2012 University of Idaho Combined Research and Extension Plan of Work

Status: Accepted

Date Accepted: 06/08/2011

I. Plan Overview

1. Brief Summary about Plan Of Work

The University of Idaho (UI) Plan of Work (POW) includes individual POWs developed by each of 15 Topic Teams (described in detail in this POW). These teams include:a) Extension specialists with joint extension and research appointments, b) research scientists with full research appointments, c) faculty with joint research and extension or teaching appointments, and d) county Extension educators with extension-only appointments. Development of each of the Topic Teams was faculty driven and aligns with at least one of the nine key signature programs established in 2005 by the College of Agricultural and Life Sciences (CALS), UI Extension, and the Idaho Agricultural Experiment Station (IAES). The CALS signature program areas include: 1) Environmentally and Economically Sustainable Crop and Livestock Integrated Systems, 2) Animal, Plant and Human Disease Prevention, 3) Agricultural and Food Based Process and Product Innovation, 4) Managing Soil, Air, Water and Biological Resources, 5) Human Health, Nutrition and Food Safety, Disease Prevention, 6) Urban Environment and Small Acreage Agriculture, 7) Youth Education and Development, 8) Individual and Family Well-being, and 9) Community Development.

Specific outputs and outcomes described in the POW represent approximately 60% of the total FTEs invested in Idaho research and 80% of the total program FTEs in Extension, as faculty are not expected to plan 100% of their activities out to five years.

Seven planned programs contribute to the priority for Global Food Security and Hunger; they are Global Food Security and Hunger: Cereals, Global Food Security and Hunger: Dairy, Global Food Security and Hunger: Potatoes, Global Food Security and Hunger: Small Acreages and Emerging Specialty Crops, Global Food Security and Hunger: Sugar Beets & Minor Crops, Global Food Security and Hunger: Health & Human Nutrition, and Sustainable Energy: Land & Livestock. Portions of two of our planned programs contribute to the priority for climate change; they are: Climate Change: Forest Management and Climate Change: Soil, Water, Waste and Air Management. Two programs have projects that address the national priority for Childhood Obesity, they are Childhood Obesity: 4-H Youth Development and Global Food Security and Hunger: Health & Human Nutrition. The national priority for sustainable energy is addressed in the Sustainable Energy: Land & Livestock program. Food Safety is one of our ongoing programs.

Estimated Number of Professional FTEs/SYs total in the State.

Year	Extension		Research	
	1862	1890	1862	1890
2012	82.0	0.0	70.0	0.0
2013	82.0	0.0	70.0	0.0
2014	82.0	0.0	70.0	0.0
2015	82.0	0.0	70.0	0.0
2016	89.0	0.0	70.0	0.0

II. Merit Review Process

1. The Merit Review Process that will be Employed during the 5-Year POW Cycle

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

2. Brief Explanation

UI Extension has adopted a "Topic Team" approach to program planning and delivery. Faculty with research appointments are assigned to Topic Teams based upon their area of expertise and signature programs established by CALS. Teams of faculty meet to discuss priorities and agree upon projects for advancement. Topic Team priorities are monitored by College administration. Topic Teams prepare and submit competitive grant applications for state critical issues funding. Successful applications are those that demonstrate that the project meets a team-identified, peer-reviewed priority, and will result in measurable outcomes for stakeholders.An increasing number of programs are supported through grants and awards made by federal, state, or local agencies, foundations, and businesses. It is particularly true for agencies, and increasingly true for private organizations, that the projects meet high standards for quality, relevance, and impact.

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 and it's citizens. Projects should also include a national or regional scope of importance.Hatch project proposals 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.

IAES research contributing to Multistate projects/programs and approved by CSREES are categorized as research activities of various types as defined by the State Agricultural Experiment Station System. 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 appointed by the Western Association of Agricultural Experiment Station Directors (WAAESD). The RCIC reviews the intitial proposal, makes recommendations to the WAAESD and, if approved, transmits the project to CSREES. The RCIC also monitors progress annually.

All Extension and research faculty develop annual position descriptions that outline major programs for the year. These position descriptions are subject to annual merit review at a number of levels, beginning with division leaders and department heads and ending with associate deans and deans. Merit and program success of each faculty member is also thoroughly reviewed throughout the tenure and promotion process by a panel of faculty, at years 3, 5, 10, 15, 20, etc. Review panels charged with specific program responsibilities conduct further merit review. These review panels may include commodity interests, other academics, agency personnel and stakeholders.

III. Evaluation of Multis & Joint Activities

1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?

Critical issues of strategic importance include: individual, family, and community sustainablility in terms of social, economic, and environmental conditions that contribute to high quality of life; improving human health and reducing health care costs, contributing to high quality of life; and wise use and conservation of natural resources and natural resource values, contributing to economic, social, and environmental quality and sustainability.

Planned programs address these issues through multidisciplinary education that is intended to change the behavior of individuals, families, organizations, and communities. Specific topics of education include interpersonal relations, youth development and family development, family financial management, leadership skills and development, human nutrition, fitness, food safety, small business development and management, entrepreneurism, plant and animal production and management, soil and water conservation and protection, volunteer development, natural resources management, land use planning, farm financial management, and many more.

The UI planned programs will also be addressed by an appropriate mix of applied and basic research programs. Research target areas overlap significantly with those described above but will be covered by an array of research activities and techniques which include: fundamental studies in molecular genetics, genomics and proteomics, molecular and cell biology; environmental sciences, sustainable agriculture production systems, bioremediation of toxic pollutants, human and animal health and nutrition, food quality and safety, agricultural economics, trade policy and economic and social impact analysis; microbial, insect and weed control; plant, insect, and microbe interactions; crop genetic improvement, physiology, management and production; and food animal and dairy cow physiology, reproduction, and management.

2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?

UI Extension has a proactive process to reach underserved audiences that is outlined in detail in our policies and procedures for civil rights and diversity. As part of that process, input from underserved groups is aggressively pursued; Extension faculty monitor their effectiveness to reach minority and underserved audiences on an ongoing basis; Administration monitors faculty success; and when balanced participation is not achieved, even more aggressive steps are taken to reach underserved audiences.

Approximately 80% of the minority population in Idaho are Hispanic. UI Extension has continued to develop and deliver new programs for Spanish-speaking audiences and has worked to hire Spanish-speaking staff. Approximately 15% of the minority population is Native American. UI Extension employs three faculty housed on reservations through the Federally Recognized Tribes Extension Program (FRTEP) program. The three Extension offices and faculty serving this program are fully integrated into UI Extension, in order that resources available across the system are equally available on the reservations.

Several of the IAES research programs directly target and influence Hispanic and Native American populations in Idaho. Research reported in this POW, as well as other research conducted by the IAES, investigates and attempts to influence issues affecting health and financial well-being of these two populations. These research topics also integrate with other programs which emphasize studies of rural communities, economics, single-parent households, and infectious diseases basic research and prevention.

3. How will the planned programs describe the expected outcomes and impacts?

Topic Teams have thoroughly considered and identified both performance measures and outcome indicators for their planned programs. These descriptions are included in this POW. Team members will report annually to these measures. Teams have also described evaluation studies. When sufficient data have been collected to indicate that outcomes have occurred, teams will report those outcomes as part of their annual accomplishment reports, as UI Extension Impact Statements, and as other publications and products, as appropriate. Researchers are expected to report their findings in high-quality referred journals, and through participation in discipline-based regional and national conferences. When appropriate, researchers are also expected to report significant advances in development of new intellectual property including plant varieties and other intellectual property that could benefit our stakeholders.

4. How will the planned programs result in improved program effectiveness and/or

Through collaboration with other faculty (research and extension), Topic Team members identify common priorities; plan joint activities; partition the workload; and coordinate knowledge, fiscal, and human resources to reduce redundancy and achieve cumulative impacts. The IAES and Extension administrators will closely monitor progress and resource needs of each Topic Team and assign resources according to need, team effectiveness, and potential impacts to our stakeholders.

IV. Stakeholder Input

1. Actions taken to seek stakeholder input that encourages 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.

The most effective approach is to involve stakeholders in the planning and delivery of research and Extension programs. To encourage participation by larger numbers of collaborators, we solicit assistance from stakeholder representatives and advocates to help us advertise and promote participation opportunities. While CALS has long included statements of inclusiveness on program announcements, recent mass media campaigns have helped expose large numbers of non-traditional stakeholders to this commitment.

In securing research and Extension stakeholder input, we will encourage participation by both traditional and non-traditional stakeholders by providing venues that are convenient, economical, and efficient. This will be accomplished by making CALS off-campus video conferencing facilities available, as well as increased use other forms of electronic communications. Selection and eventual invitation of targeted individuals to serve on key stakeholder groups will be accomplished in context of securing representation of Idaho's diverse population and stakeholder interests. Examples of such stakeholder groups include the Dean's Advisory Board, Unit Advisory Boards, and UI Extension Citizens' Advisory Groups.

2(A). A brief statement of the process that will be 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.

Specific methods utilized to identify stakeholder individuals and groups:

• The Dean's Advisory Board, comprised of stakeholder representatives from government, industry, and education in Idaho. Members are recruited by an invitation and selection process that encourages broad participation representative of Idaho's population diversity, including both traditional and non-traditional stakeholders.

• The eight CALS academic departments have stakeholder advisory boards. Members are recruited by an invitation and selection process that encourages broad participation representative of Idaho's population diversity, including both traditional and nontraditional stakeholders.

• UIExtension has citizen advisory groups in 42 of Idaho's 44 counties which represent a broad mix of public interests from the county perspective.

• Idaho's 17 agricultural commodity commissions and organizations are selected by industry representatives with approval by state government officials.

• Extension newsletters and other communications are sent to every household in some counties, and everyone is invited to provide input and to participate in programs.

• When stakeholder groups can be narrowly defined, UI Extension often collaborates with state and local agencies and organizations whose missions overlap. For example, to reach more seniors, UI Extension has collaborated with AARP and the Agencies on Aging.

• IAES researcher and extension faculty conduct several major commodity schools and "field days" annually in the state.These events are highly advertised through numerous media outlets and attended by stakeholders from Idaho and the region.

2(B). A brief statement of the process that will be 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.

Input from stakeholders is collected in person through advisory committee meetings, through surveys conducted at many Extension events and activities, and through direct conversations with interest groups and other organizations. Periodic surveys are conducted for specific Topic areas using random sampling techniques (for example in Commercial and Consumer Horticulture in 2009). Data is also collected through random sampling for statewide issues periodically.

UI Extension assembled a task force of some 40 individuals late in 2009 to help determine the best way for the agency to adapt to a major (22%) budget reduction. Those recommendations can be reviewed on the University of Idaho Extension Website.

3. A statement of how the input will be considered

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

Brief explanation.

Stakeholder input is used to formulate overall CALS research and extension strategic goals, as well as the goals and directions of individual Topic Teams. After receiving input from stakeholders as described in sections 2.A and 2.B, the appropriate administrative group or team will plan for short-term and long-term objectives and provide resources accordingly. Acquiring input is documented and formally considered by Topic Teams as part of the priority setting and planning processes for programs and must be included as part of applications for critical issues extension grants and other awards available through the State Office. UI Extension has worked to increase the Spanish-language skills of staff, through both training and hiring to build capacity to reach underserved stakeholders.

That 2009 task force made 5 specific recommendations for Extension to consider, including to conduct a process to re-prioritize our efforts. During 2010, Extension gathered input from two distinct groups of stakeholders to consider during the re-prioritization process. Those activities resulted in the elimination of two programs and in the integration of seven previously independent programs into three programs. This plan of work reflects this reorganization of our priority programs from 21 down to 15.

V. Planned Program Table of Content

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

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Sustainable Energy: Land and Livestock

2. Brief summary about Planned Program

Idaho's livestock and forage industries contribute greatly to the economy of the State. In addition, Idaho's rangeland resources provide many assets not only to the beef and dairy industries, but to all state citizens. This program aims to sustain the productivity of farm land used for forage production, along with both private and public pasture and rangelands. Sustained productivity includes maximizing the efficiency of animal production enterprises as well as enhancing the quality and abundance of other social, biological, and environmental resource values, through application of science-based management strategies, will have a lasting impact on the Idaho economy and the environment.

3. Program existence : New (One year or less)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%		0%	
111	Conservation and Efficient Use of Water	5%		10%	
121	Management of Range Resources	10%		0%	
122	Management and Control of Forest and Range Fires	5%		0%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	5%		10%	
205	Plant Management Systems	10%		0%	
213	Weeds Affecting Plants	5%		10%	
216	Integrated Pest Management Systems	5%		10%	
301	Reproductive Performance of Animals	5%		10%	
302	Nutrient Utilization in Animals	10%		10%	
305	Animal Physiological Processes	5%		10%	
306	Environmental Stress in Animals	5%		5%	
307	Animal Management Systems	10%		10%	
308	Improved Animal Products (Before Harvest)	5%		5%	
605	Natural Resource and Environmental Economics	5%		5%	
901	Program and Project Design, and Statistics	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

In Idaho, 47% of the land surface is rangeland (nearly 25 million acres) and 69% of all land is publicly owned. The primary use of these lands has been livestock grazing, hunting and fishing. Today these rangelands are increasingly seen as a public resource for outdoor recreation, endangered species habitat, open space, and other amenity values. Another 1.5 million acres in Idaho are used to grow hay crops and 1.3 million acres are grazed pasture. These private acres also provide non-livestock amenities including wildlife habitat and hunting, watershed, open space, and recreational values.

Forages from rangeland and pastureland provide a renewable resource to sustain Idaho's grazing animal enterprises. Economically and environmentally sustainable beef, sheep, dairy, and equine industries depend on these low-cost forage resources. In the future, these lands may provide a source for

renewable fuels generation. The beef industry in Idaho is a $1 billion plus industry. Beef and dairy cattle, especially those raised for beef, spend a majority of the year grazing range and pasture lands and the remaining time spent consuming forages produced on farms across the region.

Farmland acres used to grow forage crops have decreased in the last several years in Idaho due to alternative land use demands which include the production of higher value crops and urban sprawl. Demand for high quality forage crops has never been greater in the state due to the large dairy and beef industries. Forage producers must utilize the latest technology and management practices that enable them to meet production and quality demands of the market.

Economic sustainability for the livestock industry depends on many factors including the management of an abundant, reasonably priced forage supply throughout the year, coupled with careful management of production practices, attention to producing high quality beef for the consuming public, and the utilization of marketing strategies. In addition producers must adapt to the challenges of increasing governmental regulation and environmental group pressures that affect the ability to conduct business.

Use of rangelands does include other sources of revenue within Idaho and includes recreational activity such as serving as a tourist destination, outdoor recreation (over $150 million), hunting ($245 million) and fishing ($260 million). Public lands have additional societal value that is harder to value but certainly influences how public lands are used. Addressing the societal values for public lands ensures that production, recreation and conservation uses all contribute to Idaho's economy and maintain its open space heritage.

Invasive species already compromise the quality and productivity of millions of acres of Idaho rangelands and pasturelands, both public and private. Reducing the negative impacts of invaders on already-affected lands and limiting their expansion onto pristine lands requires an integrated approach to management that transcends property lines and political jurisdictions. Costs for treating affected range and pasture lands and for rehabilitating these lands subject to an accelerated wildfire cycle because of invasive species are in the range of $300 million annually.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Idaho produced 5M tons of alfalfa valued over $1B (ranked 3rd in the US) in 2008. Producers identified the following issues: Increasing pest and disease pressures, and conditions that favor established pests; Impact of changing production practices on yield and quality issues; and Integration of alfalfa irrigation and harvest management to reduce curing time and increase yield. Alfalfa producers need information and training in diagnosing and solving production problems to produce economically and environmentally sustainable products required by the ruminant livestock industries.

There are limited opportunities to implement innovative livestock grazing management strategies on federally owned rangelands due to increased litigation and scrutiny from anti-grazing activists However, Idaho ranchers must continue to develop and implement livestock grazing management strategies which demonstrate ecological sustainability and compatibility with other resource values.

Research- based information and scientific advances in rangeland and pasture ecology and management are not readily available or immediately acceptable by grass farmers, ranchers, agency personnel, and many professional resource managers

Profitability of traditional rangeland and pasture based livestock enterprises often limit the flexibility of ranchers to implement improvements or take the risks associated with adopting novel management techniques.

The long term security of grazing leases on Federal and State owned rangelands is becoming questionable, which decreases the incentives for permittees to invest in rangeland improvements or long-term management strategies

Conventional livestock grazing strategies may not meet the contemporary societal values for public rangelands or remain economically and ecologically sustainable.

2. Ultimate goal(s) of this Program

This program integrates knowledge and practice about irrigation of croplands and pastures, nutrient management, plant protection, sustainable grazing practices, invasive species management, soil and water conservation, animal science, economics, and several other disciplines. The goals are to promote the wise and efficient use of rangelands and pasture lands; to optimize the production of high quality forages; to sustain a viable livestock industry; and to protect habitat, recreation, aesthetic, and other resource values associated with these lands.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	9.0	0.0	4.0	0.0
2013	9.0	0.0	4.0	0.0
2014	9.0	0.0	4.0	0.0
2015	9.0	0.0	4.0	0.0
2016	9.0	0.0	4.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Planned activities include beef schools, forage schools, range-in-school, grazing academy, BQA workshops, weed workshops, monitoring workshops, demonstration/applied research trials, Extension publications, popular press articles, tours, field days, faculty training sessions, web sites, CD-ROM based learning modules, office visits, and farm/ranch visits. The focus of these efforts will depend on stakeholder input, questions, and needs. When appropriate, information generated by the team will be presented in scientific journals and at professional meetings.

Alfalfa and Annual Forage Production and Harvesting planned activities include:

- Alfalfa variety trials
- Annual forage variety trials
- Irrigation management trials and demonstrations
- Idaho Hay and Forage Conference
- Local forage and pasture schools and workshops
- Documenting quality of forages from different production environments
- Investigation and reporting of suitability of alternative forage species and their utilization in livestock production systems to extend the grazing season.
- Popular press and journal articles
- Forages website
- Extension publications

Efficient Production Management and Marketing of Livestock planned activities include:

- Beef Quality Assurance workshops
- Vaccine storage and handing studies and reports
- Intermountain Rangeland Livestock Symposium
- Lost Rivers Grazing Academy
- Local Winter Beef Schools
- Alternative forage production trials to extend the grazing season
- Pasture management workshops
- Baseline survey of beef cattle producers on grazing and feeding practices
- Popular press and journal articles
- Beef website
- Extension publications

Rangeland Resource Management and Utilization planned activities include:

- Intermountain Rangeland Livestock Symposium
- Collaboration with the University of Idaho Rangeland Center
- Wolf-cattle interaction research and workshops
- Regional fire cycle/cheatgrass workshop,
- Collaboration with the Idaho Rangeland Resource Commissions public perception surveys
- Development of a public policy curriculum
- Local rangeland demonstrations, workshops and tours
- Popular press and journal articles
- Range-In-Service
- Extension Publications

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods

• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

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

- land owners, range livestock producers, local government and resource management agency personnel.
- Livestock and forage producers are likely to be positively impacted by new and improved production practices that will improve their profitability and ecological sustainability.
- Alfalfa and grass seed producers are likely to be positively impacted as many improved practices may involve the planting of new varieties with high productivity and pest resistance.
- Supplies of a variety of production input are likely to be positively impacted since improved practices may include the use of new materials, machinery or other production inputs.
- Small acreage land owners will have a greater 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.
- Beef cattle producers

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	25000	92000	1000	122300
2013	25000	92000	1000	122300
2014	25000	92000	1000	122300
2015	25000	92000	1000	122300
2016	25000	92000	1000	122300

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	2	6	13

Year	Research Target	Extension Target	Total
2013	2	6	13
2014	2	6	13
2015	2	6	13
2016	2	6	0

V(H). State Defined Outputs

1. Output Target

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

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Workshops (including BQA).

