereals in cropping systems. Several basic and applied research projects were conducted. Ongoing applied research was conducted in 24 production and pest management trials that will continue to benefit Idaho cereal crop producers by providing unbiased scientific information related to management of cereal crops. Variety trial testing and breeding projects continue to be conducted throughout Idaho and are evaluating agronomic performance, end-use quality, adaptability to an areas or types of production, suitability for specialty markets, and production of seed for moving the varieties into commercial production. Information from variety trials and weed and pest management projects was disseminated in 76 new and updated publications, 88 reported events, and numerous farm and office visits throughout the state. Publications included newsletters, popular press and trade journal articles, Extension publications, progress reports, book chapters, and journal articles.

## 2. Brief description of the target audience

Cereal growers in Idaho were provided with technology to enhance cereal production and profitability and provide feedback and suggestions of needs and areas of concern for profitable cereal production. Growers also provided resources for the project through direct use of facilities, and through checkoff contributions to commodity commissions. Agribusiness and support workers were provided resources for technology development and delivery, be targets for information delivery, provide feedback and suggestions for directions of the program. Topic team members meet with advisory committees, commodity commissions (Idaho Wheat Commission, Idaho Barley Commission, Idaho Grain Producers), processors, ag-support industries for feedback and to inform them of work in cereal production research and extension programs in Idaho.

## V(E). Planned Program (Outputs)

### 1. Standard output measures

#### Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	2000	2000	20	20
2007	9712	0	231	0

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

#### Patent Applications Submitted

Year	Target
Plan:	1
2007 :	0

#### Patents listed

### 3. Publications (Standard General Output Measure)

#### Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	1	15	16

## V(F). State Defined Outputs

### Output Target

**Output #1****Output Measure**

- Idaho Cereal Schools.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	5	6

**Output #2****Output Measure**

- Release and adoption of new cereal varieties.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	0

**Output #3****Output Measure**

- Publication of CIS, Progress reports, PNW, etc.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	10	39

**Output #4****Output Measure**

- Develop pest control technology - project/experiments.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	20	15

**Output #5****Output Measure**

- Research on management systems - projects/experiments.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	30	9

**Output #6****Output Measure**

- Refereed publications

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	16

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Participation by clientele at Idaho cereal schools, field days, seminars, re-certification events.I: Attendance at schools.
2	O: Use/awareness of Cereal resource publications.I: Number of cereal extension publications distributed.
3	O: Adoption of new varieties by growers.I: Acreage of new varieties greater than previously grown.
4	O: Adoption of new crop production methods.I: Survey in meetings with growers, variety selection, acreage sprayed.
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: Participation by clientele at Idaho cereal schools, field days, seminars, re-certification events. I: Attendance at schools.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	550	652

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #2****1. Outcome Measures**

O: Use/awareness of Cereal resource publications. I: Number of cereal extension publications distributed.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	600	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done****Results****4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
502	New and Improved Food Products
202	Plant Genetic Resources
201	Plant Genome, Genetics, and Genetic Mechanisms
205	Plant Management Systems

**Outcome #3****1. Outcome Measures**

O: Adoption of new varieties by growers.I: Acreage of new varieties greater than previously grown.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	5000	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results****4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
201	Plant Genome, Genetics, and Genetic Mechanisms
205	Plant Management Systems
502	New and Improved Food Products
202	Plant Genetic Resources
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants

**Outcome #4****1. Outcome Measures**

O: Adoption of new crop production methods.I: Survey in meetings with growers, variety selection, acreage sprayed.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	200	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms
502	New and Improved Food Products
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
202	Plant Genetic Resources
205	Plant 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 Extension
- 1862 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	2	2

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The wheat and barley breeding programs in Idaho are a close collaboration among the three PNW universities and the ARS. One of the goals of this program is to develop varieties with enhanced resistance to cereal pests. One project at the UI Aberdeen R & E Center determines the extent of foot rot resistance in currently grown cultivars, to allow barley and wheat breeders in the PNW to screen for foot rot resistance in advanced lines, and to investigate resistance mechanisms and disease expression in traditionally bred and transgenically derived lines.

**What has been done**

Thirty-one transgenic barley and thirteen transgenic wheat lines were tested. Lines and cultivars of spring wheat (39) and barley (61) submitted for 2007 performance testing in the variety trials or for these experiments were tested for resistance or tolerance to dryland foot rot. Plots were measured for yield, test weight, stand and number of whiteheads per plot, a symptom of disease expression. Permits were obtained from APHIS to allow planting of selected transgenic lines for testing in the field. Tolerance (yield in the presence of high disease pressure) of transgenic wheat and barley lines was determined in the field, following a split-plot statistical design.

**Results**

Varieties and breeding lines demonstrated significant differences in trials for yield, test weight and stand. Initial identification of varieties with tolerance to Fusarium foot rot was made among those varieties where inoculated plots yielded as well or better than control plots. These resistance or tolerance lines are now being used to improve resistance in breeding programs. In addition, we now have a mechanism to identify the best lines to grow in areas with high disease pressure and which allow reduced environmental impacts due to reduced fungicide treatments to control disease.

**4. Associated Knowledge Areas**

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

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

- Other (none)

**Brief Explanation****V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- After Only (post program)
- Retrospective (post program)
- Time series (multiple points before and after program)

**Evaluation Results**

A field demonstration examining the effectiveness of intercropping or relay cropping of oilseeds into spring barley was established in spring 2007. This trial is still underway but the early results show Camelina cannot be intercropped with spring barley. A relay cropping in June in spring barley will result in harvestable quantities of Camelina oil seed by winter, showing potential for double cropping.

Survey results from the Northern Idaho Small Grain Variety Evaluation Project indicate that program attendees represented about 75% (over 400,000 acres) of the land in cereal production in Northern Idaho. Of those growers surveyed, 89% responded that the information presented would influence their management decisions in the upcoming growing season.

Cereal schools offered in Northern Idaho offered education on a range of topics including agroterrorism, herbicide modes of action, and alternative crops. Participant surveys showed that the majority (range 97%-100%) would use subject matter to make management decisions in the upcoming growing season.

**Key Items of Evaluation**

**Program #19****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Commercial and Consumer Horticulture

**V(B). Program Knowledge Area(s)****1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	20%		10%	
111	Conservation and Efficient Use of Water	10%		5%	
124	Urban Forestry	0%		5%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Pla	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	10%		10%	
205	Plant Management Systems	30%		40%	
216	Integrated Pest Management Systems	20%		20%	
	<b>Total</b>	<b>100%</b>		<b>100%</b>	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	5.8	0.0	1.2	0.0
<b>Actual</b>	9.2	0.0	1.7	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
178980	0	99385	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
178980	0	93385	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
264563	0	424734	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

**Master Gardener Education:** A full course of Beginning Master Gardener training classes was delivered in each of 17 Idaho counties. Each course consists of 12 or more sessions, each lasting up to 3 hours, and covers basic gardening and landscaping principles. Four new chapters were completed to upgrade and update the curriculum. Advanced Master gardening training included 10 tours and demonstrations, and about three dozen special classes and seminars for advanced learners. Master gardeners contributed more than 14,000 volunteer hours for community service. As part of that service, volunteers answer questions and solve problems for the public by staffing county plant clinics, giving lectures and advice to local groups and organizations, installing and maintaining community gardens and landscape demonstrations, and by offering tours and educational programs as part of the demonstrations. Idaho cooperates with Utah and Oregon in Multistate efforts to train Master Gardeners.

**Consumer Horticulture Education:** The "Idaho Landscapes and Gardens" web site was completed during the year. This provided citizen access to a wide range of horticultural topics of interest to the homeowner. Approximately 150 seminars and workshops were presented for consumer horticulturists this year, contributing a large share of the nearly 45,000 educational contacts with consumers. Dozens of articles and columns were prepared and published in local newspapers across Idaho, providing information and advice to consumers.

**Green Industry Education:** UI faculty participated in and contributed to the annual Horticulture Expo, a premier training event for Idaho's green industry employees. In cooperation with stakeholder companies and the Idaho Department of Agriculture, Extension delivered 20 workshops, seminars, and clinics at various locations around the state for the benefit of commercial audiences. Training was geared to an advanced audience and provided information on nursery management techniques, pesticide and fertilizer use and recommendations, plant establishment and maintenance principles, and other topics that will ultimately make green industries more profitable and create better service for consumers. Nearly 6,000 hits were counted on the commercial pages of our website, resulting in 495 downloaded documents.

**Research Programs:** Research programs which also focused on graduate education included projects to identify native plants useful for urban horticulture as well as several projects focused on adding value to the nursery industry.

## 2. Brief description of the target audience

**Master Gardener Education:** The target audience included members of the public with a high level of interest in horticulture and time and interest in educating others. Beginning Master Gardeners participated in 30 to 70 hours of basic training in topics related to landscaping and gardening, such as soils, plant development, fertility, irrigation, plant diagnosis, pest control, etc. Following completion of the training course, many students will become Advanced Master Gardeners who then become volunteer instructors. Master Gardeners reach a large audience that includes indirect learners for Extension. Master Gardeners answered horticultural questions from the general public, assisted in organizing workshops, conferences, and other education opportunities, developed public demonstration projects, and assisted communities with plant-based improvement projects.

**Consumer Horticulture Education:** The target audience for this project is very large, consisting of virtually all Idaho citizens with yards, gardens, or landscapes. This audience learns sustainable horticultural principles from numerous sources, including publications, popular press articles and presentations, workshops, conferences, demonstrations, and other teaching forums. Organized groups from this target audience, including community public works departments, garden clubs, church groups, and other interested organizations, assist by sponsoring educational gatherings.

**Green Industry Education:** The target audience consists of all owners, managers, and employees of green industry companies. The audience takes a fairly active role in recommending curriculum, organizing teaching opportunities, and actively working to become competent horticulturists.