  2012:45 **2013:**45 **2014:**45 **2015:**45 **2016:**45

- Demonstrations and applied research projects.

  2012:15 **2013:**15 **2014:**15 **2015:**15 **2016:**15

- Popular press articles.

  2012:40 **2013:**40 **2014:**40 **2015:**40 **2016:**40

- Newsletters; number of issues.

  2012:32 **2013:**32 **2014:**32 **2015:**32 **2016:**32

- Field days

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Presentations at producer meetings

  2012:50 **2013:**50 **2014:**50 **2015:**50 **2016:**50

- Budgets developed to improve clientele decision making

  2012:15 **2013:**15 **2014:**15 **2015:**15 **2016:**15

- Curricula developed

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- Survey conducted

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Tours conducted

2012:12 **2013:**12 **2014:**12 **2015:**12 **2016:**12

- Websites developed or significantly modified

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

V(I). State Defined Outcome

O. No	Outcome Name
1	O: Learners will adopt new, accepted, or recommended production practices. I: Number of participants indicating in post-program surveys that they have or intend to adopt recommended practices.
2	O: Learners aquire knowledge and understanding of new, approved, or recommended practices. I: Number of participants citing change in knowledge on evaluation instruments(pre- post-test results) [number of evaluations administered and examined.
3	O: Learners are aware of new, accepted, or recommended production practices and emerging technologies and issues (BQA, NAIS, etc.) I: Number of participants at educational events.
4	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:50	**2013:**50	**2014:**50	**2015:**50	**2016:**50

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:100	**2013:**100	**2014:**100	**2015:**100	**2016:**100

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1000	**2013:**1000	**2014:**1000	**2015:**1000	**2016:**1000

3. Associated Knowledge Area(s)

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

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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. Outcome Type : Change in Action Outcome Measure

2012:1	**2013:**1	**2014:**1	**2015:**1	**2016:**0

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water
- 213 - Weeds Affecting Plants
- 216 - Integrated Pest Management Systems
- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Numerous factors may affect the success of this educational programming effort. Changes in the resources (faculty, funding, etc.) may limit the team's ability to address issues and reach audiences. As Idaho's population shifts from rural to urban, a general lack of understanding and knowledge about agriculture is threatening the beef industry while competing demands for rangelands increases. This shift may result in a decrease in funding for traditional Extension efforts. The industry is constantly being challenged by environmental advocacy groups. Changes in county, state, and federal regulations have not consistently benefited producers. Major weather changes, such as drought, may change the priority of issues addressed by the team, and may affect producers' production capabilities. Markets for beef and beef products constantly change. Adoption of new technologies and practices may be affected by producer apathy, a general resistance to change, and producers' limited funds for investment.

V(K). 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)
- Comparison between locales where the program operates and sites without program intervention

Description

The effectiveness of the resource and livestock management team will be evaluated by program attendance records, program evaluations, amount of information accessed via web sites, and number of requests for information. Pre- and post-tests conducted at programs will provide information on the amount of knowledge gained by participants.

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- On-Site
- Unstructured

- Case Study
- Observation

Description

Survey data will be used to determine the number of program participants using information provided by the team and determine the number of participants adopting new technologies and production practices. Anecdotal information, collected at meetings, office visits, and farm/ranch visits, will also be used to assess the use of information and the adoption of technologies and practices.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Global Food Security and Hunger: Cereals

2. Brief summary about Planned Program

The cereal crops, wheat, barley, corn and oats are grown in Idaho on about two million acres annually, nearly half the cropped acres in Idaho, and harvested grain was valued at over $570 million in 2004. Cereal crops are an important component in practically all Idaho crop rotation systems and are considered critical for the productivity and economic viability of the systems and agriculture in Idaho. Objective science based information pertinent to these small grain enterprises is critical for their sustainability. Topic areas for cereal team research and extension programming to provide this vital technology include:

- development and adoption of improved varieties
- using economical, effective, and environmentally friendly crop protection practices
- applying beneficial cultural and fertilization crop management practices
- integrating cereal production practices into a productive cropping system.

Effective and planned research and extension efforts in these program areas will positively influence cereal productivity, farm economic viability, protection or enhancement of the environment, and optimization of grower returns for cereal production in Idaho. Information and technology about cereal production in Idaho must be based on objective scientific information that is highly credible and widely available for implementation by Idaho growers and affiliated agricultural businesses, government support agencies, consumers, and others in neighboring regions and beyond.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%		10%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		10%	
202	Plant Genetic Resources	20%		10%	
205	Plant Management Systems	20%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		5%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
213	Weeds Affecting Plants	10%		5%	
216	Integrated Pest Management Systems	10%		5%	
315	Animal Welfare/Well-Being and Protection	0%		3%	
501	New and Improved Food Processing Technologies	0%		10%	
502	New and Improved Food Products	10%		5%	
504	Home and Commercial Food Service	0%		5%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%		5%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		2%	
723	Hazards to Human Health and Safety	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Producers in Idaho grow cereal crops, wheat, barley, oat, and corn for grain, on about 2 million acres annually. This acreage is over 45% of the 4.4 million acres of field crops grown in Idaho. Growers need unbiased, science derived information and technology to effectively manage their cereal crops for optimum productivity, economic return, protection of the environment, and sustainability. Growers are faced with management decisions that will greatly influence the success of their enterprises that include cereal crops. Decisions include: variety selection, pest management, crop management practices, and integration into their overall cropping systems. There are many specific issues within each of these decision areas that the topic team will be addressing, and most of these issues have short-, medium-, and long-term implications and problems. The issues presented are current and identified by stakeholders.

Development and adoption of improved varieties: Growers need varieties that are productive, have good to superior end use quality, are well adapted, resist diseases, insects, and other pests, fit in weed control regimes, work in rotation with other crops, and can be managed easily and effectively. These issues are being addressed by effective wheat and barley breeding programs that produce superior varieties for crop performance, some with herbicide resistance, and emphasize end use quality; a comprehensive statewide variety testing program that delivers variety choice information to growers; a weed and pest management program that addresses pesticide resistance, effectiveness and crop systems interactions; and variety specific management and systems evaluations.

Using economical, effective, and environmentally friendly crop protection practices: Crop protection allows varieties to express their yield potential. Critical issues in crop protection include: pesticide resistance, pesticide residue, herbicide efficacy and registration, emerging weed problems (especially in direct seed systems), stripe rust control, root diseases, effective seed treatments, aphids (also as vectors for viruses), Hessian fly, cereal leaf beetle, nematodes, and other pests.

Applying beneficial cultural and fertilization crop management practices: Management practices include: fertilizer application rates, methods, sources, and timing; soil testing; seeding rates, methods, and timing; tillage and seedbed preparation; irrigation and water management, and biological seed treatments.

Integrating cereal production practices into a productive cropping system**:** Cereal production must fit with other crops and this cropping system is important relative to: field selection, crop rotation sequence and rotational crops, and tillage systems.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

- Changing participant numbers in the program at some levels - research, support scientists, county extension educators.
- Declining viability of state and commodity funding sources and supporting structure - continued national support.
- Continuation of cereal crops as an agriculture college priority signature program.
- Cereal growers reliance on public sector as viable sources of information and technology for crop production.
- Knowledge and education will be important in cereal commodity viability.
- Learners achieve incremental increases in knowledge and adapt new practices and technologies over time and will build capital and human resources while maintaining and enhancing the natural resource base.
- Pests and economics will change, increased volatility in input and commodity prices.
- New markets will open.

- Adoption of new technology will change consumer preferences.
- The need for value added products and niche markets will contintue and should increase.

2. Ultimate goal(s) of this Program

Producers in Idaho who grow wheat, barley, oat, and corn for grain, will be provided with unbiased, science-derived information and technology to effectively manage their cereal crops for optimum productivity, economic return, protection of the environment, and sustainability. Technology creation and delivery must address issues that are current and identified by stakeholders, but should be important for the next several years.

Ultimate goals in program area include:

- Development and adoption of improved varieties through effective wheat and barley development programs that produce superior varieties for crop performance; a comprehensive statewide variety testing program that delivers variety choice information to growers; a weed and pest management program that addresses pesticide resistance, effectiveness and crop systems interactions; and variety specific management and systems evaluations.
- Growers using economical, effective, and environmentally friendly crop protection practices that allow varieties to express their yield potential.
- The adoption and use of beneficial cultural, fertilization, and crop management practices to increase productivity and economic return.
- The effective integration of cereal production practices into a productive cropping system to optimize whole farm productivity and economic return while protecting the environment and other stakeholders benefits.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	5.5	0.0	10.0	0.0
2013	5.5	0.0	10.0	0.0
2014	5.5	0.0	10.0	0.0
2015	5.5	0.0	10.0	0.0
2016	5.5	0.0	10.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

- Breeding, testing, evaluating wheat and barley varieties throughout Idaho that will evaluate agronomic performance, end-use quality, adaptability to an area or type of production, suitability for specialty markets, and production of seed for moving the varieties into commercial production
- Conducting cereal schools to interact with growers and provide technology transfer for new varieties,

pest management practices and problems, management decisions, and integration of cereals in cropping systems

- Conduct field tours and field days to transfer technology as in cereal schools
- Meet with advisory committees, commodity commissions, processors, ag-support industries for feedback and to inform them of work in cereal production in Idaho
- Conduct off campus credit and continuing ed classes, stakeholder seminars, and applicator training/testing for education and technology transfer about cereals
- Write and publish newsletters, Extension publications, progress reports, scientific publications, and general media articles
- Conduct research into cereal production problems as identified in the plan of work
- Interact with other professionals at meetings to transfer knowledge, form alliances, and implement projects
- Document and report progress and accomplishments

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

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

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

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	2000	20000	20	20
2013	2000	20000	20	20
2014	2000	20000	20	20
2015	2000	20000	20	20

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2016	2000	20000	20	20

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

2012:1 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	6	3	15
2013	6	3	13
2014	6	3	13
2015	6	3	10
2016	6	3	0

V(H). State Defined Outputs

1. Output Target

- Idaho Cereal Schools.

2012:5 **2013:**5 **2014:**5 **2015:**5 **2016:**5

- Release and adoption of new cereal varieties.

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Peer-reviewed Extension publication (CIS, Bulletins, PNW).

2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**10

- Develop pest control technology - project/experiments.

2012:20 **2013:**20 **2014:**20 **2015:**20 **2016:**20

- Research on management systems - projects/experiments.

2012:30 **2013:**30 **2014:**30 **2015:**30 **2016:**30

- Refereed publications (Journal & Book Chapters).

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

V(I). State Defined Outcome

O. No	Outcome Name
1	O: Producers gain knowledge about improved cereals management at cereal schools, field days, seminars, and re-certification events. I: Number of participants attending cereal schools, field days, etc.
2	O: Producers are aware of cereal resource publications. I: Number of cereal extension publications distributed.
3	O: Producers adopt new cereal varieties. I: Increase in number of acres of new varieties (released within 5 years; greater than previously grown).
4	O: Adoption of new crop production methods. I: Number of growers who report adoption through surveys at educational events and meetings.
5	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:550	**2013:**550	**2014:**550	**2015:**550	**2016:**550

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:600	**2013:**600	**2014:**600	**2015:**600	**2016:**600

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:5000	**2013:**5000	**2014:**5000	**2015:**5000	**2016:**5000

3. Associated Knowledge Area(s)

- 202 - Plant Genetic Resources

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:200	**2013:**200	**2014:**200	**2015:**200	**2016:**200

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

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. Outcome Type : Change in Action Outcome Measure

2012:2	**2013:**2	**2014:**2	**2015:**2	**2016:**0

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 216 - Integrated Pest Management Systems
- 315 - Animal Welfare/Well-Being and Protection
- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 722 - Zoonotic Diseases and Parasites Affecting Humans
- 723 - Hazards to Human Health and Safety

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Declining financial support

V(K). 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)

Description

Survey of participants at cereal school, and possibly other education events, about use of information and adoption of technology from previous educational events. This survey should: evaluate learning, evaluate use and adoption of previously learned material, and evaluate motivation to adopt recently learned material.

Follow the numbers, use, or distribution of: websites, printed educational materials, new varieties, attendance patterns at educational events, variety releases, and crop management research trials.

Review published variety use in Idaho to determine acreage of new varieties.

2. Data Collection Methods

- Sampling
- Whole population
- On-Site
- Observation
- Other (Performance Evaluations)

Description

Survey participants at cereal school, and possibly at other educations events; Enumerate distribution of written educational materials; Quantify hits on educational websites; Quantify acreage of varieties for adoption of new varieties; Enumerate participants at educational events; Track acreage of crop management trials in Idaho; Enumerate cereal varieties released in Idaho

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Commercial and Consumer Horticulture

2. Brief summary about Planned Program

The Commercial and Consumer Horticulture Team delivers horticultural education and conducts associated applied research. The target audiences are consumers, groundkeepers, and employees of green industry companies whose business is to supply consumers with horticultural products. To accomplish its goals, the team employs programming in three major areas: Master Gardener education, consumer horticulture education, and green industry education.

Master Gardeners are trained volunteers that assist county faculty with public education by answering gardening and landscaping questions, assisting with public horticultural projects, and organizing informational workshops and conferences. Master Gardeners must complete a rigorous course of basic horticultural training that includes topics related to soils, plant growth, fertilization, irrigation, pest control, plant materials, etc. Team efforts associated with Master Gardeners include development of effective instructional tools for this training. A comprehensive and effective Master Gardener Handbook has been developed and is continually being reviewed and revised. Horticultural specialists and county faculty are working to develop and share PowerPoint presentations, demonstrations, projects, handouts and other resources. A new system of instruction is being tested involving statewide presentation via compressed video, thereby providing access to specialists whose responsibilities may limit statewide travel. Retention of trained Master Gardeners requires continuing education. Team members involved with Advanced Master Gardener instruction provide hands-on workshops and demonstrations on topics such as xeriscaping, insect diagnosis, weed identification, cactus propagation and culture, tree identification and care, pruning demonstrations, integrated pest management practices, and plant problem diagnosis.

Consumer horticulture education is a team program designed to reach homeowners with effective gardening and landscaping information. One major new emphasis for distribution of information is the construction and publication of a comprehensive web site that provides informational resources for all aspects of gardening in Idaho. Additional information is provided through bulletins and presentations at county and regionally based workshops, conferences, garden clubs, church group meetings, schools, and businesses. Extension educators and specialists supply information to the public through newsletters, weekly columns in newspapers (including the ever-popular HomeWise column), and articles in the popular press.

Green industry education is designed mainly to assist company managers with training of employees. This program consists of clinics and workshops, often held on-site at business locations throughout the state. Topics include aspects of nursery production, plant material identification, pest control, diagnosis of plant problems, and marketing techniques. A web site is maintained by the team specifically to serve the green industry by providing information about cultural management of nursery stock, current research on propagation and production, market trends, etc.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	15%		0%	
111	Conservation and Efficient Use of Water	10%		20%	
202	Plant Genetic Resources	5%		30%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%		0%	
204	Plant Product Quality and Utility (Preharvest)	5%		20%	
205	Plant Management Systems	25%		30%	
216	Integrated Pest Management Systems	25%		0%	
805	Community Institutions, Health, and Social Services	5%		0%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Idaho's citizens face complex challenges in designing, establishing, and maintaining sustainable home and community landscapes. Idaho's population has grown 29% since 1990, to approximately 1.3 million people. In 1990, 34% of Idahoans lived in urban settings. This figure is now 66%, which translates an urban population increase of more than 510,000 people. These changes have led to a huge increase in the amount of land used for landscaped yards, parks, golf courses, and greenbelts.

Most public areas and home landscapes are intensively managed; consuming disproportional amounts of water and introducing fertilizers and pesticides into the environment. Sustainable landscape planning, development and management be aesthetic while conserving water, minimizing pest damage and limiting negative environmental impacts. Adoption of best practices requires appropriate plant materials and user knowledge suited for local contitions and situations. Associated with the increase in managed landscapes is growth of the "green industries," that produce and sell plants and products for use by consumers. In 2003, the gross sales for nursery and greenhouse operations was over $71 million, up from $38 million in 1996. Most green industry companies employ seasonal or inexperienced people in positions that require basic knowledge of plant care and sustainable landscape principles. Educational opportunities for green industry professionals are limited and companies benefit heavily from university sponsored programs.

Specific issues related to the need for horticultural education in Idaho include:

Short-term issues:

•Adequate training tools for beginning and advanced Master Gardener programming. •Master Gardener retention. •Need for education among green industry professions on topics related to propagation and management of nursery stock, including native plants.

Medium-term issues:

•Changing ideas of information flow and the need to utilize electronic resources. •Need for additional training of existing county faculty in horticultural topics. •Lack of statewide continuity in horticultural programming and education. •Loss of pest control options and chemicals due to environmenatal regulation.

Long-term issues:

•Changes in state demographics that will bring demand for more horticultural information. •Need to devise a statewide standard curriculum for Master Gardener training. •Urban evirnonmenatal issues and the need to adopt sustainable horticulture practices. •Limited University of Idaho resources to meet outreach needs, among which is a need for additioanal horticulturally trained county faculty. •Lack of availability to the nursery trade of adapted tree and fruit varieties, low maintenance landscape plants, or native plant materials.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The goal of the Commercial and Consumer Horticulture Team is to provide effective education to the general public and green-space managers on topics related to sustainable landscaping and gardening practices. The assumption is education will encourage the public to adopt practices that make better use of natural resources, have less impact on the environment, be more attractive and utilitarian, and provide greater variety and interest.

In order to reach this objective, the team will require science-based information, modern educational materials and tools, and sufficient human resources to teach and distribute information. In most cases, the required information is available from various groups and institutions. When information is not available, short-term applied research projects will be needed. Wherein the information is available, it will need to be compiled into a usable form for teaching and/or distribution in a public forum. In many cases, information needs to be adapted to web publication to take advantage of new electronic tools.

In Idaho, the greatest deficiency for effective consumer education is a lack of sufficient human resources to take advantage of potential contact points. There are two groups that can help county faculty alleviate this deficiency. One is competent volunteers, trained through the Master Gardener program. The other is green industry professionals who actively educate consumers concerning horticultural principles in the process of selling plants and products.

Therefore, if consumer education is to be accomplished, it is critical to train and retain active Master Gardeners, deliver accurate information to green industry professionals, and to directly reach consumers through available mass media resources.

There are many benefits to educated consumers. They will be more likely to make wise decisions that will lead to environmentally friendly landscapes and community green spaces. They will be more likely to adopt landscape and garden design principles that will conserve resources, especially water. They will have sufficient knowledge to help make Idaho's communities more attractive, productive, and interesting places to live. Educated consumers will also be more likely to invest time, money, and

energy into creating and improving public green spaces that will add quality and culture to the lives of Idaho's citizens and support the green industry in the state.

2. Ultimate goal(s) of this Program

The ultimate goal for the Commercial and Consumer Horticulture team is to provide knowledge to consumers and green space managers that will allow them to design, install, and maintain attractive, sustainable landscapes and gardens, thereby improving the quality of life in Idaho.

To better define the global goal, established secondary goals include:

- Provide ongoing training of county faculty in topics related to urban horticulture.
- Train and retain active and effective Master Gardener volunteers to assist county level education efforts and increase capacity for consumer education.
- Provide effective statewide consumer horticulture education through electronic and traditional media, workshops and conferences, and one-on-one contact.
- Provide effective green industry training using a format of clinics and workshops held at opportune times and places, thereby making the green industry more effective at serving the needs of consumers.
- Complete limited practical research on topics that relate to and support the above educational goals.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	9.2	0.0	1.5	0.0
2013	9.2	0.0	1.5	0.0
2014	9.2	0.0	1.5	0.0
2015	9.2	0.0	1.5	0.0
2016	9.2	0.0	1.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Master Gardener Education:

Beginning Master Gardener training classes will be held during each of the six years encompassed by this plan. At present, courses will be offered by county faculty in twenty of Idaho's 44 counties. This includes the counties with the highest population densities. Cooperative arrangements expand training opportunities into counties adjacent to those offering courses.

Each course will involve 12 or more sessions, up to 3 hours each, covering gardening and landscaping principles. Printed curriculum is the Idaho Master Gardener Handbook. Visual aids, demonstrations, and projects may be appropriate. One vegetable chapter in the MG Handbook will be

updated.

Advanced Master gardening training is scheduled for: Ada, Bannock, Bonner, Bonneville, Canyon, Cassia, and Latah counties. Curriculum will consist of intensive, hands-on activities in topic areas of local interest, including pest identification, pruning, water conservation, composting, plant problem diagnosis, tree identification, and integrated pest management. Tours will be scheduled to visit educational sites around the state.

Consumer Horticulture Education:

A major accomplishment within the scope of consumer education is the completion and publication of the "Idaho Landscapes and Gardens" web site in 2006. This site provides citizen access to a wide range of horticultural topics of interest to the homeowner. The web site will continue to evolve and educational resources expand. Throughout the six-year period, other educational opportunities will be created or used. Workshops and conferences such as the Bonneville County "Thaw and Awe" program will be offered statewide. The Horticulture Team will help co-sponsor, with the Idaho Botanical Garden, the Fall Horticulture Symposium in Boise. Field days will be held at research and demonstration sites. Newspaper columns, such as the "HomeWise" series and popular press articles will be used to provide information to the public on topics of seasonal interest. UI bulletins and Current Information Series will be published and distributed to provide technical information on important topics.

Green Industry Education:

During each of the six years of this plan, UI faculty will participate in and contribute to the annual INLA Horticulture Expo, a premier training event for Idaho's green industry employees. In cooperation with stakeholder companies and the Idaho Department of Agriculture, training workshops will be held at various places around the state. These will be geared to an advanced audience and will provide 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. In 2008, a educational option involving a technical resource center (web site and call center) for the green industry was created and will continue to be maintained and improved..

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

Master Gardener Education: The target audience includes members of the public with a high level of interest in horticulture and time and interest in educating others. Beginning Master Gardeners participate in 30 to 70 hours of basic training in topics related to landscaping and gardening, such as soils, plant development, fertility, irrigation, plant problem diagnosis, pest control, etc., followed by 30-70 hours of volunteer service to the community. After completion of the training course and initial volunteer hours, Master Gardeners may re-certify annually or choose to become Advanced Master Gardeners. In

this role, they will continue training under UI horticulturists in advanced topics using a hands-on approach. More importantly, with respect to team objectives, Advanced Master Gardeners become volunteer instructors and are expected answer horticultural questions from the general public, assist in organizing workshops, conferences, and other education opportunities, develop public demonstration projects, and assist communities with plant-based improvement projects.

Consumer Horticulture Education: The potential audience for this project is very large, consisting of virtually all Idaho citizens with an interest in home horticulture on all levels. For the most part, this target audience provides the learners for this program. They will take opportunities to learn sustainable horticultural principles from numerous sources, including web sites, publications, popular press articles, presentations, workshops, conferences, demonstrations, short courses, and other teaching forums. Organized groups from this target audience, including community public works departments, garden clubs, civic groups, public libraries, church groups, and other interested organizations will assist by sponsoring educational gatherings.

Green Industry Education: The target audience consists of owners, managers, and employees of green industry companies. The audience will take a fairly active role in recommending curriculum, organizing teaching opportunities, and actively working to become competent horticulturists.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	30000	1500000	3900	13000
2013	30000	1500000	3900	13000
2014	30000	1500000	3900	13000
2015	30000	1500000	3900	13000
2016	30000	1500000	3900	13000

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	3	20	23
2013	3	20	23
2014	3	20	23
2015	3	20	23

Year	Research Target	Extension Target	Total
2016	3	20	23

V(H). State Defined Outputs

1. Output Target

- Advanced Master Gardener Training Workshop/Tours.

  2012:70 **2013:**70 **2014:**70 **2015:**70 **2016:**70

- Beginning Master Gardener Courses.

  2012:25 **2013:**25 **2014:**25 **2015:**25 **2016:**25

- Consumer Horticulture Education Media Publications/Programs.

  2012:200 **2013:**200 **2014:**200 **2015:**200 **2016:**200

- Consumer Horticulture Education Personal Contacts/Visits.

  2012:20000 **2013:**20000 **2014:**20000 **2015:**20000 **2016:**20000

- Consumer Horticulture Web Site.

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- Consumer Horticulture Workshops/Seminars/Demonstrations.

  2012:300 **2013:**300 **2014:**300 **2015:**300 **2016:**300

- Green Industy Education Workshops/Seminars/Clinics.

  2012:50 **2013:**50 **2014:**50 **2015:**50 **2016:**50

- Master Gardener Volunteer Activities (in Hours).

  2012:15500 **2013:**15500 **2014:**16000 **2015:**16500 **2016:**16500

- Green Industry Web Site Maintenance and Improvement

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

V(I). State Defined Outcome

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: Consumers have access to appropriate information about horticulture when they need it. I: Number of web site hits.
3	O: Adoption of effective and sustainable gardening practices by trained Master Gardeners. I: Survey-derived self-ranking of the extent of adoption of appropriate principles and practices; self-ranking is on 1-9 scale where 9=fully adopted.
4	O: Improved green-industry access to pest control and product information. I: Number of hits on technical resource center web site.
5	O: Master gardener programs will operate at a high level of performance and conform to minimum statewide policies with respect to amount and type of volunteerism, certification requirements, courses taught, and operation of advanced Master Gardener programs. I: Master Gardener coordinators will be surveyed to determine the operational status of each county-based program. Based on published statewide policies, each county program will be graded as compliant or not. The indicator will the percentage of compliant Master Gardener programs.
6	O: Publication of up-to-date consumer-oriented extension publications designed to improve public knowledge of sustainable horticultural practices. I: Increased number of available publications.

Outcome # 1

1. Outcome Target

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. Outcome Type : Change in Knowledge Outcome Measure

2012:30	**2013:**30	**2014:**30	**2015:**30	**2016:**30

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

O: Consumers have access to appropriate information about horticulture when they need it. I: Number of web site hits.

2. Outcome Type : Change in Condition Outcome Measure

2012:80000	**2013:**80000	**2014:**80000	**2015:**80000	**2016:**80000

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

O: Adoption of effective and sustainable gardening practices by trained Master Gardeners. I: Survey-derived self-ranking of the extent of adoption of appropriate principles and practices; self-ranking is on 1-9 scale where 9=fully adopted.

2. Outcome Type : Change in Action Outcome Measure

2012:7	**2013:**7	**2014:**7	**2015:**7	**2016:**7

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

O: Improved green-industry access to pest control and product information. I: Number of hits on technical resource center web site.

2. Outcome Type : Change in Condition Outcome Measure

2012:1900	**2013:**2000	**2014:**2000	**2015:**2100	**2016:**2200

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

O: Master gardener programs will operate at a high level of performance and conform to minimum statewide policies with respect to amount and type of volunteerism, certification requirements, courses taught, and operation of advanced Master Gardener programs. I: Master Gardener coordinators will be surveyed to determine the operational status of each county-based program. Based on published statewide policies, each county program will be graded as compliant or not. The indicator will the percentage of compliant Master Gardener programs.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:50	**2013:**60	**2014:**60	**2015:**60	**2016:**70

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

O: Publication of up-to-date consumer-oriented extension publications designed to improve public knowledge of sustainable horticultural practices. I: Increased number of available publications.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:15	**2013:**15	**2014:**15	**2015:**15	**2016:**15

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Because the prevailing objective of the team is education of Idaho's citizens with respect to sustainable horticultural principles, any factor that influences how and where people live will impact the program. A growing population will bring greater demand for educational resources and greater demand for new landscapes and plant material. Increased demands on resources will bring changes in regulations and public policy, thus resulting in greater demand for knowledge about conservation principles. Changes in the state and national economy also has an impact as it may affect housing markets, employment, and consumer spending on horticulture products and services. Natural disasters such as floods or fire may impact personal and public green spaces in negative or destructive ways, but may also spur new needs in research and education. For example: reclaiming flooded soils or planting a fire safe landscape.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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

Description

Master Gardner Education:

Assessment of the Master Gardener project will include measures of retention and contribution. Each year the proportion of Master Gardener volunteers still active out of those completing the course, will be calculated. Logs of volunteer hours will be maintained and the total statewide hours tabulated. Student improvement will be measured using before and after exams. The number of new or improved teaching tools will be tabulated by polling educators.

Beginning in 2011, an operational survey of all Master Gardener programs in the state is conducted. Master Gardener coordinators will be asked to supply programmatic information concerning courses taught, volunteerism practices, certification and recertification procedures, advanced Master Gardener activities, and independent Master Gardener activities. Assessment will be made of the

percentage of county-based Master Gardener programs that meet basic published statewide policies. Over the life of the plan, an effort will be made to bring at least 70% of the programs into statewide compliance.

Consumer Horticulture Education:

A visitor counter will monitored for the horticulture web site. The number of hits will be recorded each year. A post-participation survey will be utilized at county and statewide workshops and seminars to determine participant intent to incorporate learned principles and practices into personal gardening and landscaping efforts.

Green Industry Education:

A visitor counter is installed in the green industry web site. The number of site visitors will be recorded each year and used as a measure of program impact

2. Data Collection Methods

- Sampling
- Whole population
- On-Site
- Structured
- Unstructured
- Observation
- Tests

Description

Data for showing effective Master Gardener course instruction will consist of scores from before and after exams.Master Gardener retention will be based on records maintained in county offices of activity for individual graduates.Master Gardener contribution will be based on the number of volunteer hours provided each year and data will be collected in county offices using service logs.

Visitor counters will provide information on impact of educational web sites.Informal on-site or telephone polls of green industry company owners will provide data on the number of effectively trained employees.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Community Development

2. Brief summary about Planned Program

Communities across Idaho are changing. Residents and communities face huge challenges due to economic and demographic changes. The traditional natural resource and agriculture industries are employing less people. Urban areas are growing and new demands for recreational use of land and water, and preservation of the environment are increasing.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The Community Development topic team develops and implements high quality research-based educational programs for individuals, families, businesses, organizations, and non profits. To assist community leaders and residents in Idaho in meeting these challenges, three priorities will be addressed:

- Human and Social Capital
- Business and Entrepreneurship
- Spaces and Places

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Through its well-established community base and research based educational programming, UI Extension is uniquely positioned to help Idaho's communities develop knowledge & skills in order to make better decisions for increasing the quality of life in their communities.

Additional resource assumptions:

• UI Extension will provide leadership to assist Idaho Extension Faculty in developing expertise in the three Community Development program focus areas.
• Funding will be available to assist the Community Development Team members in traveling throughout Idaho to conduct programming, train other Extension Educators, and provide technical assistance to communities.
• Funding will be available for Community Development Team members to meet to plan statewide programs and develop curricula as needed to carry out Community Development programming throughout Idaho.
• University of Idaho Extension will cooperate and collaborate with other Idaho agencies and organizations serving communities for maximum impact and to reduce inefficiencies

2. Ultimate goal(s) of this Program

The ultimate goal of Community Development Topic Team is to lend research-based expertise to Idaho citizens' efforts to improve the quality of life for everyone in their communities. The team emphasizes sustainable community development, viewing communities as systems where the functioning of each part of the community affects the others. Therefore we focus at a number of levels and on a range of community capitals, from developing human and social capital (skills and relationships), built and natural capital (places and spaces), to financial capital (diverse industry mix and entrepreneur-friendly communities).

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	5.8	0.0	3.0	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2013	5.8	0.0	3.0	0.0
2014	5.8	0.0	3.0	0.0
2015	5.8	0.0	3.0	0.0
2016	5.8	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• In-depth workshops, classes and activities that build capacity and financial, built, cultural human, social, and natural community capitals.
• Regional business development training programs will be created in partnership with other service providers such as Small Business Development Center, economic development agencies and other local entities, private and public, that provide business development services.
• Teams of UI graduate students and design professionals, will work with communities to develop design concepts to meet community design and planning needs.
• Training opportunities will include, but are not limited to: starting a business, marketing, marketing for specific industries, such as artists, financial management, customer relations, generational differences and employee expectations, e-commerce, packaging and labeling, business expansion, creating entrepreneurial communities and building production capacity for local, value-added industries.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations	● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites

3. Description of targeted audience

Target audiences include:

• Small business owners in Idaho
• Government organizations/agencies in Idaho
• Community non-profit organizations
• Entrepreneurs - current and future
• Elected officials & decision makers (state & local)

- State & local employees
- New leaders and individuals currently serving in leadership roles
- Rural communities
- UI staff and volunteers
- Educators
- Youth
- Families

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

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	775	5000	500	6275
2013	800	5000	150	5950
2014	150	5000	150	5300
2015	150	5000	150	5300
2016	150	5000	150	5300

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	2	2
2013	1	1	2
2014	0	2	2
2015	0	1	1
2016	1	1	2

V(H). State Defined Outputs

1. Output Target

- Steering Committees/Teams formed.

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Materials/Curriculum developed.

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- Presentations/Workshops delivered

  2012:40 **2013:**40 **2014:**30 **2015:**30 **2016:**30

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

  2012:12 **2013:**12 **2014:**12 **2015:**12 **2016:**12

- Conference posters/presentations

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- Boards & Communities - Facilitated/Mentored/Coached.

  2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**9

- Communities served.

  2012:25 **2013:**25 **2014:**25 **2015:**25 **2016:**25

- Counties served.

  2012:44 **2013:**44 **2014:**44 **2015:**44 **2016:**44

- web-based educational materials developed

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

V(I). State Defined Outcome

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

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:40	**2013:**40	**2014:**40	**2015:**40	**2016:**40

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 608 - Community Resource Planning and Development
- 610 - Domestic Policy Analysis
- 805 - Community Institutions, Health, and Social Services
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:40	**2013:**40	**2014:**40	**2015:**40	**2016:**40

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:30	**2013:**30	**2014:**30	**2015:**30	**2016:**30

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 805 - Community Institutions, Health, and Social Services
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:50	**2013:**50	**2014:**50	**2015:**50	**2016:**50

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:15	**2013:**15	**2014:**15	**2015:**15	**2016:**10

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:200	**2013:**200	**2014:**200	**2015:**300	**2016:**300

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:30	**2013:**30	**2014:**30	**2015:**30	**2016:**30

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 8

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:2	**2013:**3	**2014:**3	**2015:**3	**2016:**4

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 604 - Marketing and Distribution Practices
- 605 - Natural Resource and Environmental Economics
- 608 - Community Resource Planning and Development
- 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- 1862 Research

Outcome # 9

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:50	**2013:**50	**2014:**50	**2015:**50	**2016:**50

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 610 - Domestic Policy Analysis
- 802 - Human Development and Family Well-Being
- 805 - Community Institutions, Health, and Social Services
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 10

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:5	**2013:**5	**2014:**5	**2015:**5	**2016:**5

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water
- 124 - Urban Forestry
- 131 - Alternative Uses of Land
- 134 - Outdoor Recreation
- 608 - Community Resource Planning and Development
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Appropriations changes

- Competing Public priorities
- Competing Programmatic Challenges

Description

Primary factors affecting the success of this topic team are 1) competing demands on time of faculty to work in other topic team areas 2) continued support of Community Development work by UI Extension Director 3) continued training funds for building Community Development expertise among faculty, 4) changes in populations and economies will affect the rate of requests for low cost community and economic development services. All indicators are that requests will increase, not decrease, and 5) continued funding for travel to expand statewide Community Development programming emphasis -- this is a pivotal time for Extension's community development efforts. Rather than dedicate all spare resources to University level engagement, resources must continue to flow to the faculty doing the work on the ground so that they may both build on established program areas and develop and maintain links to a statewide network of community and economic development agencies, organizations and practitioners.

V(K). 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)

Description

A range of evaluation methods will be utilized, including, but not limited to, surveys administered to program participants before, during and after program implementation.

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Unstructured
- Observation
- Tests

Description

Data collection methods vary with individual outcome to be measured.Information is listed on page #13.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Global Food Security and Hunger: Dairy

2. Brief summary about Planned Program

The overall goal of the dairy topic team is to help Idaho producers improve profitability and productive efficiency of their farm business and thereby improve the well-being of their families and communities.The dairy topic team has two thrusts to address the critical issues of the dairy industry: dairy management and Spanish-language training. The dairy topic team will accomplish our goals through educational programs that include workshops, seminars, applied on-farm demonstrations, publications, and website development.We will work with dairy producers, allied industry, private consultants, industry organizations, and state regulatory agencies.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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%		30%	
302	Nutrient Utilization in Animals	20%		30%	
305	Animal Physiological Processes	20%		5%	
307	Animal Management Systems	20%		10%	
308	Improved Animal Products (Before Harvest)	0%		10%	
311	Animal Diseases	20%		15%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

In 2008, Idaho's dairy farm families provided 12.3 biliion pounds of milk, up 6.6% from the 11.5 billion pounds of milk produced in 2007, further solidifying Idaho as the second largest milk-producing state in the western U.S. Idaho cash milk receipts were $2.1 billion in 2008, up 2.5% from 2007. Milk has been the number one agricultural commodity in Idaho (in terms of income received by producers) -- eight of the past

eleven years. During 2008, the annual average number of milk cows on Idaho farms was 549,000 animals, up from 513,000 in 2007.

Dairy Extension Advisory Committees meet annually to discuss Idaho dairy industry issues and to prioritize extension education efforts. Current topics important to the dairy industry include continued development and delivery of unbiased science-based information for producers, dairy employees, allied industry, veterinarians, and the general public. Key topic areas include: a) Dairy Management, b) Spanish language programs, and c) English language programs.

Dairy Management

Maintaining production efficiency and profitability is an on-going challenge for the Idaho dairy industry. New management techniques and strategies are available to improve reproductive efficiency, herd nutrition, animal health, milk quality, heifer management, cow comfort and environmental emissions. Based on input from our dairy advisory committees, the Idaho dairy Extension team conducts on-farm trials to demonstrate efficacy of new management strategies and provide data to promote adoption of these new technologies.

Spanish language programs

The Idaho dairy industry relies on a Spanish-speaking workforce. The greatest challenge accompanying this increase in the number of Spanish-speaking workers has been the language barrier which is creating communication and training problems. The majority of dairy managers speak little or no Spanish, and most Hispanic employees speak little or no English. Extension plays a very important role in providing training to improve the knowledge and skills of this underserved audience. The dairy topic team provides training in the following areas:

- Milking procedures and milk quality/food safety
- Artificial insemination of dairy cows
- Raising dairy calves
- Hoof trimming
- Mixing Total Mixed Rations
- Identifying sick cows and calves

English language programs

University of Idaho Dairy Extension delivers English language programs to compliment our Spanish language programs. Specifically, English language programs are focused on training current and future employees in the skills necessary to work on Idaho dairies. The dairy topic team provides training to owners and employees in several topics that enhance dairy profitability. Emerging and continuing issues include "Raising Healthy Calves", "Total Mixed Ration Feeding", "Artificial Insemination", "Milking schools", and "Milk Quality/food safety".