## V(E). Planned Program (Outputs)

### 1. Standard output measures

#### Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	32500	930000	8100	2100
2007	28730	0	6640	0

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

#### Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	0	2	2

**V(F). State Defined Outputs**

**Output Target**

**Output #1****Output Measure**

- Advanced Master Gardener Training Workshop/Tours.

Year	Target	Actual
2007	8	10

**Output #2****Output Measure**

- Beginning Master Gardener Courses.

Year	Target	Actual
2007	16	17

**Output #3****Output Measure**

- Consumer Horticulture Education Media Publications/Programs.

Year	Target	Actual
2007	255	125

**Output #4****Output Measure**

- Consumer Horticulture Education Personal Contacts/Visits.

Year	Target	Actual
2007	6250	0

**Output #5****Output Measure**

- Consumer Horticulture Web Site.

Year	Target	Actual
2007	1	0

**Output #6****Output Measure**

- Consumer Horticulture Workshops/Seminars/Demonstrations.

Year	Target	Actual
2007	230	150

**Output #7****Output Measure**

- Green Industry Web Site Maintenance and Improvement.

Year	Target	Actual
2007	1	1

**Output #8****Output Measure**

- Green Industry Education Workshops/Seminars/Clinics.

Year	Target	Actual
2007	24	20

**Output #9****Output Measure**

- Master Gardener Curriculum Development.

Year	Target	Actual
2007	12	4

**Output #10****Output Measure**

- Master Gardener Volunteer Hours.

Year	Target	Actual
2007	9800	14564

**Output #11****Output Measure**

- Scientific journal articles

Year	Target	Actual
2007	{No Data Entered}	2

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Beginning Master Gardeners will obtain adequate knowledge of horticultural principles to help or instruct other people.I: Marked increase in knowledge as measured by percentage increase in before and after test assessments.
2	O: Increase in Master Gardener retention and contribution.I: Increase in the number of hours contributed by Master Gardener volunteers.
3	O: Improved Master Gardener curriculum and teaching tools.I: Increase in the number of universally available teaching modules and demonstration kits.
4	O: Develop and maintain an effective consumer horticulture web site.I: Number of web site hits.
5	O: Increase consumer knowledge of sustainable horticultural principles.I: Percentage adoption of practices as indicated by survey.
6	O: Improve knowledge level of green industry managers and employees.I: Estimation by green company owners of percentage of adequately trained employees.
7	O: Improved information availability to green industry professionals via web site.I: Increase number of web site hits.
8	An increase in the number of trained graduate students prepared to enter the workforce.

**Outcome #1****1. Outcome Measures**

O: Beginning Master Gardeners will obtain adequate knowledge of horticultural principles to help or instruct other people. I: Marked increase in knowledge as measured by percentage increase in before and after test assessments.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	35	67

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The primary goal of the Idaho Master Gardener Program is to train volunteers to assist University of Idaho Extension and communities with home horticulture diagnostics, as well as provide support for a variety of special community service projects. Payette County had not reported any trained Master Gardeners in three years due to faculty vacancies which had decreased the visual exposure of the Extension office and reduced the amount of horticulture outreach to the community.

**What has been done**

To assess goal achievement, pre- and post-class surveys and quizzes were administered to 30 students in Spring of 2007. The survey asked nine questions about habits and perceptions of gardening activities and knowledge. The quiz contained 20 challenging True/False questions designed to be difficult for an average gardener. Topics in the quiz were covered in the course lectures. Pre- and post-survey and quiz results were compared.

**Results**

The program trained 30 new Master Gardeners in 2007. Students average post-test scores were 89%, up from 62%. Assuming the 22 participants, with ideas for summer projects, complete their 30 hours of special volunteer service, they will have provided \$12,420 (\$18.00/hr) of services to their communities. It costs approximately \$1,860 (\$30.00/hr plus food and travel costs for instructors) to provide the initial training, resulting in a \$10,560 benefit in a single year. In addition, these Master Gardeners are highly motivated, technically adept, and aware of recommendations of sustainable and IPM techniques. They answered 138 requests for diagnostics or identification on insects, diseases, and plants and wrote 7 articles on various interesting horticultural topics for Payette County. In addition, they are aware of, and can recommend, other County Extension offerings such as 4-H Youth Development and Extension Nutrition Programs.

**4. Associated Knowledge Areas**

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

**Outcome #2****1. Outcome Measures**

O: Increase in Master Gardener retention and contribution. I: Increase in the number of hours contributed by Master Gardener volunteers.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	9800	14564

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #3**

**1. Outcome Measures**

O: Improved Master Gardener curriculum and teaching tools. I: Increase in the number of universally available teaching modules and demonstration kits.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	12	4

**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

**Outcome #4****1. Outcome Measures**

O: Develop and maintain an effective consumer horticulture web site.I: Number of web site hits.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	15000	0

**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

**Outcome #5****1. Outcome Measures**

O: Increase consumer knowledge of sustainable horticultural principles.I: Percentage adoption of practices as indicated by survey.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	6	98

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

People throughout the state rely on Extension-trained master gardeners to help solve problems, and to provide leadership for environmental issues impacted by horticultural practices.

#### What has been done

Pre- and post-tests of technical knowledge, confidence, and attitudes about environmental issues show that nearly everyone who completes the Master Gardener course acquires significant new knowledge and is better able to serve the public good.

#### Results

#### 4. Associated Knowledge Areas

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

#### Outcome #6

##### 1. Outcome Measures

O: Improve knowledge level of green industry managers and employees. I: Estimation by green company owners of percentage of adequately trained employees.

##### 2. Associated Institution Types

•1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	52	0

##### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

#### What has been done

A written evaluation was completed after each pesticide recertification class taught through the Master Gardener Program.

#### Results

Responses showed that reactions from Green industry class participants were highly favorable and indicated that 100 % of those in attendance planned to use the information they received on the job.

#### 4. Associated Knowledge Areas

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

#### Outcome #7

**1. Outcome Measures**

O: Improved information availability to green industry professionals via web site.  
I: Increase number of web site hits.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	2550	5994

**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
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
216	Integrated Pest Management Systems
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
111	Conservation and Efficient Use of Water

**Outcome #8****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	Quantitative Target	Actual
2007	{No Data Entered}	2

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Native plants have the potential to comprise critical components of water-conserving, low-input landscapes. Increasing the value and availability of native plants is essential to their success in commerce and adoption by homeowners. This research is making available native plant materials with superior adaptation to the difficult climate and poor soils typical of Idaho's urban areas. The ultimate impact will be reduced use of environmentally harmful gardening practices and conservation of Idaho's valuable, but limited, water resources.

#### What has been done

Project objectives: 1) evaluate native plants for low-water landscape use, 2) distribute superior plant materials, and 3) demonstrate the efficacy of water conserving landscape styles. Evaluations were made on perennials, shrubs, and trees established in 2006 and additional accessions were established in 2007. Genera established included Acer, Agastache, Amelanchier, Aquilegia, Aster, Castilleja, Chamaebatiaria, Clematis, Cornus, Ericameria, Erigeron, Eriogonum, Hymenoxys, Lupinus, Monardella, Papaver, Penstemon, Philadelphus, Rhus, Salvia, Sphaeralcea, Stanleya, Symphoricarpos, and several Poaceae. Native plant accessions were obtained through collection activities within the state of Idaho and seed purchases from intermountain professional collectors. New accessions were planted into a greenhouse in February-April 2007 and transplanted to the field in May.

#### Results

Several species of perennials and shrubs demonstrated good adaptation and outstanding horticultural value, including *Oryzopsis hymenoides* (Indian ricegrass), *Festuca arizonica* (Arizona fescue), *Poa secunda* (big bluegrass), *Sporobolus wrightii* (big sacaton), *Descampsia caespitosa* (tufted hair grass), *Salvia pachyphylla* (big purple sage), *Sphaeralcea caespitosa* (tufted globemallow), *Penstemon humilis* (hot rocks penstemon), *Penstemon cyananthus* (Wasatch penstemon), *Penstemon ambiguous* (gilia beardtongue), *Penstemon venustus* (Venus penstemon), *Penstemon virens* (front range beardtongue), *Penstemon pinifolius* (pineleaf penstemon), *Penstemon glabrescens* (Crandall's beardtongue), *Penstemon attenuates* (sulfur penstemon), *Penstemon rostriflorus* (Bridge's penstemon), *Eriogonum umbellatum* (sulfur buckwheat), *Eriogonum corymbosum* (crispleaf buckwheat), *Eriogonum compositum* (arrowleaf buckwheat), *Eriogonum ovalifolium* (oval-leaf buckwheat), *Agastache urticifolia* (giant hyssop), *Agastache cana* (hummingbird mint), *Agastache rupestris* (licorice mint), *Aquilegia scopulorum* (Utah columbine), and *Chamaebatiaria millefolium* (desert fernbush). Seed of four outstanding plant accessions, including *Ericameria nauseosa*, *Agatache urticifolia*, *Eriogonum compositum*, and *Eriogonum corymbosum* were distributed to native plant nurseries and growers. Results of this research were transferred to shareholders through a research field day, presentations at conferences and workshops, construction of a demonstration garden, and publications.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
124	Urban Forestry

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

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

##### Brief Explanation

Significant enhancements to Spanish-language delivery of horticulture programs.

#### V(I). Planned Program (Evaluation Studies and Data Collection)

##### 1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)

##### Evaluation Results

Learners in Master Gardener classes demonstrate acquisition of new knowledge, consistent with learner goals for each of the lessons. Advanced Master Gardeners indicate increased job satisfaction as a result of opportunities for advanced learning and greater opportunity to serve the public.