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Our first assumption is that dairy producers recognize the value of training programs for their hired workers. Educational workshops are planned for Hispanic workers in several subject matter areas (milking management, feeding management, AI technique, and calf rearing practices). Our second assumption is that the schools will increase understanding and knowledge of appropriate dairy management practices. We will test this assumption by using pre- and post testing at each of the schools. Finally, we assume that the dairy workers and dairy managers will adopt the University recommended practices on their operation. The benefits of practice adoption vary between the four schools. Improved milking management should result in better compliance with recommend milking practices, lower milk somatic cell counts and reduced clinical mastitis. Improved feeding management should result in higher fat concentration, improved milk production, reduced lameness, and healthier cows. Adopting recommended AI practices should result in improved conception rates, lower semen costs, and higher reproductive efficiency. Improved calf rearing practices should reduce calf disease and calf mortality losses. Farm profitability and productive efficiency is improved in all four examples.

2. Ultimate goal(s) of this Program

The ultimate goals of the dairy topic team is to help dairy producers identify and implement dairy production and management practices that are economically profitable, environmentally friendly, and socially acceptable.

- Dairy managers will have current, unbiased, science based information to make informed management decisions
- Dairy owners will adopt recommended practices to improve production profitability and efficiency.
- Milk quality on dairies will improve with lower somatic cell counts and fewer incidences of antibiotic residues in milk.
- New and remodeled facilities will be better designed to improve cow comfort.
- Feeding management will improve to provide a more consistent and appropriate ration to all cattle.
- Improved ration formulation will reduce nutrient excretion caused by excessive nutrients in the diet.
- Dairy managers will better understand strategies to improve reproductive performance.
- Improved and/or properly used synchronization protocols will result in increased pregnancy rates.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	2.3	0.0	3.0	0.0
2013	2.3	0.0	3.0	0.0
2014	2.3	0.0	3.0	0.0
2015	2.3	0.0	3.0	0.0
2016	2.3	0.0	2.7	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Conducting educational programs, developing educational materials, writing popular press articles, preparing newsletters, developing a dairy webpage, and working with individual dairy operations. Dairy schools will be held in formal classroom settings and informal settings on dairy operations.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • One-on-One Intervention • Demonstrations	• Newsletters • Web sites • Other 1 (Popular press articles)

3. Description of targeted 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(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	8000	220000	500	0
2013	8000	220000	500	0
2014	8000	220000	500	0
2015	8000	220000	500	0
2016	8000	220000	500	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	2	8
2013	1	2	8
2014	1	2	8
2015	1	2	8
2016	1	2	0

V(H). State Defined Outputs

1. Output Target

- Winter Dairy Forums.

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- Milker schools.

  2012:6 **2013:**6 **2014:**6 **2015:**6 **2016:**6

- Calf Schools.

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- Artificial Insemination Schools.

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Feeder Schools.

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- Popular Press articles.

  2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**10

- Abstracts and Proceedings.

  2012:5 **2013:**4 **2014:**4 **2015:**4 **2016:**4

V(I). State Defined Outcome

O. No	Outcome Name
1	O: Dairy Producers and workers will increase knowledge by attending dairy schools and dairy forums. I: Number attending schools and forums.
2	O: Dairy workers will increase knowledge and understanding of dairy management practices. I: Percent knowledge change by attendees (as evaluated with pre/post testing).
3	O: Sound dairy management practices will be adopted by dairy operations as a result of attending the management schools. I: Percent of participants with intent to adopt recommended dairy management practices (as evaluated with pre/post testing).
4	O: Dairy workers will use proper techniques taught in dairy education programs (e.g., AI techniques, feeding adjustments, milking techniques). I: Percent of participants demonstrating mastery (assessed at dairy education programs).

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:200	**2013:**200	**2014:**200	**2015:**200	**2016:**200

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:20	**2013:**20	**2014:**20	**2015:**20	**2016:**20

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:20	**2013:**20	**2014:**20	**2015:**20	**2016:**20

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:50	**2013:**50	**2014:**50	**2015:**50	**2016:**50

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)
- 311 - Animal Diseases

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Dairy Extension Specialists receive travel support from state funds and from industry grants. The dairy industry has asked the University to develop an "exit strategy" for their travel support. We will need to remain within federal and state guidelines while potentially charging for farm visits and educational meetings. Charging for farm visits (that have traditionally been paid for with tax dollars) will not be a popular move and could impact participation and support for dairy extension programs.However, financial support remains strong for county programs.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Other (Evaluation study)

Description

Post/pre testing will be utilized to measure knowledge change and practice adoption.Pre/post testing will be utilized to measure knowledge change.Follow-up surveys will be utilized to determine changes in calf health and feeding management practices as a result of attending calf and feeder schools.

2. Data Collection Methods

- Sampling
- Whole population
- Telephone
- On-Site
- Tests
- Other (Performance Evaluations)

Description

Dairy Extension Specialists receive travel support from state funds and from industry grants. The dairy industry has asked the University to develop an "exit strategy" for their travel support. We will need to remain within federal and state guidelines while potentially charging for farm visits and educational meetings. Charging for farm visits (that have traditionally been paid for with tax dollars) will not be a popular move and could impact participation and support for dairy extension programs.However, financial support remains strong for county programs.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Family Economics

2. Brief summary about Planned Program

Financial Basics. Rural and urban families are struggling to maintain economic stability in a changing economy. Idaho residents from every demographic group lack financial management knowledge and skills to make educated financial decisions and implement sound financial practices. Evidence includes: 1) Idaho bankruptcy rates increased 45% in 2009; 2) Idahoans spent $118.8 million in overdraft fees; 3) mortgage delinquency and foreclosure rates in urban communities are among the highest in the nation; 4) statewide loss of home equity wealth is predicted to reach $1.8 billion by 2012. The Topic Team will help adult Idahoans address these issues by offering and promoting Extension seminars, web sites, social media and publications. We will explore the use of technology to provide education to Idahoans.

Financial Security in Later Life. Older adults are Idaho's fastest growing demographic group and are projected to increase 39% between 2010 and 2020. Older adults are experiencing unemployment, loss of income and asset value, and increasing health care costs while trying to plan for financial security in later life. Many are ignoring the reality that one-third of their lives may be ahead of them after age 60, putting their future financial security at risk. In addition to funding a potentially long retirement and protecting themselves against health-related expenses, older Idahoans need to address issues such as estate planning, preparing Advance Directives, organizing financial and legal records, and communicating their wishes with loved ones. The Topic Team will offer and promote seminars, web sites, and publications to help older Idahoans address these issues.

Youth Financial Literacy. The majority of Idaho youth who do not go on to postsecondary education are quickly faced with adult financial responsibilities. Only 21% of students age 16-22 have taken a personal finance course. Approximately 94% of youth claim parents are their main source of financial management education. When their parents were asked if they feel qualified to teach their children about financial management, the majority responded "no". Research indicates that as little as 10 hours of personal finance education positively affects the spending and saving habits of youth. Youth ages 3 to 18 are the team's primary audience, though we also train teachers and youth-group leaders how to use youth financial literacy programs with their students and members. The Topic team will offer education via seminars, web pages, social media, and publications. We will explore the feasibility of offering Teacher Training through Adobe Connect and other technologies. We will also explore use of technology and social media to educate adolescents.

Local government officials responding to the 2004 University of Idaho (UI) Extension survey, "Your Idaho Community: Present and Future Needs" indicated a greater interest in financial planning and retirement planning topics than nearly any other program area. Financial education was the topic Idaho residents responded they would most prefer obtaining through class attendance. This finding continues to be true for older participants. The team will explore and determine if educational technology and social media is a more effective method to educate younger adult and youth audiences.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Idahoans need unbiased research-based information and education to effectively manage their financial resources. They are faced with financial decisions that greatly influence their short, medium and long term well-being. Peoples' financial education needs change as they progress through the life cycle. The areas listed below are current and identified by stakeholders.

Basic Financial Management: Individuals lack awareness, knowledge and skills to: Set financial goals,
Track expenses, Prepare and use spending plans, Organize and maintain financial records, Use credit wisely, Get out of debt, Guard against identity theft, Save for the future, Use technology to manage finances.

Financial Security in Later Life: Planning for later life issues impacts financial security, topics to be addressed include: Retirement planning, Investing, Planning for long term care, Organizing important papers, Advanced directives and estate planning topics , Understanding Social Security, and Medicare programs.

Youth Financial Literacy: Young people who learn money management skills early are more likely to be better financial managers in adulthood. Topics to be addressed with youth include: Financial decision making, Money management and consumer skills, Employability skills, How education levels impact employment opportunities, and income.

2. Scope of the Program

- In-State Extension
- Multistate Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

- Maintenance and/or increase in numbers of faculty and staff in the program including -extension specialist, county extension educators, EFNEP and ENP advisors, support staff
- Continuation of funding sources: private, public-local, state, and national
- Continuation of family economics as a family and consumer sciences department and extension priority
- Consumers relying on extension as a viable source of information and education
- Financial management knowledge and education will be important to Idaho residents
- Learners will achieve incremental increases in awareness, knowledge and will adopt new practices over time
- Need for financial education will continue and increase
- New target audiences will be reached
- Consumer adoption of new technology will change what and how extension delivers financial education
- Minority population increases will continue and impact delivery methods
- Financial education needs will be impacted by environmental, political and economics conditions.

2. Ultimate goal(s) of this Program

Ultimately, Idaho residents will be provided with unbiased, research-based information and education to effectively manage their finances for optimum economic and emotional well-being.This education and delivery must address issues that are timely and identified by stakeholders and should be relevant to the six years of this planning cycle.

- In addition, ultimate goals of the family economics plan of work are:
- Increase awareness of extension family economics programs
- Increase use of extension family economics information and programs
- Extend family economics programs to new and diverse audiences
- Increase decision-makers' awareness andknowledge of UI Extension family economics programming and outcomes.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	4.0	0.0	0.0	0.0
2013	4.0	0.0	0.0	0.0
2014	4.0	0.0	0.0	0.0
2015	4.0	0.0	0.0	0.0
2016	4.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The Family Economics Topic Team has planned the following activities:

• Meet with advisory committees, cooperating agencies, partners and decision-makers to receive feedback and to update them about personal financial management issues and programs.
• Interact with professionals at meetings to share knowledge, build partnerships, and gain insights into national, regional and local issues and priorities.
• Keep updated on current research and trends in the field.
• Develop, pilot test, publish, and share new educational programs identified by stakeholders, such as Predatory lending, new banking practices, and others that meet audience needs.
• Author and publish popular press articles, newsletters, and Extension publications. Author and submit professional journal articles, abstracts and proceedings papers.
• Develop posters that describe programs outcomes and impacts.
• Develop and maintain a financial education web site.
• Market, conduct and evaluate the following educational programs- Dollar Decision$, Building BUCS, Credit Cents, Guarding Against Identity Theft, Organizing Financial Records, Small Steps to Health and Wealth, Retirement Ready?, 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, and others that meet identified audience needs.
• Work with the traditional media and utilize social media to increase program awareness and participation.
• Improve reporting of program outcomes/impacts by providing educator training & resources and developing an evaluation template for educator use.
• Document and report personal financial management programs and accomplishments.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Billboards
● Group Discussion	● Newsletters
● One-on-One Intervention	● TV Media Programs
● Other 1 (Train the trainer)	● Web sites

3. Description of targeted audience

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

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

Youth Financial Literacy: Teachers, youth group leaders, parents and youth will utilize web sites,

publications and educational programs. Teachers and youth group leaders will purchase extension curriculum for youth.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	4000	90000	1500	2000
2013	4000	90000	1500	2000
2014	4000	90000	1500	2000
2015	4000	90000	1500	2000
2016	4000	90000	1500	2000

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	1	2
2013	1	1	2
2014	1	1	2
2015	1	1	2
2016	1	1	2

V(H). State Defined Outputs

1. Output Target

- Newsletter articles published; print or electronic.

  2012:40 **2013:**40 **2014:**40 **2015:**40 **2016:**40

- Popular Press articles.

  2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**4

- Professional or paraprofessional trainings.

  2012:3 **2013:**3 **2014:**3 **2015:**3 **2016:**3

- Classes, seminars, and workshops.

  2012:100 **2013:**100 **2014:**100 **2015:**100 **2016:**100

- Websites developed or updated.

  2012:0 **2013:**1 **2014:**1 **2015:**0 **2016:**1

- Lesson/curriculums developed and published.

  2012:0 **2013:**0 **2014:**1 **2015:**0 **2016:**1

V(I). State Defined Outcome

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

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:800	**2013:**800	**2014:**800	**2015:**800	**2016:**800

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:500	**2013:**500	**2014:**500	**2015:**500	**2016:**500

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:300	**2013:**300	**2014:**300	**2015:**300	**2016:**300

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:3000	**2013:**3000	**2014:**3000	**2015:**3000	**2016:**3000

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Topic team success is dependent on economic stability, minority groups becoming proficient in the English language, and decision-makers continuing to support financial education.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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

Description

Evaluating the effectiveness of family economics classes, workshops and seminars will be accomplished by conducting post-tests, pre-post tests, and retrospective evaluations from program participants. In a few selected programs, three to six month follow-up surveys will be mailed to and collected from participants.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Tests

Description

To determine the number of participants who increase awareness, gain knowledge and adopt recommended practices, we will survey attendees at classes and workshops. Pre- and post-assessment tools will be utilized.For selected programs, three or six-month follow-up surveys will be conducted. Anecdotal information about practices that benefitted the learner may be collected during classes or at other meetings.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Farm and Ranch Management

2. Brief summary about Planned Program

This program develops and provides unbiased information on the economics of existing and alternative crop and livestock production systems, to provide management tools and education to Idaho farmers, ranchers and agribusinesses that will allow them to make informed management decisions, and to develop and/or maintain economically healthy, sustainable and profitable businesses that will support rural economies and rural communities.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
111	Conservation and Efficient Use of Water	0%		5%	
132	Weather and Climate	0%		5%	
212	Pathogens and Nematodes Affecting Plants	0%		5%	
601	Economics of Agricultural Production and Farm Management	25%		10%	
602	Business Management, Finance, and Taxation	25%		10%	
603	Market Economics	15%		10%	
605	Natural Resource and Environmental Economics	15%		10%	
606	International Trade and Development	10%		10%	
609	Economic Theory and Methods	5%		20%	
610	Domestic Policy Analysis	5%		10%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Agriculture is the number one sector in Idaho's economy. In 2006 agriculture was responsible for generating $21 billion in sales (20% of Idaho's total), 156,600 jobs (17% of Idaho's workforce), $4.2 billion in wages (15% of Idaho's total), and $8.4 billion in value added (17% of Idaho's GSP) according to an economic base analysis study conducted by the University of Idaho. Agriculture plays and even stronger role in Idaho's rural communities. The economic health of Idaho depends on a healthy agricultural sector.

Agriculture is an inherently risky business. With volatile commodity markets and rising input prices, Idaho farm and ranch families are caught in a cost-price squeeze that has driven many of them out of business. As price takers, it can be difficult for them to establish or maintain an economically sustainable business operation that can be past to the next generation. Idaho farmers and ranchers need access to up-to-date farm management information and tools that will help them to identify financial problems, evaluate alternatives, and to develop a viable business plan with accurate financial statements.

Priorities:

To develop/revise crop and livestock costs and returns estimates (enterprise budgets) on a biennial basis that can serve as a bench mark and that can be easily modified by producers to match their specific situation.

To develop and/or to revise and make available decision-aid tools and other educational material that can be used directly by Idaho's farmers, ranchers, and lenders; or that can be incorporated into a farm management education program.

To evaluate the economic viability of existing and alternative crop and livestock production management systems.

To conduct farm management education programs as part of traditional commodity schools or as stand-alone programs, that will make information and tools available to Idaho farmers/ranchers, agricultural lenders, and other agribusinesses.

2. Scope of the Program

- In-State Extension
- Multistate Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Farmers and ranchers who attend farm management education programs will acquire the knowledge, skills and resources that will allow them to make better financial management decisions.

2. Ultimate goal(s) of this Program

The overall goal of the farm and ranch management program is to provide unbiased information, tools and education to Idaho farmers, ranchers, financial institutions and agribusinesses that will allow

them to make informed management decisions, to successfully manage their businesses, and to develop and/or maintain economically healthy, sustainable and profitable businesses that will support rural economies and communities.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	3.1	0.0	1.5	0.0
2013	3.1	0.0	1.5	0.0
2014	3.1	0.0	1.5	0.0
2015	3.1	0.0	1.5	0.0
2016	3.0	0.0	1.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Conducting educational programs and developing educational material.Workshops and seminars will be held in conjunction with major commodity schools (sugarbeets, potatoes, cereals, forages, beef, etc.), as well as stand-alone programs on farm management or specific issues (new farm bill for example).

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention	• Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

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

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

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	1000	4000	0	0
2013	900	4000	0	0
2014	800	4500	0	0
2015	800	4500	0	0
2016	8000	4500	0	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	2	2
2013	0	2	2
2014	0	2	2
2015	0	2	2
2016	0	2	2

V(H). State Defined Outputs

1. Output Target

- Farm Management Schools/Classes.

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Crop & Livestock Costs and Returns Estimates Published.

  2012:80 **2013:**15 **2014:**15 **2015:**80 **2016:**15

- Number of Financial Condition of Idaho Agriculture tri-fold distributed

  2012:1000 **2013:**1000 **2014:**1000 **2015:**1000 **2016:**1000

- Media Contacts.

  2012:40 **2013:**40 **2014:**40 **2015:**35 **2016:**35

- Workshops/presentations at Commodity Schools/conferences, Farm Management Schools or other appropriate venues.
  2012:20 **2013:**15 **2014:**15 **2015:**15 **2016:**15

- Office/one-on-one consultations

  2012:300 **2013:**300 **2014:**300 **2015:**300 **2016:**300

- AERS web site visits related to farm management

  2012:3000 **2013:**3500 **2014:**3500 **2015:**3500 **2016:**4000

V(I). State Defined Outcome

O. No	Outcome Name
1	O: Educational material is widely distributed to clientele. I: Number of publications and other resources distributed
2	O: Clientele motivated to obtain knowledge and/or learn new management skills.I: Number of clientele attending educational programs.
3	O: Clients learn about new issues, management practices or marketing tools.I: Number of clientele attending educational programs that indicate a change in knowledge.
4	O: Clientele apply new knowledge about issues, management practices or marketing/risk management tools. I: Number of clientele attending educational programs that indicate an intention to change a practice or that have changed a practice.

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:300	**2013:**300	**2014:**300	**2015:**300	**2016:**250

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:800	**2013:**700	**2014:**700	**2015:**700	**2016:**700

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:125	**2013:**125	**2014:**125	**2015:**100	**2016:**100

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:75	**2013:**75	**2014:**75	**2015:**75	**2016:**75

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The continued decline in the availability of resources (personnel, appropriated funds and commodity commission funds) has limited the offering of programs, specifically the farm management classes. The change from formula funds to competitive grants puts our ability to consistently provide a basic farm management program at risk, as do the recent budget cuts at the state and county level.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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

Description

Survey of participants at workshops to determine a gain in knowledge or the intent to change practices based on information presented.