##### Key Items of Evaluation

**Program #20**

**V(A). Planned Program (Summary)**

**1. Name of the Planned Program**

Other Idaho Commercial Crops

**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	10%		10%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plai	0%		5%	
204	Plant Product Quality and Utility (Preharvest)	10%		10%	
205	Plant Management Systems	15%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		5%	
212	Pathogens and Nematodes Affecting Plants	5%		5%	
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	0%		5%	
215	Biological Control of Pests Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	40%		10%	
403	Waste Disposal, Recycling, and Reuse	0%		10%	
404	Instrumentation and Control Systems	5%		5%	
511	New and Improved Non-Food Products and Processes	0%		5%	
711	Ensure Food Products Free of Harmful Chemicals, Including	0%		5%	
712	Protect Food from Contamination by Pathogenic Microorgani	0%		5%	
<b>Total</b>		100%		100%	

**V(C). Planned Program (Inputs)**

**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	2.7	0.0	5.3	0.0
<b>Actual</b>	5.5	0.0	10.3	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
98945	0	480197	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
98945	0	480197	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
193432	0	2457790	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Program activities for the Other Idaho Commercial Crops topic team were delivered to 1328 teaching contacts. Other Idaho Commercial Crops topic team projects included: 1) Idaho alfalfa seed industry website, 2) onion disease management, 3) pest management strategic plans and crop profiles, 4) plant disease identification and management in southern Idaho, and 5) Treasure Valley Pest Alert Network. Activities included field and laboratory research, demonstration projects, workshops, field tours, and professional presentations offered in a total of 16 events.

The alfalfa seed website continues to be a repository of timely research based information related to the Idaho alfalfa seed industry. Idaho is the second largest alfalfa seed producing state behind California and is the leading producer of dormant alfalfa seed. Additional funding support was received in 2007 to continue the process of uploading information to the website.

Topic team activities related to onion disease management included field studies to devise better management strategies for the two major onion diseases, neck rot and Iris yellow spot virus (IYSV), thereby improving the yield, reduction of cost of production, and higher economic returns to onion growers and shippers. Three peer reviewed publications related to onion diseases were published in 2007.

Activities related to pest management strategies and crop profiles included meetings with fruit grower stakeholders, updates to growers on new spray techniques, organic materials, and water conservation, distribution of a fruit grower newsletter, and networking with chemical companies and SW Idaho Horticulture Association to get information to the growers.

The topic team provided disease diagnostic and disease management guidance to a broad range of clientele including county extension educators, fieldmen, master gardeners, consultants, nurserymen, cooperatives, industry personnel, farmers, and home-owners. Extension specialists have processed about 260 plant samples submitted for diagnosis, which included field crops, fruit crops, nursery, greenhouse, landscape and home garden plants, and lawn samples.

The Treasure Valley Pest Alert Network, a website designed to increase communication and provide timely pest outbreak information to growers and field representatives, delivered a total of 41 alerts concerning pest and disease outbreaks and 16 alerts concerning classes or meetings. The website also delivered research based pest control information to growers. Growers are using the pest alerts to protect pollinators, protect fruit, and time sprays better to reduce chemical residues in the environment. A publication entitled: "Rapid Delivery of Regional Pest Alerts Using an Interactive Internet Site" was published in the Journal of Extension.

**2. Brief description of the target audience**

The largest numbers reached include farmers and ranchers from Idaho seeking pesticide applicator certification. Other audiences include aerial applicators, 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 and in adjacent states. Research was focused toward results based on input and funding from various sources such as the Idaho Bean Commission, the Idaho Oilseed Commission, and the US Dry Pea and Lentil Council.

**V(E). Planned Program (Outputs)****1. Standard output measures****Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	6230	55125	0	0
2007	4353	0	136	0

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

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	1
2007 :	0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	9	20	29

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Professional invited presentations.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	39	19

**Output #2**

**Output Measure**

- Professional submitted presentations.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	93	3

**Output #3**

**Output Measure**

- Workshops, field tours, demonstration projects and presentations.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	259	91

**Output #4**

**Output Measure**

- Extension Publications.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	161	6

**Output #5**

**Output Measure**

- Professional Publications.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	52	10

**Output #6**

**Output Measure**

- Applied and basic laboratory and field research experiments.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	89	19

**Output #7**

**Output Measure**

- Refereed journal articles

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	29

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Increased industry knowledge about the production practices necessary to insure environmental and economic sustainability.I: Increased knowledge of clientele, number of website visits.
2	O: Growers adopting practices utilized and taught.I: Number of website visits; survey data; clientele
3	O: Improved water quality in ground and surface water bodies.I: Changes in water quality data over time (e.g. pesticides, pests).
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: Increased industry knowledge about the production practices necessary to insure environmental and economic sustainability. I: Increased knowledge of clientele, number of website visits.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	2	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Growers of minor crops have also become interested in use of this soil moisture technology. Often, there is little information on irrigation management of these minor crops, especially on a local level. Growers of minor crops requested assistance with soil moisture monitoring technology for the improvement of irrigation efficiently.