2. Data Collection Methods

- Sampling
- Whole population
- On-Site
- Case Study

Description

We will track the number of publications and other resource material distributed. We will count the number of clientele attending educational programs. We will count the number of clientele attending workshops who indicated that they gained an increased understanding or who plan on adopting something discussed in the class/workshop. We will also track the number of clientele who contact extension for resource material and/or information, as well as the number of hits on the AERS web site.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Food Safety

2. Brief summary about Planned Program

The Food Safety Topic Team will work on the following projects:

- **Consumer Food Safety Programs / Just in time food Safety / Preserve@Home** -- Extension educators will answer food safety calls and offer classes and workshops on general food safety and food preservation topics.
- **Food Safety Advisor / Master Food Preserver** -- FCS Educators offer volunteer certification food preservation training at two levels:
  - Food Safety Advisor/Master Food Preserver
  - Advanced Food Safety Advisor/Advanced Master Food Preserver

UI Extension trained FSA/MFP volunteers will share 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 will be taught in high school FCS classes throughout the state. ServSafe will be taught to food service workers/mangers or food industry personnel requiring this level of training.
- **Hand Hygiene Education** -- Hand washing technique and effectiveness will be 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 receive 15% of their education on food safety topics. These lessons vary by county in accordance with client needs.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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%		10%	
308	Improved Animal Products (Before Harvest)	0%		10%	
311	Animal Diseases	0%		10%	
315	Animal Welfare/Well-Being and Protection	0%		10%	
501	New and Improved Food Processing Technologies	5%		10%	
503	Quality Maintenance in Storing and Marketing Food Products	20%		10%	
504	Home and Commercial Food Service	30%		10%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	30%		10%	
722	Zoonotic Diseases and Parasites Affecting Humans	5%		10%	
723	Hazards to Human Health and Safety	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Situtation and Priorities (by Extension project

Consumer Food Safety Programs / Just in Time Food Safety / Preserve@Home

- One-sixth of people are affected by foodborne illness
- At-risk groups are particularly vulnerable
- Young consumers lack knowledge

Food Safety Advisor / Master Food Preserver

- A large population of food preservers use risky practices

Food Service Food Safety Training

- High percentage young people work in food service
- The state regulates how food sold to the public is handled
- Food businesses require trained workers

Hand Hygiene Education

- People do not wash as well or as often as they should to prevent illness
- Regular hand washing for children results in fewer sick days

ENP-EFNEP Food Safety

- Limited resource families have specific challenges regarding food safety practices

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2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Desired Outcome: Reduce foodborne illness.

Participants will need to learn: improved food handling and personal hygiene behaviors by consumer, food service and food industry audiences.

The Topic Team will deliver these outputs: classes, programs, workshops, one-on-one answering questions, county and health fair exhibits, newsletters, popular press materials, internet programs/information, conference presentations.

In order to deliver the outputs, the Topic Team will need to invest the following resources: extension faculty time; volunteer time; funds from program participants, state and federal; collaborations with other food safety professionals; educational materials (written materials, curricula, and equipment).

2. Ultimate goal(s) of this Program

Consumer Food Safety Programs / Just in Time Food Safety / Preserve@Home -

- Reduced foodborne illness. Increased confidence in food handling and in the safety of the U.S. food supply.

Food Safety Advisor / Master Food Preserver -

- The incidence of foodborne illness related to food prepared at home will drop due to the increased knowledge base of home food preservers. The number of home food preservers with knowledge of safe food handling, preserving and storing practices will increase. Consumers will experience less food spoilage.

Food Service Food Safety Training -

- Reduce the number of foodborne illnesses resulting from improper handling in food establishments.

Hand Hygiene Education -

- Improved health: less colds, flu, and food borne illness because transfer of pathogenic organisms is reduced due to improved hand washing.

ENP/EFNEP -Food Safety -

- Reduced foodborne illness.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	3.6	0.0	4.0	0.0
2013	3.6	0.0	4.0	0.0
2014	3.6	0.0	4.0	0.0
2015	3.6	0.0	4.0	0.0
2016	3.6	0.0	4.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Consumer Food Safety Programs / Just in Time Food Safety / Preserve@Home - Educators and volunteers will use each "teachable moment" when a consumer calls with a question to disseminate current researched-based information. Educators and volunteers will test canner gauges. Extension educators will offer classes (face-to-face and on-line), workshops, and poster exhibits on general food safety and food preservationtopics.

Food Safety Advisor / Master Food Preserver- UI FCS Educators will teach volunteer certification programs: 1) Food Safety Advisor/Master Food Preserver, and 2) Advanced Food Safety Advisor/Advanced Master Food Preserver. UI Extension trained FSA/MFP volunteers will share 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 will be taughtin high school FCS classes throughout the state**.** ServSafe will be taught to food service workers/mangers or food industry personnel requiring this level of training.

Hand Hygiene Education - Hand washing technique and effectiveness will be 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 receive 15% of their education on food safety topics.

These lessons vary by county in accordance with client needs.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

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

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

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

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

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

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	6000	0	4000	0
2013	6000	0	4000	0

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2014	6000	0	4000	0
2015	6000	0	4000	0
2016	6000	0	4000	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	1	2
2013	0	1	1
2014	1	1	2
2015	0	1	1
2016	1	0	1

V(H). State Defined Outputs

1. Output Target

- Number of food safety calls answered.

  2012:4000 **2013:**4000 **2014:**4000 **2015:**2125 **2016:**2500

- Consumer food safety classes taught.

  2012:20 **2013:**20 **2014:**20 **2015:**69 **2016:**70

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

  2012:20 **2013:**20 **2014:**20 **2015:**12 **2016:**12

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

  2012:30 **2013:**30 **2014:**30 **2015:**30 **2016:**30

- Number of volunteer hours logged by FSA/MFPs.

  2012:1000 **2013:**1000 **2014:**1000 **2015:**900 **2016:**900

- Students receiving a RSFS certificate.

  2012:250 **2013:**250 **2014:**250 **2015:**100 **2016:**100

- Participants in hand hygiene education programs.

  2012:3000 **2013:**3000 **2014:**3000 **2015:**3300 **2016:**3300

- Number participants who completed EFNEP series of classes.

  2012:500 **2013:**500 **2014:**500 **2015:**450 **2016:**450

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

  2012:1650 **2013:**1650 **2014:**1650 **2015:**1650 **2016:**1650

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

2012:35 **2013:**35 **2014:**35 **2015:**35 **2016:**35

- Number of individuals receiving ServSafe certification.

2012:0 **2013:**0 **2014:**0 **2015:**7 **2016:**10

- Number of classes taught by FSA-MFP volunteers

2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**10

- Number of food preservation equipment safety checks.

2012:100 **2013:**100 **2014:**100 **2015:**100 **2016:**100

V(I). State Defined Outcome

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

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:2853	**2013:**2853	**2014:**2853	**2015:**2853	**2016:**2853

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:20	**2013:**20	**2014:**20	**2015:**20	**2016:**20

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:250	**2013:**250	**2014:**250	**2015:**100	**2016:**100

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:2850	**2013:**2850	**2014:**2850	**2015:**2850	**2016:**2850

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

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. Outcome Type : Change in Action Outcome Measure

2012:0	**2013:**1	**2014:**0	**2015:**1	**2016:**0

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Research

Outcome # 6

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:0	**2013:**0	**2014:**0	**2015:**0	**2016:**0

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Research

Outcome # 7

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:385	**2013:**385	**2014:**385	**2015:**385	**2016:**385

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 8

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:5	**2013:**5	**2014:**5	**2015:**30	**2016:**30

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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

Description

Food Service Food Safety Training
Observational Study of Student Behavior: The Team planned an evaluation for Ready, Set Food Safe.
Desired Outcomes: Improved food safety behaviors in high school students who have taken Ready, Set Food Safe.
Indicators Used to Document Change: Observed behavior of high school students in foods lab.

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- Observation
- Tests
- Journals

Description

Food Service Food Safety Training Phone interviews with students who have taken RSFS and are working in food service; their immediate food service supervisor will be interviewed if the student gives permission.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Climate Change: Forest Management

2. Brief summary about Planned Program

Our topic team's program planning and reporting is structured to align with three primary audiences: family forest owners, loggers, and natural resource professionals (recognizing that individual workshops, publications, etc. produced by this team will reach a combination of these groups as well as other groups.)

Family Forest Owners

Over 41% of Idaho is forested. Approximately 11% of Idaho forests (2.3 million acres) belongs to family forest owners. In some areas, the percentage of family forestland is much higher (e.g., 44% of all forests in the panhandle counties is owned by family forest owners).

Family forest acreage in Idaho has increased by 100,000 acres, due in part to former pasture or marginal cropland being actively planted back into trees or naturally seeding back into forest after tillage stops. The number of Idaho family forest owners has doubled, from 21,700 in 1978, to 47,400 family forest owners in 1993. Of these, 34,000 owners hold less than 10 acres, nearly 6,900 owners held between 10 and 100 acres, and 6,500 held over 100 acres. Family forest demographics are always changing, as family forestlands are bought, sold, subdivided and as industry forest lands are sold off.

Loggers

There are roughly 2,000 full- and part-time loggers in Idaho. Loggers are a critical link in forest management, particularly on forests whose owners are less active in directly managing their property. Unfortunately, if communication between landowners, loggers, or foresters is inadequate, the resulting timber harvests may not meet expectations. State forest practice laws remedy this somewhat, but they are designed to provide minimum criteria, and loggers may not fully appreciate the reasons these regulations were created.

Forest products companies are looking for ways to improve forestry operations on their own lands and properties they buy timber from. To this end, most Idaho forest product companies are participating in the 'Sustainable Forestry Initiative' (SFI), a national effort to certify sustainable management, including logging and processing, on private forest land. Among other things, SFI requires logger education on forest ecology, silviculture, and water quality.

Natural Resource Professionals

There are conservatively over 500 professional foresters in Idaho working for public forest land agencies, forest industry and as consulting foresters. Foresters and other natural resource professionals must continually sharpen their skills and stay current with emerging scientific and technological developments to sustainably produce more wood fiber and simultaneously improve forest growth and health. To that end, the forestry community has established new credentials to document foresters' continued professional development (e.g., The SAF 'certified forester' program).

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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	75%		70%	
132	Weather and Climate	5%		0%	
213	Weeds Affecting Plants	5%		10%	
215	Biological Control of Pests Affecting Plants	5%		10%	
216	Integrated Pest Management Systems	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Family Forest Owners

Idaho has some of the most productive family forests in the Rocky Mountains. Timber harvest income is rarely the sole source of income for individual forest owners. Yet in aggregate, these harvests are essential to the economies of rural natural resource-dependent communities in Idaho. On average, over 337 million board feet of timber has been harvested from these lands annually since 1991, with an estimated annual value of $135 million for mill-delivered logs, or $202 million milled. Since 1992, family forests have consistently produced 25% of Idaho's annual timber harvest, even though they only comprise 12% of Idaho's forest acreage. In some communities, logs from family forests are the only thing keeping local timber mills open.

Most logs from family forests are processed into wood products in Idaho, supporting living wage jobs in rural Idaho communities. With mills gearing up to take smaller logs and growing forest biomass markets, family forests are well positioned to continue supplying them, as it takes less time to grow smaller trees, and family forests are located closer to processing facilities.

Family forests are also critical to water, wildlife, and many other shared values. They often provide these benefits closer to population bases, which often get more frequent benefit (e.g., scenic beauty) from them than from more remote forests. Family forests also tend to be more concentrated near key locations for ecosystem functions (e.g., along lakes, streams, and in low elevation habitats that are rare due to development).

Potential impacts of climate change on forests are not known. Owners of family forests have

educational needs related to climate change, but those needs have not yet been evaluated.

Loggers

Partially stimulated by SFI, a statewide logger education committee developed the "Idaho Pro-Logger" program, administered through the Associated Logging Contractors of Idaho (ALC). Among other standards, the Idaho Pro-Logger credential requires participation in Logger Education to Advance Professionalism ("LEAP"), a UI Extension program that features over 20 hours of training designed to increase loggers' understanding and skills related to forest ecology, silviculture, and water quality) and 16 credits of continuing education annually. Most Idaho forest products companies require loggers that bring logs to them to take LEAP or participate in the Idaho Pro-Logger program.

Natural Resource Professionals

Continuing education for foresters is available through a number of sources. However, many continuing education venues do not fit the needs of individual foresters due to budget limitations, time and travel constraints, or other factors. UI Extension is uniquely situated to provide local continuing education opportunities for field foresters.K-12 teachers must also stay updated, and are continually looking for local opportunities to hone their skills. They also value research-based sources of forestry education to integrate into their classrooms.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Family Forest Owners

The large number of forest owners who have had little or no exposure to forestry results in a continuing need for education on basic forest ecology and management. One of the key challenges in programming for family forest owners is to make complex ecological and biological concepts accessible to them in forms they can readily apply on the ground. This is especially important with growing concerns about climate change. With a better working knowledge of forest ecology, silviculture, and related forest management techniques, family forest owners can sustainably produce more wood fiber and simultaneously improve forest health and growth, wildlife habitat, and other values.

Loggers

If loggers understand the "spirit of the law" within forest practice act regulations, they can often modify their practices to reach forest management goals even more effectively. That is particularly critical, since increasing use of mechanized harvesting tools gives loggers more responsibility in the woods. Also, since most loggers work on many forest properties in a year, they have contact with multiple forest owners, and provide another vehicle to communicate with more family forest owners.

The more loggers know about forest management, the better they can communicate with forest owners, foresters, and others involved in managing forest resources. Participating in education programs can simultaneously improve the demand for their services, and document their commitment to forest stewardship.

Natural Resource Professionals

The Society of American Foresters and the Association of Consulting Foresters have credential programs that require continuing education. Extension programs for family forest owners are increasingly being developed in ways to simultaneously meet the needs of natural resource professionals who work with them (and on public and industrial lands as well). There is a diverse array of professionals working on Wildland Urban Interface or "WUI" issues. Natural resource professionals' participation in Extension programs helps them maintain their credentials and improves their skills in managing forests and other natural resources for a variety of benefits.

2. Ultimate goal(s) of this Program

Ultimately, the goal of extension programming in this topic team is to improve the skills of family forest owners, loggers, and natural resource professionals so they can improve the quality of forest management and sustain the full spectrum of benefits that that society values from forests.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	2.4	0.0	1.5	0.0
2013	2.4	0.0	1.5	0.0
2014	2.4	0.0	1.5	0.0
2015	2.4	0.0	1.5	0.0
2016	2.4	0.0	1.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Family Forest Owners:

- Forestry Shortcourse (18 hours - 2-3 times annually)
- Idaho Master Forest Stewards (70 hours - first set of volunteers in 2010).
- Current Topics in Forest Health (5 hours - twice annually)
- Measuring your trees (6 hours twice annually)
- An Introduction to Conservation Easements (3 hours - 1-2 times annually)
- Landscaping for Fire Prevention (2 hours- once annually)
- Backyard Forests (2 hours - once annually)
- Private Forest Landowners Workshop (14 hours - once annually)
- Thinning and Pruning Field Day (7 hours - 1-2 times annually)
- Forest Insects & Disease Field Day (7 hours - twice annually)
- Pruning for White Pine Blister Rust (7 hours - once every other year)
- Managing Forest Organic Debris (7 hours - once annually)
- Using your GPS (7 hours - five times annually)
- Woodland NOTES (two 4-page issues, 10,000 households)
- Articles in Farm Bureau Gem State Producer (10 articles - 15,000 households)
- Articles in Farm Bureau Quarterly (4 articles - 61,000 households)

- HomeWise (newspaper column distributed to 59 daily and weekly newspapers in Idaho, plus numerous radio and TV stations).
- Articles in Lewiston Morning Tribune (28, 000 households)
- Managing Organic Debris & Slash (publication)
- Forest Water Quality/BMP (publication)
- Reforesting Marginal Farmlands (publication)
- An Assessment of Dike Riparian Vegetation on the Northern Idaho Reaches of the Kootenai River (publication)
- Maples. Alternative Tree Crop Series No. 8, Idaho Forest, Wildlife and Range Experiment Station, Moscow, ID. (Publication)
- UI Extension Forestry web site (3,000 hits annually)
- Pilot web-based learning module on forest management planning

Loggers:

- Logger Education to Advance Professionalism (20 hours - twice annually)
- LEAP Update (8 hours 5-6 times annually)

Natural Resource Professionals:

- Family Foresters Workshop (6 hours - once annually)
- Clearwater Area Educators Forestry Tour (20 hours - once annually)
- Clearwater County 6th grade forestry Tour (24 hours - once annually)
- Publications, posters and other media in journals and other venues targeted to natural resource professionals.
- Presentations at natural resource workshops and conferences.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● TV Media Programs
● One-on-One Intervention	● Web sites
● Demonstrations	● Other 1 (e-mail)

3. Description of targeted audience

The primary audiences for this topic team are family forest owners, loggers and natural resource professionals. They have been discussed in detail in earlier sections of this document.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	600	15000	50	200
2013	6000	15000	50	200
2014	600	15000	50	200
2015	600	15000	50	200
2016	600	15000	50	200

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	2	2
2013	0	2	2
2014	0	2	2
2015	0	2	2
2016	0	2	2

V(H). State Defined Outputs

1. Output Target

- Number of workshops, field days, etc.

  2012:30 **2013:**30 **2014:**30 **2015:**30 **2016:**30

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

  2012:600 **2013:**600 **2014:**600 **2015:**600 **2016:**600

- Number of articles in popular and trade press.

  2012:15 **2013:**15 **2014:**15 **2015:**15 **2016:**15

- Number of web site "hits".

  2012:3000 **2013:**3000 **2014:**3000 **2015:**3000 **2016:**3000

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

  2012:2000 **2013:**2000 **2014:**2000 **2015:**2000 **2016:**2000

V(I). State Defined Outcome

O. No	Outcome Name
1	O: Family forest owners manage resources to achieve healthy, sustainable forests.I: Numbers of family forest owners indicating they will adopt recommended practices (e.g., monitor for insect, disease, or animal damage; thin forest trees; complete a forest management plan; etc.).
2	O: Family forest owners' understand issues and practices related to forest ecology, silviculture, and forest management.I: Number of family forest owners participating in educational programs who report an increase in awareness and knowledge of specific forest ecology, silviculture, and forest management issues.
3	O: Loggers operate using recommended 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 practices.
4	O: Loggers possess credentials required by forest industry to conduct business.I: Number of loggers who complete continuing education requirements.
5	O: Foresters and other natural resource professionals have knowledge consistent with current scientific understanding and emerging technologies.I: Number of natural resource professionals demonstrating increase in knowledge related to specific forest science and technology topics.
6	O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.
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 Target

O: Family forest owners manage resources to achieve healthy, sustainable forests.I: Numbers of family forest owners indicating they will adopt recommended practices (e.g., monitor for insect, disease, or animal damage; thin forest trees; complete a forest management plan; etc.).

2. Outcome Type : Change in Action Outcome Measure

2012:300	**2013:**300	**2014:**300	**2015:**300	**2016:**300

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

O: Family forest owners' understand issues and practices related to forest ecology, silviculture, and forest management.I: Number of family forest owners participating in educational programs who report an increase in awareness and knowledge of specific forest ecology, silviculture, and forest management issues.

2. Outcome Type : Change in Condition Outcome Measure

2012:300	**2013:**300	**2014:**300	**2015:**300	**2016:**300

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 132 - Weather and Climate
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

O: Loggers operate using recommended 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 practices.

2. Outcome Type : Change in Condition Outcome Measure

2012:230	**2013:**230	**2014:**230	**2015:**230	**2016:**230

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:250	**2013:**250	**2014:**250	**2015:**250	**2016:**250

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:150	**2013:**150	**2014:**150	**2015:**150	**2016:**150

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 132 - Weather and Climate
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:0	**2013:**0	**2014:**0	**2015:**0	**2016:**0

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Research

Outcome # 7

1. Outcome Target

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. Outcome Type : Change in Action Outcome Measure

2012:0	**2013:**0	**2014:**0	**2015:**0	**2016:**0

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 213 - Weeds Affecting Plants

- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

New threats that threaten forest health (e.g., an insect or disease epidemic) could shift the emphasis of this topic team. Continued receipt of grant funds from the Idaho Forest Stewardship program is also essential to the completion of many of the programs described in this plan. Continued or increased funding from the Renewable Resources Extension Act (RREA) funding is also critical to several activities described in this plan.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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

Description

Nearly all the programs described in this document feature some type of exit evaluation that collects data on forest acres owned or managed, previous participation in specific forestry education or assistance programs, whether they plan to implement improved management practices as a result of attending the program, a retrospective rating of their knowledge of the program material before and after the program, and topics they recommended for future programs. Forest stewardship programs and their effectiveness are also evaluated informally by the Idaho Forest Stewardship Advisory Committee and the Idaho Forest Owners Association. Idaho Master Forest Stewards are also becoming an important evaluation voice.

By 2012, we will finalize the results of a survey of over 450 people who attended the Forestry Shortcourse from 1992 to 2005. The program consists of six 3-hour sessions designed to coach forest owners in the development of a forest management plan for their property, through training on forest ecology, silviculture, wildlife habitat, forest management planning, and related topics. Participants were

asked a variety of questions. In particular they were asked about their implementation of a variety of improved forest management practices and the degree to which they shared this information with other forest owners. The results of this survey should be transferrable to later participants in this program as well. Additional evaluation of the effectiveness of logger education programs will come from annual meetings with the Idaho Association of Logging Contractors (ALC), Idaho Department of Lands Forest Practice Advisors, The Idaho Sustainable Forestry Initiative State Implementation Committee, and the Idaho Statewide Logger Education Committee. We may seek funding to do a formal evaluation of the long term impacts of the LEAP program as well. Idaho Master Forest stewards complete a 148 item pre-post test as part of their training and will be surveyed as to their experiences with the program in 2011.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Observation
- Tests

Description

Family Forest Owners

Stakeholder input for family forest owners is from exit evaluations of previous programs, Idaho Master Forest Stewards, from the Idaho Forest Stewardship Advisory Committee, and meetings. The most recent meeting with the IFOA was held in November, 2005 (see results in notes section of this document) Some of the needs identified by the IFOA may be outside the purview of Extension programs to impact meaningfully (e.g., creating new markets). Others are addressed by existing programs that will be continued. We will likely meet again with the IFOA to do similar needs assessment during the next 6 years. Needs assessment for Extension efforts with family forest owners is supplemented by comments from exit evaluations. Direction for these programs is also solicited from County Commissioners. In 2011 we will complete the results of six focus groups held with Idaho Family forest owners regarding their needs for education related to climate change.

Loggers

The primary source for needs assessment for logger education is with the Associated Logging Contractors of Idaho, which meets annually. They support the continuation of LEAP, and provide annual guidance on content for LEAP Update programs and other Extension programs. Needs assessment for loggers has also been provided by the Idaho Logger Education Steering Committee, which meets twice annually. They have indicated they want to see us continue to offer LEAP and allied programs. The Idaho State Implementation Committee for the Sustainable Forestry Initiative also provides input to Extension programs for loggers and family forest owners. They have supported the continuation of LEAP and allied programs as well. Needs assessment for Extension efforts with loggers is supplemented by comments from exit evaluations.

Natural Resource Professionals

Needs assessment for Extension efforts with natural resource professionals and been primarily from direct interaction with those professionals. These efforts are supplemented by comments from exit evaluations of annual programs targeted to this audience, such as the Family Foresters Workshop. Additional input is from various groups that have a stake in specific programs.

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Global Food Security and Hunger: Health & Human Nutrition

2. Brief summary about Planned Program

Seventeen Family & Consumer Science extension faculty contributed to the 2012 Health and Nutrition five-year Plan of Work which contains adult and youth classes that will be conducted within four projects: (1) Targeting Low-Income and Underserved Audience, (2) Healthy Lifestyles, (3) Nutrition and Chronic Disease, and (4) Miscellaneous Nutrition and Health Topics. Targeting low-income and underserved audience will include individuals who participate in the Expanded Food and Nutrition Education Program, the Extension Nutrition Program and the Senior Extension Nutrition Program. The Healthy Lifestyles project focuses on nutrition and/or physical activity classes that include: Meal TIme In Less Time, Seafood At Its Best, Steps To A New You, Dietary Guidelines for Americans, MyPyramid, Fitr and Fall Proof, Kick Your Bootcamp, Strength and Balance, Strong Women Stay Young, Balanced Living, and Food preparation classes. The Nutrition and Chronic Disease project focuses on programs that target diabetes and osteoporosis. These classes include: The Healthy Diabetes Plate, Eating Healthy with Diabetes, Osteoporosis Prevention and Disease, Got Calcium?, and Strong Women Strong Bones. The Miscellaneous Nutrition and Health topics includes single classes on a nutrition or health topic.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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%		5%	
311	Animal Diseases	0%		15%	
313	Internal Parasites in Animals	0%		5%	
701	Nutrient Composition of Food	10%		0%	
703	Nutrition Education and Behavior	30%		15%	
704	Nutrition and Hunger in the Population	20%		0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%		10%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		15%	
723	Hazards to Human Health and Safety	10%		15%	
724	Healthy Lifestyle	30%		10%	
903	Communication, Education, and Information Delivery	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Over 20 years of research has shown that individuals who follow a healthy diet and are physically active are less likely to develop chronic diseases such as heart disease and diabetes. Unfortunately fewer Americans are following these recommendations and the incidence of heart disease, diabetes, osteoporosis, and other chronic diseases has increased. University of Idaho Extension programs are focused on national nutrition and health-related issues that include poor eating habits, sedentary lifestyle, overweight/obesity, osteoporosis prevention, and diabetes.

The priorities for the Health and Nutrition Topic Team are to:

- Increase awareness of health and nutrition programs available to adult and youth Idahoans.
- Teach adults and youth how to incorporate a healthy lifestyle by eating healthy and being physically active.
- Teach adults how to control or prevent diabetes and osteoporosis.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

• If adults complete a series of classes that contain nutrition and physical activity messages, they will increase their knowledge and use this knowledge to improve their eating habits and level of physical activity.
• If adults and youth complete a single class on nutrition or physical activity, they will increase their awareness and/or knowledge of the topic.
• If adults attend a physical activity class, they will learn the benefits of physial activity and become more physically active.

2. Ultimate goal(s) of this Program

Short-term goals include changes in knowledge, attitude, motivation and awareness.

• Changes in nutrition knowledge will be measured in youth who complete a series of nutrition classes that cover fruits and vegetables, whole grains, and low-fat dairy proudcts.
• Awareness will be measured by number of participants that attend classes in all the projects.

Medium-term goals include changes in behavior.

• Changes in nutrition behaviors will be measured in: youth who complete a series of nutrition classes that cover fruits and vegetables, whole grains, and low-fat dairy products.
• Changes in physical activity behaviors will be measured in women who complete a six-week resistance training program.

MMBB and FST: This component of the Topic Team will focus on basic and applied research. The ultimate goals center on obtaining increased knowledge of the molecular and cellular basis of diseases, including but not limited to, the interactions of microbes, their products, and other molecules with humans. Ultimately, this work will lead to new vaccines and therapies for diseases under investigation.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890

Year	Extension		Research	
	1862	1890	1862	1890
2012	6.5	0.0	6.0	0.0
2013	6.5	0.0	6.0	0.0
2014	6.5	0.0	6.0	0.0
2015	6.5	0.0	6.0	0.0
2016	6.5	0.0	6.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• In the Low-Income and Underserved Audience project, EFNEP, ENP, and SENP will conduct nutrition, food safety, and food resource management classes in 37counties to approximately 9705 adults and 21,780 youth contacts.
• In the Nutrition and Chronic Disease project, classes on diabetes and osteoporosis prevention and treatment will be conducted to 400 adults.
• In the Healthy Lifestyles project, classes will be conducted to approximately 3,100 adults and 2,550 youth.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations	● Public Service Announcement ● Billboards ● Newsletters ● TV Media Programs ● Web sites ● Other 1 (brochures)

3. Description of targeted audience

The target audience varies by program. For the program targeting low-income and underserved audience, the UI Extension reaches these individuals in 35 counties through three programs - the Expanded Food and Nutrition Education Program (EFNEP), the Extension Nutrition Program (ENP) and the Senior Extension Nutrition Program (SENP). EFNEP and ENP, funded through USDA, target mainly adults and youth while the SENP, funded through the Area Agency on Aging (AAA), targets seniors at high-nutritional risk and most of them are low-income or vulnerable. The target audience for the Nutrition and Chronic Disease program includes those interested in learning how to manage or prevent type 2 diabetes and osteoporosis. The target audience for the diabetes classes includes adults with type 2 diabetes, pre-diabetes, or caregivers. The target audience for the osteoporosis classes includes adults with osteoporosis, osteopenia, or those who have a history of these diseases in their family and youth

whose bones are still growing and developing. The target audience for the Healthy Lifestyles program includes adult and youth who have poor nutritional habits, are inactive, are overweight or obese and have difficulty managing stress.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	13000	40000	24000	50000
2013	13000	40000	24000	50000
2014	13000	40000	24000	50000
2015	13000	40000	24000	50000
2016	13000	40000	24000	50000

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	1	2
2013	0	0	0
2014	1	0	1
2015	0	0	0
2016	2	1	3

V(H). State Defined Outputs

1. Output Target

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

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

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

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

V(I). State Defined Outcome

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

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:250	**2013:**250	**2014:**250	**2015:**300	**2016:**350

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:3500	**2013:**3500	**2014:**3500	**2015:**3500	**2016:**3500

3. Associated Knowledge Area(s)

- 701 - Nutrient Composition of Food
- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:450	**2013:**450	**2014:**450	**2015:**450	**2016:**450

3. Associated Knowledge Area(s)

- 701 - Nutrient Composition of Food
- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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. Outcome Type : Change in Action Outcome Measure

2012:1	**2013:**2	**2014:**1	**2015:**2	**2016:**0

3. Associated Knowledge Area(s)

- 206 - Basic Plant Biology
- 301 - Reproductive Performance of Animals
- 311 - Animal Diseases
- 313 - Internal Parasites in Animals
- 701 - Nutrient Composition of Food
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 722 - Zoonotic Diseases and Parasites Affecting Humans
- 723 - Hazards to Human Health and Safety

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

External factors that could affect the success of the Health and NutritionTopic Team include the economy (State and National) and changing demographics. Due to the economic downturn at the state level, the slow recovery, and the cutbacks that have occurred at the University of Idaho, through furloughs and layoffs which could result in a decrease in the number of FCS Extension Educators available to deliver nutrition and health programs throughout the state. Nationally, the U.S. government could decrease funding to our programs that target low-income and under served audiences, resulting in a decrease in the size of our programs funded by USDA (EFNEP, ENP), and the Area Agency on Aging. With the increase in Hispanic Population and more refugees coming into Idaho, Extension programs must reach out to these individuals and develop culturally appropriate materials.

V(K). 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)

Description

ENP uses four evaluation tools:

• Adult evaluation tool: A planned behavior survey adults complete at the end of each dietary quality class that has participants determine which nutrition behavior they will implement as a result of attending a class.
• Adult evaluation tool: A follow-up Retrospective Nutrition/Eating Behavior Survey that adults complete one month after attending a MyPyramid class to monitor if they have changed their intake of fruits, vegetables, whole grains, and low-fat dairy.
• Youth evaluation tool: Pre and post surveys that measure changes in nutrition knowledge of fruits and vegetables, whole grains and low-fat dairy products.
• Youth evaluation tool: After only survey that measures changes in nutrition behaviors after completing three nutrition classes.

EFNEP uses three evaluation tools:

• Record the number of adult and youth participants, contacts, and classes taught.
• Adults complete a pre/post food recall survey that monitors changes in eating behaviors after completing six classes.
• A new youth evaluation tool is being developed to monitor changes in eating behaviors.

Strong Women resistance activity program uses three evaluation tools over a six week period:

• Strength training log to measure changes in arm and leg strength .

- Pre/Post survey to measure changes in ability to complete regular daily activities.
- Retrospective Nutrition survey to measure changes in fruit, vegetable, whole grain and low-fat dairy intake.

2. Data Collection Methods

- Sampling
- Mail
- On-Site

Description

Based on the Evaluation Method previously described, data will be collected on:

- Number of participants attending classes and demographic data (race, gender, ethnicity, etc).
- Eating behaviors in adults and youth.
- Nutrition knowledge in youth.
- Changes in Physical activity levels.

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

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

2. Brief summary about Planned Program

Environmental quality is an interdisciplinary program that seeks to put into practice new knowledge that supports profitable agricultural industries while protecting and enhancing the environment. Areas of emphasis include agricultural water conservation and water use efficiency, adaptation strategies for variable or changing climate, water quality protection from agricultural chemicals and from organic and inorganic nutrients, and protection of soil, air, and other natural resources from potentially degrading agricultural pursuits. Among the agricultural practices that are most relevant to protecting and enhancing environmental quality are irrigation, fertilization, management of manures and other agricultural wastes, and pest management practices.

3. Program existence : New (One year or less)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	10%		15%	
102	Soil, Plant, Water, Nutrient Relationships	10%		10%	
111	Conservation and Efficient Use of Water	10%		10%	
132	Weather and Climate	10%		0%	
133	Pollution Prevention and Mitigation	10%		10%	
205	Plant Management Systems	10%		10%	
307	Animal Management Systems	10%		10%	
312	External Parasites and Pests of Animals	0%		5%	
403	Waste Disposal, Recycling, and Reuse	10%		10%	
405	Drainage and Irrigation Systems and Facilities	10%		10%	
601	Economics of Agricultural Production and Farm Management	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Agriculture is the single most important economic sector in Idaho. Dairy production currently stands as the single largest agricultural pursuit, followed in close order by beef production and then by a diverse array of irrigated crops including potatoes, sugarbeets, small grains and many others. In order to be profitable, agricultural enterprises need to balance the costs for irrigation, fertility management, pest management, and waste management with the potential to increase productivity. At the same time, growers need to avoid adverse impacts to soil, water and air resources if they are to remain socially and environmentally sustainable. The role of University of Idaho Extension is to help identify, create and teach growers about best practices that lead to profitable, sustainable agricultural production.

Much of Idaho agriculture depends on an abundant, inexpensive supply of water. The source for much of the water available for agricultural is winter snowpack. Even where groundwater is the primary source for water, the level of snowpack influences the rate of recharge for those aquifers that are pumped to support crop and animal agriculture. In times of uncertain climate change, there is much to learn about how to adapt to variable, changing and unpredictable levels of annual snowpack. Adaptative measures may include deficit irrigation, changes to the distribution of water allocated to different crops based on their consumptive use characteristics and crop value, selection of different or additional crops suitable for different climates, and development of efficient markets for transferring water from one place, time, and/or water-rights holder to another.

Throughout the decade of the 2000s, Idaho was elevated to one of the fastest growing States in the US. This growth largely occurred in urban areas and can be translated into competing demands for a variety of natural resources, including water. During that same period, the US Department of Agriculture and US Environmental Protection Agency collaborated to identify surface water and groundwater resources with impaired water quality, and to prioritize projects and financial resources to help mitigate those problems . Although not all water quality concerns in Idaho have agricultural origins, many that are related to agriculture are associated with high nutrient loads, primarily nitrogen and phosphorus. Recent regulatory decisions made by EPA, indicate that pesticide use and potential contamination to ground and surface waters is a major concern. The use of pesticides is a pest management tool for commercial producers, and important to their economic well-being. Therefore, educational efforts on the safe and efficient use of pesticides to help prevent water contamination are necessary.

The current dairy herd in Idaho, which stands at 550,000 head, excretes an estimated 80,300 tons of nitrogen and 13,800 tons of phosphorus each year as manure. This significant supply of nutrients can be beneficial as an inexpensive and soil building alternative to chemical fertilizers, but can also degrade water quality by causing health problems (blue baby syndrome and stomach cancer from nitrates) and by triggering eutrophication in waterways (algal blooms, oxygen deprivation, and fish suffocation).

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Both water quality and water quantity will continue to be issues that not only impact human health and safety within the state but are key to the future of economic development. We assume that adequate funding, from NIFA and other government sources, will continue for water conservation, environmental quality, and IPM programs at the Land Grant Universities. We also assume that USDA Farm Bill incentives will continue for water quality protection, pest management, nutrient management, and environmental quality programs.

Successful outcomes resulting from educational programs assume that:

Producers will be willing to adopt new practices

- They will be motivated by potential increases in financial returns
- Less fertilizer will be used more efficiently
- Environmental Quality Incentive Program (EQIP) certification continues
- Fewer fines are levied against dairies because of increased compliance
- Reliance on innovative and progressive producers to set new standards
- Dissemination efforts will reach the people that need the information the most

2. Ultimate goal(s) of this Program

The ultimate goal of the Soil, Water, Waste and Air Management program is to support a robust and profitable agricultural industry that is in harmony with a high quality environment and with the needs and expectations of a rapidly increasing population. This will be accomplished through an integrated approach to research and education about efficient and effective use of agricultural water, integrated pest management strategies, best management practices for pesticide applications, best practices for nutrient and waste management, and related topics that impact soil, air, and water resources.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	5.0	0.0	7.0	0.0
2013	5.0	0.0	7.0	0.0
2014	5.0	0.0	7.0	0.0
2015	5.0	0.0	7.0	0.0
2016	5.0	0.0	7.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Demonstrations and trials

- Air monitoring and manure application with drag hoses
- Phosphorus uptake on corn from manure and non-manured soils
- Water quality of runoff from manured and nonmanured fields
- Conservation tillage and nitrogen mineralization
- Manure application and soil electrical conductivity
- Complete and implement OnePlan IPM planning tool

Education

- Deliver composting school for homeowners and small ag producers
- Sustainability for youth - education on composting, recycling and energy
- Website on nutrient management in south Idaho
- Transferring Idaho nutrient management information to www.eXtension.org
- Developing and leading Master Gardener classes on soils and fertilizers
- Idaho Master Composter and Recycler Program
- Recycling at county fair
- Pesticide Safety Education classes, statewide. Initial license and license recerticification
- Training for NRCS and Soil Conservation District staff on use of OnePlan IPM planning tool

Publications and communications

- Fertilizer guide for peppermint

- Fertilizer guide for triticale
- Compost/manure publications
- Nutrient Digest Newsletter
- Popular press articles
- Conference Proceedings
- Extension publications on OnePlan IPM planning tool
- PNWWATER UPDATES
- internet transmission using our web site (pnwwaterweb.com),
- public service announcements
- satellite broadcast, regional research and extension conferences,
- Research findings will be presented in referred scientific journals, at professional scientific meetings, in PNWWATER UPDATES, and on appropriate web sites.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● One-on-One Intervention ● Demonstrations	● Newsletters ● Web sites

3. Description of targeted audience

- Producers and Processors provide input and feedback about programs, cooperate on demonstration trials and research, and participate in educational programs
- Professional Consultants provide input and feedback about programs, cooperate on demonstration trials and research, and participate in educational programs.
- The public affected by Nutrient and Waste Management (NWM) issues provide input and feedback about programs and participate in educational programs.
- Local and/or state officials who either develop or implement rules and regulations related to nutrient management.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	15000	0	800	0
2013	15000	0	800	0
2014	15000	0	800	0
2015	15000	0	800	0

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2016	15000	0	800	0

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	4	10	14
2013	4	10	14
2014	4	10	14
2015	4	10	14
2016	4	10	14

V(H). State Defined Outputs

1. Output Target

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

  2012:40 **2013:**40 **2014:**40 **2015:**40 **2016:**40

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

  2012:37 **2013:**37 **2014:**37 **2015:**37 **2016:**37

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

  2012:18 **2013:**18 **2014:**18 **2015:**18 **2016:**18

- Tours and Field Days

  2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**10

- Research and demonstration projects

  2012:30 **2013:**30 **2014:**30 **2015:**30 **2016:**30

- Professional development credits awarded for participation in courses

  2012:40 **2013:**40 **2014:**40 **2015:**40 **2016:**40

V(I). State Defined Outcome

O. No	Outcome Name
1	Growers use best practices for water, pesticide, nutrient, or waste management. I: Number of program participants indicating adoption of recommended practices (follow-up survey data) or indicating intention to adopt recommended practices (post-program questionnaire)
2	Producers are aware of issues and knowledgeable of practices that affect the environmental and economic sustainability of crop production. I: Percent of participants reporting that their knowledge had been increased because of their participation in program.
3	Producers are better able to manage pests, nutrients, waste, irrigation systems while protecting water, air, and-or soil resources. I: Number of pest management, nutrient management, waste management, irrigation management plans written with producers.