**What has been done**

At the request of growers, soil moisture sensors and recording monitors were installed in minor crops such as pear and cherry orchards, asparagus, wildlife habitat, and poplar tree plantings. Extension personnel instructed growers on how to operate the monitors and how to interpret the readings for improved irrigation efficiency. Data were presented to the agricultural community through grower meetings and County Extension newsletters.

**Results**

Soil sensors were installed at 1, 2, and 3 foot depths in a newly planted pear orchard. The grower used the information to stretch out irrigation intervals, thereby saving water and reducing the loss of nutrients.

Soil sensors were installed in a newly planted asparagus field for a grower requesting irrigation management assistance. The grower used the sensor information to schedule irrigations so the available soil moisture content was kept between 75%-85% as advised. The grower is using the sensors to schedule irrigation to help induce winter dormancy in the asparagus.

Soil moisture sensors and monitors were installed in a new poplar tree plantation for a grower requesting irrigation assistance. The grower has made efforts to improve irrigation application through line relocation, nozzle size changes, and scheduling modification. The grower was advised to use the soil sensors to keep the available soil moisture near 85%-90% during this first year establishment period.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
205	Plant Management Systems

**Outcome #2****1. Outcome Measures**

O: Growers adopting practices utilized and taught. I: Number of website visits; survey data; clientele

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	4	0

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The native language of many pesticide handlers, farm workers, and landscaping workers in the Treasure Valley of Idaho is Spanish. Spanish speaking farm workers have historically been underserved by the pesticide safety training programs. Spanish speaking pesticide handlers, farm workers, and landscape workers need continuing opportunities to increase their knowledge of proper pesticide safety as it relates to row crop, orchard production, and landscaping pest management.

**What has been done**

A pesticide safety education program was offered for Spanish speaking pesticide handlers and workers in the Treasure Valley. All class topics and literature were presented in Spanish. A folder containing pesticide safety materials was given to all attendees along with refrigerator magnets with laundering instructions, in Spanish, to avoid contaminating family laundry with potential pesticide residues from workers clothing.

**Results**

Forty farm workers and landscape workers, primarily from Canyon and Washington County, attended the event and were instructed on pesticide safety issues. At the conclusion of the program, each participant received an EPA Pesticide Handler Verification Training Card. Program participants were given a pre and post test at the workshop, along with program evaluation questions. The evaluation results clearly show that the subject matter taught can be used by participants to make their jobs safer and will make them more valuable employees. Results from the pre and post test questions indicate that participants had a 20% increase in knowledge on proper methods to contain and cleaning up pesticide spills and a 10% increase in knowledge regarding the use of personal protective equipment. The type of information learned from this workshop helps to educate farm workers about these risks and ultimately protects them and their families from the adverse effects of pesticides.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
216	Integrated Pest Management Systems

**Outcome #3****1. Outcome Measures**

O: Improved water quality in ground and surface water bodies. I: Changes in water quality data over time (e.g. pesticides, pests).

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	5	0

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
403	Waste Disposal, Recycling, and Reuse
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #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**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2007	2	8

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

The bean industry in the US faces challenges in production as well as in competition in international markets. To remain competitive, new varieties with improved qualities are needed. The UI has an internationally recognized bean breeding program located at the Kimberly Research and Extension Center.

**What has been done**

The UI bean breeding program focused on variety testing of pinto and great northern varieties (replicated trials to generate essential data for PVP in addition to the Western Regional Bean Trial and in the North American Cooperative Dry Bean Nursery) as requested by the Idaho Bean Commission. Varieties were screened and tested for agronomic properties, disease resistance and seed quality.

**Results**

Two new high quality slow darkening pinto cultivars, namely Kimberly and Shoshone and two high quality great northern cultivars, namely Hungerford and Sawtooth were released in 2007 for production in Idaho and other western states. In addition to resistance to bean common mosaic virus and rust, the two pinto cultivars are the first slow darkening bean ever developed in the USA. Similarly, the two great northern cultivars possess excellent seed qualities unmatched thus far by any private and public cultivars in that market class.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
511	New and Improved Non-Food Products and Processes
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
403	Waste Disposal, Recycling, and Reuse

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203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

## V(H). Planned Program (External Factors)

### External factors which affected outcomes

- Other (none)

### Brief Explanation

## V(I). Planned Program (Evaluation Studies and Data Collection)

### 1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)

### Evaluation Results

Modifications and adjustments made to spray equipment on 35 aircraft participating in the “fly-in” will improve the delivery of pesticides on aircraft tested, will reduce spray drift or off target application, will increase the efficacy of the product, and will reduce the amount of product applied on approximately 6 million acres annually.

Approximately 300 individual learners performed sufficiently to become certified as pesticide applicators during 2007; hundreds more received continuing education that allows them to maintain their applicator’s certification.