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:60	**2013:**60	**2014:**60	**2015:**60	**2016:**60

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 205 - Plant Management Systems
- 307 - Animal Management Systems
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:25	**2013:**25	**2014:**25	**2015:**25	**2016:**25

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water

- 132 - Weather and Climate
- 133 - Pollution Prevention and Mitigation
- 205 - Plant Management Systems
- 307 - Animal Management Systems
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:25	**2013:**25	**2014:**25	**2015:**25	**2016:**25

3. Associated Knowledge Area(s)

- 101 - Appraisal of Soil Resources
- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 133 - Pollution Prevention and Mitigation
- 205 - Plant Management Systems
- 307 - Animal Management Systems
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The plan of work we are submitting is based on conditions in 2010. None of the team members is 100 percent certain how long these conditions will exist in the future. For example, we do not know how the rapidly changing demographics in Idaho will impact the environmental, economic, and social aspects of the Sustainable Production and Pest Management Systems addressed by this plan of work. We do not know when State/Congressional priorities will change and therefore affect the funding levels needed to carry out these programs, or if continuing climate changes will cause changes in commodities that can be profitably produced.

V(K). 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
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description

The effectiveness of the water and environment topic team will be evaluated with the use of several different evaluation instruments.

- Pre and Post tests will be used to evaluate program impact
- Survey instruments (both electronic and paper format) will be used to evaluate impact on program participants
- Number of visits by participants to our program websites will be tracked over time
- Number of growers adopting practices taught in programs, and acres represented by those growers will be tracked over time

2. Data Collection Methods

- Sampling
- On-Site
- Unstructured
- Case Study
- Observation
- Tests

- Journals

Description

The effectiveness of the soil, water, waste and air topic team will be evaluated with the use of several different evaluation instruments.

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Global Food Security and Hunger: Potatoes

2. Brief summary about Planned Program

Potatoes are the single largest crop produced in Idaho in terms of gross revenue, and are grown in rotation with small grains, sugar beets, alfalfa, corn, and other crops. It is essential that growers have access to information regarding best management practices for successful implementation of an integrated systems approach to potato production. The efficiency of such an approach not only impacts potato yield, quality, and revenue; but also affects the environment in relation to soil and water quality and nutrient cycling. Educating growers and those who advise them as to systems and technologies that are more efficient is beneficial to the Idaho agricultural community, as well as the general public. Based on stakeholder input from local and statewide industry/grower advisory groups, we are focused on developing an economically and environmentally sustainable potato industry by developing programs that include basic and applied research that is communicated to the potato industry through demonstrations, seminars and workshops at conferences and grower meetings, as well as through print and electronic media.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%		10%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		10%	
202	Plant Genetic Resources	10%		10%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	10%		10%	
205	Plant Management Systems	20%		10%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	10%		10%	
503	Quality Maintenance in Storing and Marketing Food Products	10%		10%	
603	Market Economics	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The Idaho potato industry has changed dramatically in the last many years, and continues to change at a rapid rate. These changes include adapting to changing consumer preferences such as providing different varieties. Producers are also faced with adopting newer production practices that lead to better utilization of resources. Conventional pesticides remain an integral part of managing diseases, weeds, insects, and other pests in potatoes, but food safety and environmental concerns must be taken into consideration. Producers need to adopt production practices that lead to a quality product that is acceptable to the end users.

Short term issues: Potato producers and others in the potato industry need to be continually updated on information that is immediately needed, or information that is needed in general to produce a quality potato crop. Growers need information on managing crops in short water years. They also require timely information on the monitoring of and control of new pests or outbreaks of known pests. Input costs, such as fuel and fertilizer and crop protection products are rising dramatically making it difficult to keep production costs down. The potato industry also faces the potential loss of sprout inhibitors and other crop protection products due to regulation and/or pest resistance issues.

Intermediate issues: Pest management strategies must be modified and/or developed so they are sustainable within the context of limited crop choices and against the backdrop of increasing financial and production risks.

Long-term issues: Cost of production efficiencies requires that the potato industry adopt technologies that permit growers to remain competitive and profitable. However, current varieties require high levels of inputs, which reduce potential return to the grower and increases the possibility of negative impacts on the environment. New varieties need to be well adapted to production practices and must maintain quality in long term storage. Additionally, production practices must be continually evaluated and possibly modified to incorporate new varieties that have demonstrated potential to provide growers with positive returns. Short potato rotations that rely on pest protection products have the potential of increasing pest problems. Increasing competition for water from non-agricultural users will mandate better use of water supplies. Public opinion about the health risks posed by pesticide residues makes food crops like potatoes increasingly vulnerable to shifting consumer demands. The Idaho Department of Environmental Quality has identified regional "areas-of-concern" where monitoring suggests the possibility of agricultural pesticide movement into aquifers. Pesticides can be a significant portion of potato production costs, and loss of pesticides resulting from the Food Quality Protection Act and replacement with more expensive alternatives will further constrain profits. These input cost concerns are compounded by potential pesticide resistance developing in most pests of potatoes. The continued availability of high quality, productive seed potatoes is also crucial.

Plant Germplasm, Genetic Resources and Conservation, Plant Health and Well Being:

UI researchers focus on identifying and manipulating plant germplasm to improve crop plant performance and the production of seed and other plant products.It is also their goal to develop economical, biological and socially compatible crop management strategies that increase production efficiency. Research in this area is conducted in close cooperation with input from relevant commodity groups including the Idaho Wheat Commission, Idaho Barley Commission, and others. This research is also planned and conducted with the cooperation of university researchers in Oregon and Washington as well as ARS researchers in the three- state region in accordance with our long-standing Tri-State Agreement.

Crop Production Systems:

This research emphasis is to develop marketing alternatives, and product quality and consistency, to meet the consumer's demands.It is also our goal to decrease the loss of natural resources (e.g. soil and water) and agricultural inputs (e.g. chemicals) by Idaho food producers.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The potato industry continues to have new challenges that influence how the entire industry conducts business. These challenges range from changing consumer preferences, new pests affecting production, cultural management issues, food safety issues, environmental concerns, pests developing resistance to control measures, and other issues. To meet the concerns and challenges faced particularly by potato producers requires the continual development of new technology and dissemination of information to

alleviate detrimental consequences to the potato industry as a whole. Efforts in the potato program are designed to develop new information as needed to maintain a profitable and sustainable potato industry in Idaho, which is believed to be wanted by the potato industry. To maintain a sustainable industry, potato producers and others need to adopt new information and technology. The information and new technology will be delivered to those needing the information through various transfer methods such as conferences, websites, or written media. Developing new technology and delivering the information to the potato industry requires investment of time and money from various sources including public and private entities. This plan addresses issues and concerns, but adoption of the new technology or new/modified management strategies is beyond the scope of this plan. Innovative and progressive producers that are willing to incorporate new technologies will be required for their adoption by the rest of the industry. Evaluating the effectiveness of the plan can be addressed by evaluating case studies.

2. Ultimate goal(s) of this Program

It is the goal of the potato team to deliver essential information to growers regarding best management practices for an integrated potato cropping system. The efficiency of this system not only impacts potato yield, quality, and revenue; but also affects soil and water environments and nutrient cycling. The potato team's main focus is to create an economically and environmentally sustainable potato industry by developing programs that include basic and applied research that is communicated to the potato industry through demonstrations, seminars and workshops at conferences and grower meetings, and also disseminated through print and electronic media.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	4.5	0.0	11.0	0.0
2013	4.5	0.0	11.0	0.0
2014	4.5	0.0	11.0	0.0
2015	4.5	0.0	11.0	0.0
2016	4.5	0.0	11.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Based on stakeholder input, field and laboratory research will be conducted to investigate possible solutions to the challenges faced by the potato industry. Information obtained from this research will be disseminated via newsletters, trade publication articles, newspaper articles and extension bulletins. Face to face information dissemination will occur via seminars, workshops, one on one consultations and field days. When appropriate, information will also be presented in refereed scientific journals and presented at professional scientific meetings. Information will also be posted on web sites and shared via email in response to individual inquiries.

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

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

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	6000	150000	30	130
2013	6000	150000	30	130
2014	6000	150000	30	130
2015	6000	150000	30	130
2016	6000	150000	30	130

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

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	7	14	22
2013	6	5	21
2014	7	15	22
2015	8	5	8

Year	Research Target	Extension Target	Total
2016	6	5	0

V(H). State Defined Outputs

1. Output Target

- Seminars, workshops, field day presentations.

2012:35 **2013:**35 **2014:**35 **2015:**35 **2016:**35

- Trade Journal Articles.

2012:15 **2013:**15 **2014:**15 **2015:**15 **2016:**15

- Field Days.

2012:4 **2013:**4 **2014:**4 **2015:**4 **2016:**4

- Individual Consultations.

2012:150 **2013:**150 **2014:**150 **2015:**150 **2016:**150

- Graduate Students.

2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Workshops conducted.

2012:6 **2013:**6 **2014:**6 **2015:**6 **2016:**6

- Email Information Dissemination.

2012:120 **2013:**120 **2014:**110 **2015:**120 **2016:**120

V(I). State Defined Outcome

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

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2012:110	**2013:**110	**2014:**110	**2015:**110	**2016:**110

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 212 - Pathogens and Nematodes Affecting Plants
- 216 - Integrated Pest Management Systems
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 603 - Market Economics

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:400	**2013:**400	**2014:**400	**2015:**400	**2016:**400

3. Associated Knowledge Area(s)

- 212 - Pathogens and Nematodes Affecting Plants
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2012:160	**2013:**160	**2014:**160	**2015:**160	**2016:**160

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 212 - Pathogens and Nematodes Affecting Plants
- 216 - Integrated Pest Management Systems
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 603 - Market Economics

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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. Outcome Type : Change in Action Outcome Measure

2012:0	**2013:**0	**2014:**0	**2015:**0	**2016:**0

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 212 - Pathogens and Nematodes Affecting Plants
- 216 - Integrated Pest Management Systems

- 503 - Quality Maintenance in Storing and Marketing Food Products
- 603 - Market Economics

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Adoption of some new practices may include investment in equipment. Producers will not and cannot invest in new equipment if they do not have the money for the investment. Many factors outside the influence of this potato team play a significant role in the economic status of the potato industry. Adoption assessment measures may not necessarily be representative of the industry. Resistance to change, especially when livelihoods are at stake, can significantly affect adoption of new management techniques and the subsequent measurement of team outcomes.

V(K). 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)

Description

Evaluating the effectiveness of the potato team will be accomplished by conducting pre- post-tests, or collecting information from surveys. We will ask how many producers have attended a previous workshop on the same topic, and how many have adopted practices that were learned in a previous workshop. The surveys may be conducted by other entities if the information can be connected to the program being conducted. For example, the number of acres of a particular potato variety grown, or the use of a particular type of irrigation system.

2. Data Collection Methods

- Sampling
- Whole population

- On-Site
- Tests

Description

To determine the number of potato producers adopting practices, we will survey attendees at the annual Potato Conference held each January or at other appropriate meetings.Anecdotal information may be collected during on-farm visits or at other meetings discussing practices being adopted by producers in which the producer learned of the information developed by the potato team, and it was presented at a workshop or seminar, or the information was disseminated via written format.

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

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

2. Brief summary about Planned Program

Our team is providing for the educational and research needs in production and marketing of specialty crops of both traditional growers looking for a way to diversify and of small acreage landowners looking to make a living off their land, or to make their land productive, while preserving natural resources.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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%		25%	
111	Conservation and Efficient Use of Water	10%		10%	
202	Plant Genetic Resources	20%		25%	
205	Plant Management Systems	20%		25%	
212	Pathogens and Nematodes Affecting Plants	20%		10%	
604	Marketing and Distribution Practices	10%		5%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Much of Idaho's population growth has occurred in and around urban areas. Many of these newcomers are settling on small acreage parcels (5-40 acres), some with plans to start small farm enterprises.

There is an increasing demand for information for growers of specialty crops to help them remain profitable. Research and program delivery on production and marketing of specialty crops has the potential to serve many of our current and beginning farmers. In addition, these small-scale, high-value enterprises show potential to help in stabilizing and expanding income, particularly in struggling rural communities.

Also in recent years, prices of many Idaho commodity crops have remained stagnant or decreased while the costs of farm inputs have risen. Many Idaho farmers want to diversify their crops and/or their markets.

Many areas in Idaho are seeing an increase in the number of homeowners with acreages. These land parcels vary in size from ½ to 40 acres and provide a desired rural lifestyle. Often the homeowner wants to house horses, cattle, chickens or other livestock and possibly to raise a garden. These are for personal use rather than for monetary profit. Land ownership brings with it the challenges of pest animals and noxious weed problems.

Priorities of small acreage landowners are diverse. Newcomers often need help with basic land management information such as soils, water quality, weeds. Many of these acreage owners know little about land, crop, garden or livestock management and often seek help in management of their property. Consequently, demand for assistance in crop production, pasture management, forestry and weed management has increased.

Increasing urbanization, health consciousness, and needs of small landowners are combining to increase the popularity of home vegetable gardening, small truck farms, urban organic produce farms, and farmer's markets in Idaho. Among critical information needs are unbiased recommendations for variety selection to allow producers to take advantage of genetic potential found within crops. These trials must be designed to meet the informational needs of not only a diverse range of climates, but the heterogeneous types of situations demanded by consumption and market needs.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

If increased production and marketing of high value crops by local producers is the desired outcome then growers will need to seek information, invest in the land and equipment needed, and put forth the effort to grow and market the products. To do this the growers will need to learn what can be grown or produced and what is needed for production. Extension programs can provide this information through a small farm conference on small farming techniques and by individual consultation. The conference will require organization, speakers, and grant funds. Consultations will require time, expertise and written resources provided by extension educator.

If realization of owner goals for small acreages while maintaining or increasing the health of the environment is the desired outcome, then landowners will need to realize that they have a stewardship responsibility. They will also need to set goals and learn how to accomplish them while stewarding the health of their property. To do this, the landowners will need to learn how to set goals, what their restrictions are, and the technical information to accomplish the goals for their properties. Extension programs can provide this information through a Living on the Land or similar programs and by individual consultation. The programs will require organization, speakers, and grant funds. Consultations will require

time, expertise and written resources provided by extension educator.

If adoption of new specialty fruit and vegetable crop varieties appropriate to regional and local climatic situations will result in increased profits and agricultural success on small acreages, then growers will need to seek UI resources that provide the most current and scientifically tested variety recommendations. To do this producers will need to identify the UI as a source of valuable information and attend their field days and tours. Extension research and extension programs on specialty fruit and vegetable crops will conduct variety trials, conduct field days and recommend suggested varieties. The research and outreach will involve grant funding; UI faculty to conduct varietal selection and plot design layout: labor to plant, maintain and evaluate 2-5 + year trials of data; and organization of field demonstrations and tours.

2. Ultimate goal(s) of this Program

This team will provide the research and educational capacity and expertise to facilitate success of those who choose to operate a specialty crop or other farm business venture on a small acreage. We will teach these farmers and other landowners to manage their land to enhance or maintain their natural resources.

The project success will be evaluated by the number of people engaged in our program: including those who access materials, or attend courses, workshops or conferences. We will also evaluate effectiveness by measuring the practices adopted that indicate they are making progress to protect their natural resources and/or run successful businesses.

The results of our efforts will satisfy immediate educational needs of beginning farmers and landowners looking to protect their natural resources, and/or inititate (or enhance existing) farm related businesses. Over the long term, this will benefit a greater population in neighboring watersheds as water quality is improved. Land value will increase as soil is improved and weed problems are held at bay. Another segment of people looking to buy healthy food will benefit from the increased availability of local food products which are supporting local producers and processors and contributing to the local economic system to maintain strong viable communities.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	2.8	0.0	1.3	0.0
2013	2.8	0.0	1.3	0.0
2014	2.8	0.0	1.3	0.0
2015	2.8	0.0	1.3	0.0
2016	2.8	0.0	1.3	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Conferences

- Eastern district educators work with NE Utah colleagues on annual Ag diversity conference -1
- Small Farm conference in Northern district in 2012 - Sandpoint - 1

Classes

- Sustainable Small Farming and Ranching - 4
- Moscow/Lewiston, Sandpoint, Caldwell, Pocatello
- Agricultural Entrepreneurship
- Building Farmers in the West - Twin Falls (also under Farm & Ranch Mgmt) -**1**

Workshops

- Farmers Market workshops with ISDA (Bonner and Canyon) -2
- Crop Production oriented (IPM, soils) in Latah, Bonner, Canyon - 2
- Practical farming/gardening workshop - Canyon -1
- Workshops on Living on the Land topics - Boundary - 1

Short courses

- Open for Business! workshops in Moscow, Lapwai and Plummer (also under Community Economic Development) - 3
- 6 week poultry class - Canyon

Tours

- Living on the Land Alumni tour - Canyon
- Weed day tour - Bonner

Course development

- Online version of Sustainable Small farming and Ranching - Cinda/Ariel/Lydia

Publications

- Enterprise budgets: plan for 2012
- Bulletin: interpreting soil test results -
- CIS: Community Supported Ag. -
- Living on the Land Alumni newsletter

Websites

- Small farms website - update
- Cultivating Success website (multi-state with WSU)
- Develop materials for Year of ID Grown Food website

Other:

- One on one consultation with clientele annually
- Facilitating on-farm internships/mentorships /apprenticeships

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • One-on-One Intervention • Demonstrations • Other 1 (Field days, farm tours) • Other 2 (Conferences, consultations)	• Newsletters • TV Media Programs • Web sites • Other 1 (publications and press releases) • Other 2 (posters and brochures)

3. Description of targeted audience

Target Audiences

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

Underserved Audiences

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

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	2000	15000	50	200
2013	2000	15000	50	200
2014	2000	15000	50	200
2015	2000	15000	50	200
2016	2000	15000	50	200

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	0	1	1
2013	0	1	1
2014	0	1	1
2015	0	1	1
2016	0	1	1

V(H). State Defined Outputs

1. Output Target

- Small Farms Conference in northern Idaho.

  2012:1 **2013:**0 **2014:**0 **2015:**1 **2016:**0

- Small Acreage Farming Course.

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Ag Entrepreneurship/business planning Course.

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Living on the Land course.

  2012:2 **2013:**2 **2014:**2 **2015:**2 **2016:**2

- Living on the Land Tour.

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- Eastern Idaho/NE Utah Ag Diversity conference

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- Farmers Market workshop with ISDA

  2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

- five-year LOTL report

  2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**1

- Pasture management/livestock management workshop

  2012:2 **2013:**1 **2014:**1 **2015:**2 **2016:**1

- Specialty crops workshops

2012:1 **2013:**1 **2014:**1 **2015:**1 **2016:**1

V(I). State Defined Outcome

O. No	Outcome Name
1	O: Producers and landowners gain knowledge about natural resource management, sustainable farm production, marketing and/or business management principles and practices. I: Number of participants completing workshops, farm tours, short courses or in-depth courses such as Living on the Land, Stewardship of Small Acreages, Sustainable Small Acreage Farming or Agricultural Entrepreneurship.
2	O: Producers and landowners adopt recommended land management, production and/or marketing practices due to University of Idaho extension programming. I: Number of producers indicating they did (or intend to) adopt recommended land management, production and/or marketing practices after attending an educational class, workshop, one-on one contact or reading UI information.
3	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, workshops or at conferences.
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 Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:200	**2013:**200	**2014:**200	**2015:**200	**2016:**200

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 212 - Pathogens and Nematodes Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

O: Producers and landowners adopt recommended land management, production and/or marketing practices due to University of Idaho extension programming. I: Number of producers indicating they did (or intend to) adopt recommended land management, production and/or marketing practices after attending an educational class, workshop, one-on one contact or reading UI information.