As a result of information received from TV/PNW PestAlert.net in 2006, 17 percent of website subscribers reduced the number of sprays applied to their crops, 30 percent said their spray applications were more effective because they received timely information they could use to help them make pest management decisions, and 35 percent of website subscribers reported they have increased their use of field scouting to document pest levels before implementing control measures. The 2004 through 2006 surveys indicate that as a result of information received from TV/PNW PestAlert.net, website subscribers are using on average 9.3 percent less chemical on their crops than they were before they used the pest alert network. If this decrease in chemical usage was applied to only potato production across all of Idaho it would mean a savings to growers of nearly 12.0 million dollars and an additional benefit to the environment.

### Key Items of Evaluation

**Program #21****V(A). Planned Program (Summary)****1. Name of the Planned Program**

Potatoes

**V(B). Program Knowledge Area(s)****1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
202	Plant Genetic Resources	20%		20%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plai	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	10%		10%	
205	Plant Management Systems	20%		20%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	10%		10%	
503	Quality Maintenance in Storing and Marketing Food Products	10%		10%	
603	Market Economics	10%		10%	
	<b>Total</b>	100%		100%	

**V(C). Planned Program (Inputs)****1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	3.9	0.0	5.0	0.0
<b>Actual</b>	4.3	0.0	7.3	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
83432	0	333961	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
83432	0	333961	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
111184	0	4263675	0

**V(D). Planned Program (Activity)****1. Brief description of the Activity**

Program activities for the Potato topic team were delivered to 18,029 teaching contacts, primarily producers, agricultural advisors, consultants, independent researchers, and agricultural manufacturer representatives. Potato topic team projects included: 1) potato economics, 2) pest management, 3) crop rotation, 4) information and technology transfer, 5) nutrient management, 6) potato physiology, and 7) seed potato improvement. Field and laboratory research and demonstration projects were conducted to investigate possible solutions to the challenges faced by the potato industry. Information obtained from this research was disseminated via newsletters, trade publication articles, newspaper articles and extension bulletins and professional presentations at potato workshops and conferences. Face to face information dissemination occurred via seminars, workshops, one on one consultations and field days.

**2. Brief description of the target audience**

The main target audience is potato producers and the processing industry. These audiences are largely coordinated through the efforts of the Tri-State Variety Development program, the Idaho Potato Commission, and the Idaho Crop Improvement Association.

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

**Target for the number of persons (contacts) reached through direct and indirect contact methods**

	<b>Direct Contacts Adults</b>	<b>Indirect Contacts Adults</b>	<b>Direct Contacts Youth</b>	<b>Indirect Contacts Youth</b>
<b>Year</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>	<b>Target</b>
<b>Plan</b>	9500	140000	0	0
2007	7819	0	210	0

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

**Patent Applications Submitted**

<b>Year</b>	<b>Target</b>
<b>Plan:</b>	1
2007 :	3

**Patents listed**

Plant Variety Protection Applications for three potato varieties: 1) Yukon Gem; 2) Highland Russet; 3) Premier

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>			
2007	3	12	15

**V(F). State Defined Outputs**

**Output Target**

**Output #1****Output Measure**

- Newsletters.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	11	2

**Output #2****Output Measure**

- Extension bulletins.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	2	3

**Output #3****Output Measure**

- Workshops and Seminars.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	150	55

**Output #4****Output Measure**

- Popular Press Articles.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	60	41

**Output #5****Output Measure**

- Field Days.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	4	10

**Output #6****Output Measure**

- Individual Consultations.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	100	59

**Output #7****Output Measure**

- Refereed Journal Articles.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	9	15

**Output #8****Output Measure**

- Graduate Students.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	1	0

**Output #9****Output Measure**

- Professional Meetings.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	11	6

**Output #10****Output Measure**

- Email Information Dissemination.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2007	200	499

**V(G). State Defined Outcomes****V. State Defined Outcomes Table of Content**

O No.	Outcome Name
1	O: Adoption of Practices.I: Number adopting practices.
2	O: Pest Incidence Alert (Web site).I: Number of Subscribers.
3	O: Gain in knowledge.I: Percent of people indicating a gain in knowledge after attending an educational program.
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: Adoption of Practices.I: Number adopting practices.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	130	408

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Potato producers are continually challenged to remain economically viable in an ever-changing agricultural environment where costs of equipment and inputs continually rise. Research on potatoes helps producers obtain maximum yields, thus minimizing their cost to raise a given unit of potatoes. To increase yield, producers must be continually updated with new information when it comes available. Keeping producers well informed is the challenge.

**What has been done**

The Spudvine newsletter has been regularly disseminated since 1991 and was distributed to 415 producers and others in 2006. To assess the usefulness of the information, a survey was developed and administered in January 2007 asking readers if they learned anything from the articles published in 2006, and more importantly, if they changed any farming practices in 2006 as a result of reading a particular article.

**Results**

Results of the reader survey showed that 95% of the producers on the list read at least one of the newsletter articles published in 2006 and 44% said they often use information, and 11% said they use information all the time in making decisions about their farming operation. Nearly 61% of the producers said the information was important or very important to them. The timely research based information presented in Spudvine articles can impact producers and the potato industry as a whole and provide benefits to growers who adopt the recommended best management practices. The survey showed that the Spudvine newsletter is a valuable resource to Idaho potato producers and the potato industry.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
503	Quality Maintenance in Storing and Marketing Food Products
603	Market Economics
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
205	Plant Management Systems
204	Plant Product Quality and Utility (Preharvest)
216	Integrated Pest Management Systems

**Outcome #2****1. Outcome Measures**

O: Pest Incidence Alert (Web site).I: Number of Subscribers.

**2. Associated Institution Types**

•1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	320	499

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

**Outcome #3****1. Outcome Measures**

O: Gain in knowledge.I: Percent of people indicating a gain in knowledge after attending an educational program.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2007	75	80

**3c. Qualitative Outcome or Impact Statement****Issue (Who cares and Why)**

Any fruit or vegetable that may end up in the Federal food programs (school lunches, military, etc) must pass the GAP Audit at the farm level. Because of this, some processed potato facilities in Idaho are requiring farmers who sell potatoes to them to pass the Audit. Farmers need to be aware of what kind of records to compile and what documentation is needed for various sections of the audit matrix.

**What has been done**

Working in conjunction with University of Idaho potato specialists, Extension Educators from Twin Falls and Minidoka Counties compiled a list of materials for producers to use. Beginning with the Audit Matrix, each section is referenced with the required documentation sheet, and if needed, additional required documentation is noted. This information has been developed into a notebook that will allow producers to have all the information in one place, easily accessible and understandable.

**Results**

Extension educators have talked about the GAP Audit at speaking opportunities throughout the summer. More thorough presentations will take place during the Extension Winter Schools, primarily the potato school, and Idaho Irrigation Equipment Conference. Also, the notebook has been submitted to the Idaho Potato Council for recommendation, approval, and possible funding for distribution.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
603	Market Economics
202	Plant Genetic Resources
503	Quality Maintenance in Storing and Marketing Food Products
205	Plant Management Systems

#### 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	Quantitative Target	Actual
2007	1	0

##### 3c. Qualitative Outcome or Impact Statement

###### Issue (Who cares and Why)

Storage disease control, especially for late blight, pink rot, dry rot and silver scurf, are of great concern to the Idaho potato industry, therefore, research effort is focused on disease control in storage.

###### What has been done

Significant effort was placed on evaluating various products in the control of pink rot, late blight, and azoxystrobin for silver scurf and dry rot control in commonly grown varieties.

###### Results

Efforts of UI scientists provided the initial concept and research of post-harvest application of azoxystrobin that is being pursued by the registrant for registration. The registrant is relying upon UI research results and advice for further development of the post-harvest product. These products and potential products provide useful tools for a storage manager's toolbox. Whereas prior to this time, there were few products available and with limited efficacy.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
503	Quality Maintenance in Storing and Marketing Food Products
205	Plant Management Systems
204	Plant Product Quality and Utility (Preharvest)
216	Integrated Pest Management Systems
212	Pathogens and Nematodes Affecting Plants

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

- Other (none)

**Brief Explanation****V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)

**Evaluation Results****Key Items of Evaluation**

A statewide Integrated Pest Management (IPM) survey was conducted in late 2006 to determine how Idaho potato growers are using alternatives to pesticides. Idaho growers widely use cultural, mechanical and physical practices to manage potato pests, especially diseases. Results show that about 80 percent of Idaho potato producers meet the scouting and thresholds standards for prescriptive-to-midlevel-biointensive IPM system. Gains in IPM adoption especially are evident when judged against 1992 baseline surveys. As a result of pest management educational activities, industry awareness of potato disease and pest management has drastically reduced the instances of disease outbreaks and growers continue to implement strategies to replace the use of chemical soil fumigants. For instance, twenty percent of the potato acres in Bingham County were planted to green manures in 2007. This practice has impacted 7.4 million dollars worth of potatoes and protected ground water on those acres.

A number of on-farm workshops and workshops offered at the 2007 UI Potato School were delivered in Spanish. The training programs are continually modified to meet the needs of the farm owners. For example, in 2007, farmers specifically requested sanitary compliance training. As a result, this training helped the farm operations comply and pass their inspections for this new regulation. Other trainings delivered in Spanish included: 1) farm worker safety – West Nile Virus, 2) pesticide safety training, and 3) management of potato viruses. By offering Spanish language trainings over the past eight years, Extension faculty have developed strong relationships with farms that have large numbers of Spanish speaking workers.

The Spudvine, an Idaho growers newsletter published by University of Idaho Extension, delivers timely information to Idaho potato growers. A recent survey was conducted in order to better understand how using information from the Spudvine can impact producers and the potato industry as a whole. Survey results indicate that readers are adopting recommended practices disseminated in newsletter articles. For example, in an article describing best practices for potato planting, one of the five practices discussed was seed piece planting depth. Based on reader responses to our survey, it can be estimated that potato producers in Idaho would have realized a gain of approximately \$3.8 million in annual gross receipts by changing the depth of their potato planting operation.