2. Outcome Type : Change in Condition Outcome Measure

2012:20	**2013:**25	**2014:**25	**2015:**25	**2016:**30

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 212 - Pathogens and Nematodes Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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, workshops or at conferences.

2. Outcome Type : Change in Condition Outcome Measure

2012:4	**2013:**4	**2014:**4	**2015:**4	**2016:**4

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 212 - Pathogens and Nematodes Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

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. Outcome Type : Change in Action Outcome Measure

2012:0	**2013:**0	**2014:**0	**2015:**0	**2016:**0

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 212 - Pathogens and Nematodes Affecting Plants

4. Associated Institute Type(s)

- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Changing public priorities will influence our programs either positively or negatively. For example in the event of a food safety crisis in the national food supply, priority for the support of small farm and local food supplies will increase.

Economic conditions influence everything we do in extension but in particular with small farm food supply and niche marketing. If people don't have the level of disposable income that we have now the interest in high quality food at a slightly higher price may decrease.

Population changes such as increased growth in Idaho's urban areas will provide a never ending demand for natural resource protection of small acreage parcels of land.
.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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

Description

Team members will conduct pre and post test evaluations at all workshops and for in-depth courses. The pre and post test questions will be geared to measure awareness and/or knowledge gained as well as participants expected action plans or practices they intend to adopt because of new information gained through participation.

The Cultivating Success courses as well as the Living on the Land courses have evaluation plans that will include 6 month to one year later follow-up surveys and/or phone (or in person meetings) that will assess what practices have been adopted following participation in the course or workshop. The Direct marketing workshops funded through Western Risk Management Education Center also include this 6 month follow-up evaluation.

Team members conducting LOTL classes in Boise area, Magic Valley and Bonner County will plan to evaluate participants on some key issues that can be evaluated as a whole.

2. Data Collection Methods

- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Observation

- Tests

Description

We will use a variety of data collection methods:

- Pre and post testing for all the courses
- Follow-up surveys and/or phone interviews with course and conference participants (six months to one year later).
- Discussions - Meetings with alumni of courses to discuss practices adopted and future needs
- Observations - Individual visits or group tours to previous class participants' properties
- Post evaluation surveys or questionnaires following workshops, conferences, field days and tours

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Global Food Security and Hunger: Sugar Beets & Minor Crops

2. Brief summary about Planned Program

This planning document covers University of Idaho Research and Extension faculty working on sugarbeets and a number of minor crops including onions, alfalfa seed, hops, and other commercial crops. The subjects of the research and extension enterprises include soil nutrient management and other plant production practices, and a variety of pest management issues associated with sugarbeets and minor crops.

The specific priority issues we are addressing are:

- Economic viability - e.g. reduction in fertilizer, pesticide and labor inputs and pollinator management costs
- Environmental Sustainability - maximizing water use efficiency by using drip irrigation, maximizing nitrogen use efficiency by making more intensive use of soil and tissue testing, pesticide and fertilizer application through drip irrigation systems, evaluation of alternative pesticides and biologically based pest management options for key pests
- Biological Applicability - addressing agricultural production issues with a greater understanding of the fundamental interactions between management inputs, pest impacts, and plant responses
- Increased clientele access to research/extension information relating to crop production and pest management issues addressed.

3. Program existence : New (One year or less)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%		10%	
111	Conservation and Efficient Use of Water	5%		10%	
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		10%	
202	Plant Genetic Resources	10%		10%	
205	Plant Management Systems	20%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	15%		10%	
212	Pathogens and Nematodes Affecting Plants	15%		10%	
213	Weeds Affecting Plants	15%		10%	
215	Biological Control of Pests Affecting Plants	0%		5%	
216	Integrated Pest Management Systems	10%		5%	
402	Engineering Systems and Equipment	0%		5%	
511	New and Improved Non-Food Products and Processes	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Idaho ranks 2nd in the nation in sugar beet production and is a significant producer of dozens of other commercial crops. For sugar beets, many production problems result from short rotations and other cropping system factors that affect pest management, soil health and soil tilth. Increasing rates and frequencies of manure and compost applications to croplands present potential problems. Most growers excessively irrigate sugar beets. Periodically growers face inadequate water supplies. Over-irrigation leads to a) increased disease, b) excessive nutrient leaching and erosion, and c) lower yields. Growers are not taking advantage of current technology for soil moisture monitoring and irrigation scheduling.

The topic team addresses production and pest management issues needed to improve the economic and environmental sustainability of those minor crops that are already being commercially grown in Idaho, even if by only a few growers or on small acreages.

Idaho growers currently produce a variety of commercial crops including vegetable, fruit, seed and other crops that are located in specific areas of the state or on small acreages across a wider geographic region. These crops are sometimes called "minor crops" because they are produced on 300,000 acres or less on a national basis compared to the millions of acres dedicated to major crops such as corn, soybeans and wheat. Minor crops have established markets and political influence via grower associations and commodity commissions. They are not considered alternative crops because they have established

markets, a tradition of production in Idaho, and are often represented by established growers. Most of these crops produced in Idaho lack, individually, the critical mass of personnel, resources and political influence needed to generate and maintain research and extension programs aimed at improving their economic and biological sustainability.

A major issue in minor crop production is the efficacy and availability of pesticides. EPA and USDA have been working closely with minor crop growers and commodity groups to preserve critical uses of certain older pesticides while working with IR-4 to rapidly make available new reduced risk pesticides. While the impact of the 1996 Food Quality Protection Act (FQPA) is still unknown, some pesticides have been shown to have high levels of exposure to farm workers and applicators resulting in label restrictions for minor crops. Efficacy and phytotoxicity information is needed to augment information produced by IR-4 magnitude of residue studies. Mechanisms that enhance communication and collaboration among land grant universities, growers and organizations involved in minor crop production are needed to identify, prioritize and advance the critical research and extension needs of minor crop producers.

2. Scope of the Program

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

The crops being grown with our projects will still be grown by producers throughout the planning period.

- Acreages of sugar beets and minor crops will remain relatively stable over the next several years.
- Adoption of Roundup Ready sugar beets by growers will be very high.
- Pest management strategies will continue to evolve, as will pest management challenges.
- The adoption of Best Management Practices (BMP's) will result in reduced production costs, improved profit margin, increased sugar beet and minor crop acreage, and reduction in consolidation of farms.

2. Ultimate goal(s) of this Program

The adoption of best management practices by growers will maximize cost-effectiveness while minimizing environmental risks (e.g., to water quality through reduction of pesticide levels in ground and surface water bodies) as a result of increased IPM practice adoption, improved profitability, improved water use efficiency and increased efficacy of pesticides.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	4.0	0.0	6.5	0.0
2013	4.0	0.0	6.5	0.0
2014	4.0	0.0	6.5	0.0
2015	4.0	0.0	6.5	0.0
2016	4.0	0.0	6.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Examples of planned activities of the Sugar Beets and Minor Crops topic team are:

- Professional invited and submitted presentations (e.g. professional scientific organizations such at the Weed Science Society of America and the Entomological Society of America)
- Workshops, field tours, demonstration projects and presentations (commodity schools, research reports, grower workshops), telephone and in-person consultations.
- Extension Publications (Current Information Series, Proceedings of Winter Commodity Schools, Pacific Northwest newsletters, websites and web-based publications, pest management strategic plans, crop profiles)
- Professional Publications (book chapters, journal articles)
- Applied and basic laboratory and field research experiments (pesticide residue and efficacy field trials, soil fertility and irrigation trials, biology and ecology of crops experiments)

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations	● Newsletters ● Web sites

3. Description of targeted audience

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

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	1000	61000	0	0
2013	1000	61000	0	0
2014	1000	61000	0	0
2015	1000	61000	0	0
2016	1000	61000	0	0

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

2012:1 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	3	5	8
2013	3	5	8
2014	3	5	8
2015	3	5	8
2016	3	5	8

V(H). State Defined Outputs

1. Output Target

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

2012:25 **2013:**25 **2014:**25 **2015:**25 **2016:**25

- Workshops, schools and conferences.

2012:15 **2013:**15 **2014:**15 **2015:**15 **2016:**15

- Field tours and demonstration projects.

2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**10

- Applied and basic laboratory and field research experiments

2012:10 **2013:**10 **2014:**10 **2015:**10 **2016:**10

- Professional invited presentations.

2012:6 **2013:**6 **2014:**6 **2015:**6 **2016:**6

V(I). State Defined Outcome

O. No	Outcome Name
1	O: growers use best practices in the production of sugar beets and minor crops. I: Percentage of Idaho growers indicating adoption of recommended practices (folloe-up survey data).
2	O: Producers are aware of issues and knowledgeable of practices that affect the environmental and economic sustainability of sugar beet and minor crop production. I: The percent of participants who report increased knowledge in pre/post-program surveys.
3	O: Development of new research information. I: Research publications (peer reviewed).

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:20	**2013:**20	**2014:**20	**2015:**20	**2016:**20

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

O: Producers are aware of issues and knowledgeable of practices that affect the environmental and economic sustainability of sugar beet and minor crop production. I: The percent of participants who report increased knowledge in pre/post-program surveys.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:25	**2013:**25	**2014:**25	**2015:**25	**2016:**25

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

2012:1	**2013:**1	**2014:**2	**2015:**0	**2016:**0

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The primary external factor affecting the success of the program is the political modification of the USDA sugar import program. Increasing imports of foreign sugar and the resulting depression of sugar prices could result in the loss of the sugarbeet industry. Climatic factors will affect the ability of growers to implement best management practices in some years. The expanding dairy industry is increasing the use of acreage for dairy feed production that was previously used for sugarbeet production.

Increased use of corn as a feedstock for ethanol production is increasing the price of high fructose corn syrup. Sweetener users are increasingly considering returning to the use of sugar as a sweetener which could increase the profitability of sugarbeets.

V(K). 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

Description

• The effectiveness of the Other Idaho Commercial Crops topic team will be evaluated with the use of several different evaluation instruments.
• Pre- and Post-tests will be used to evaluate program impact
• Survey instruments (both electronic and paper format) will be used to evaluate impact on program participants
• Number of visits to participants websites will be tracked over time
• Number of growers adopting practices taught in programs, and acres represented by those growers will be tracked over time

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Observation

Description

Evaluations of presentations.

Surveys.

Data from the sugar company.

Conference, field tour and field day attendance.

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

Childhood Obesity: 4-H Youth Development

2. Brief summary about Planned Program

4-H Youth Development is focused on strengthening youth and families across Idaho. 4-H will continue to create positive learning environments based on the 4-H Essential Elements of Belonging, Independence, Generosity and Mastery.

The 4-H Youth Development Team will work on the following topics:

- Expanding Science, Engineering and Technology - Educators, staff and volunteers will use research based methods, curricula and materials to increase the knowledge and skills of youth in science and technology.
- Healthy Lifestyles - Educators, staff and volunteers will educate youth about nutrition, health, physical fitness and health risks plus enhance their decision-making skills in selecting choices that will lead to healthy lifestyles and reduce risks for childhood obesity.
- Volunteer Development and Leadership - Educators and staff will offer training to adult and youth volunteers to enhance their leadership skills and provide opportunities for these volunteers to use the skills learned.
- Reaching Underserved Audiences - Educators, staff and volunteers will expand partnerships and increase efforts to provide programs for underserved audiences.
- Youth-Adult Partnerships - Educators, staff, and volunteers will infuse youth into governance of 4-H youth development programs through increased community, regional and statewide leadership opportunities.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

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	20%		10%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	20%		10%	
806	Youth Development	60%		80%	
	Total	100%		100%	

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Extension faculty and staff design programs that encompass the framework and elements of positive youth development as identified by research. The programs increase life skills and subject matter knowledge through hands-on learning. Priority is given to SET, Healthy Living and Leadership/Volunteer Development programs as they fit with national and federal mandates.

Expanding Science Engineering and Technology

- Programming in science, engineering and technology is a 4-H National mission mandate.
- National Assessment of Educational Progress indicates that only 31% of 4th graders and 39% of 8th graders are proficient in science and technology.
- Low income youth do not have ready access to the technology needed to increase their knowledge and skills; therefore they are more likely to fall even further behind.
- The U.S. Dept. of Labor predicts that the 10 fastest growing jobs in the next ten years are those in science, engineering, and technology-intensive fields.
- In Idaho, to achieve yearly progress requirements toward the No Child Left Behind mandates, many schools have reduced science instruction in order to focus more on math and reading.

Healthy Living Programs

- Healthy living, a 4-H National mission mandate, engages youth and families through access and opportunities to achieve optimal physical and social-emotional well-being.
- Reducing childhood obesity is a USDA-NIFA priority.
- Physical well-being includes such things as nutrition, fitness, safety, avoidance of risky behavior, and adequate sleep.
- Social and emotional well-being include forming and maintaining satisfying relationships, sense of self, autonomy, social competence, being able to take another perspective, and being able to resolve interpersonal conflict.
- The Nutrition Standards for Idaho School Meals was only implemented in August 2009. (www.sde.idaho.gov/site/cnp/nutritionStandards/)
- Local School Wellness Policies were required in 2006, though many schools still struggle with implementation. (www.sde.idaho.gov/site/cnp/wellness/)
- Current statistics (www.statehealthfacts.org) indicate that:
  - 28% of children (ages10-17) in Idaho are overweight or obese. The national average is 32%.
  - 55% of Idaho high school students are not meeting recommended physical activity level.

Leadership and Volunteer Development

- Volunteerism and leadership are critical elements of the 4-H program.
- Trained volunteers enhance programming efforts.
- Educating volunteers enhances their experience and increases retention.

Reaching Underserved Audiences

- 42% of Hispanic in Idaho are 19 years of younger
- 11% of 4-H youth are Hispanic
- 30% of Hispanics live below the poverty line
- Native American youth population is 1.4%; 85% live in poverty
- Overall, 42% of Idaho's youth live in low-income households and 16% of Idaho's youth live in poverty
- Deployment of military parent(s) has increased.

Youth-Adult Partnerships

- Youth-adult partnership programming addresses the 4-H National Citizenship mission mandate.
- Research indicates when youth are active participants in influential settings of decision-making, they can become significant resources for themselves and others.
- Youth want to be involved in making decisions that affect their lives.
- Youth-adult partnerships are integral to 4-H and represents one of our core values.

2. Scope of the Program

- In-State Extension
- Multistate Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Topic Team members will deliver trainings, classes, curricula, and learning activities in the five key areas. They will present posters and exhibits, write publications and media materials to actively promote 4-H Youth Development. Program impacts will be reported through appropriate Extension publications and web sites.

Desired Outcome: Expanding Science, Engineering and Technology (SET)

- Participants (youth, Extension faculty/staff, and volunteers) will build life skills through training and support in SET topics including robotics, GIS/GPS, wind energy, entomology (Butterfly Wings), animal science, Junior Master Gardener.
- Participants will use technology to enhance their knowledge and skills, solve problems, and become competitive in a global society.

Desired Outcome: Addressing Healthy Living

- Participants in healthy living projects and activities will increase their awareness and/or knowledge of healthy lifestyle choices.
- Participants will adopt healthy lifestyle behaviors, i.e., increasing fruit/vegetable consumption, increasing physical activity, or developing the ability to maintain positive social interactions and relationships.
- Participants (youth, Extension faculty/staff, and volunteers) will build life skills through training and support in healthy eating, nutrition, My Pyramid food guide, increasing physical activity, and understanding

social and emotional well being.

Desired Outcome: Leadership and Volunteer Development

- Participants will learn skills that enhance their leadership abilities including presentation, speaking, writing, teaching and teamwork skills.
- The AmeriCorps VISTA's, through the Serve Idaho grant, will support county level capacity building.
- Participants (youth, Extension faculty/staff, volunteers) will build life skills through training and support in the 4-H Essential Elements, youth development best practices, volunteer management, leadership, and citizenship.

Desired Outcome: Research Underserved Audiences

- Increase participation of underserved audiences through relevant programs and activities that teach life skills and increase knowledge.

Desired Outcome: Youth-Adult Partnerships.

- Participants (youth, Extension faculty/staff, volunteers, parents and community leaders) will learn to design or enhance youth-adult partnerships and expand opportunities for these partnerships to work together in the community.

In order to deliver the outputs the Topic Team will need to invest the following resources:

- Extension faculty and staff time
- Volunteer time
- Funds from grants, program participants, and federal, state and county entities
- Educational materials
- Evaluation of life skills, content skills and participant satisfaction

2. Ultimate goal(s) of this Program

4-H will pursue the following goals:

- Design 4-H programs that encompass the framework and elements of positive youth development as identified by research.
- Youth participating in science, engineering and technology project, activities and events will expand their science processing and technology skills.
- Youth will make healthy choices in eating and physical fitness because of their participation in healthy living projects, activities and events.
- Develop leadership skills in 4-H members and volunteers by providing training and opportunities for them to enhance their skills in a wide variety of situations.
- Continue to reach underserved and new audiences through expanded partnerships, increased programming efforts and more effective marketing of the program.
- Use new, innovative, and culturally appropriate methods to reach underserved and new audiences.
- Increase the number and effectiveness of youth-adult partnerships through collaborative opportunities in local communities and statewide.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2012	17.0	0.0	0.0	0.0
2013	17.0	0.0	0.0	0.0
2014	17.0	0.0	0.0	0.0
2015	17.0	0.0	0.0	0.0
2016	17.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Project 1: Expanding Science, Engineering and Technology

Extension Educators, 4-H Coordinators, 4-H Assistants and volunteers (with Extension guidance) will offer curricula, classes and training sessions for volunteers and youth trainings to enhance knowledge and skills in science and technology fields.

Project 2: Addressing Healthy Living

Extension Educators, 4-H Coordinators, 4-H Assistants and volunteers (with Extension guidance) will offer curricula, classes, training sessions and camps for volunteers and youth to educate and encourage them to adopt healthy eating habits and increase daily physical fitness.

Project 3: Leadership and Volunteer Development

Extension Educators, 4-H Coordinators, 4-H Assistants and volunteers (with Extension guidance) will offer curricula, classes and training sessions for volunteers and youth to learn and practice leadership skills.

Project 4: Reaching Underserved Audiences

Extension Educators, 4-H Coordinators, 4-H Assistants and volunteers (with Extension guidance) will work to encourage more participation by under-served youth and adults through collaboration, through teaching classes for these audiences, and by providing training sessions to encourage others to reach out to underserved audiences with youth development programs.

Project 5: Youth-Adult Partnerships

Extension Educators, 4-H Coordinators, 4-H Assistants and volunteers (with Extension guidance) will offer curricula, classes, training sessions and opportunities for adults and youth to work together to help improve the local communities..

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension

Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

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

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	70000	280000	118000	120000
2013	65000	280000	100000	100000
2014	65000	280000	100000	100000
2015	65000	280000	100000	100000
2016	65000	280000	100000	100000

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

2012:0 **2013:**0 **2014:**0 **2015:**0 **2016:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2012	1	10	11
2013	1	10	11
2014	1	10	11
2015	1	10	11
2016	1	10	11

V(H). State Defined Outputs

1. Output Target

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

  2012:28000 **2013:**28000 **2014:**28000 **2015:**28000 **2016:**28000

- Number of volunteers in educational classes and workshops.

  2012:6000 **2013:**6000 **2014:**6000 **2015:**6000 **2016:**6000

- Number of opportunities to promote 4-H Youth Development (publications, newsletters, columns, radio PSA's, radio/TV appearances).

  2012:275 **2013:**275 **2014:**275 **2015:**300 **2016:**300

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

  2012:750 **2013:**750 **2014:**750 **2015:**800 **2016:**900

- Number of 4-H clubs or groups.

  2012:1450 **2013:**1450 **2014:**1450 **2015:**1475 **2016:**1500

- Number of youth attending statewide 4-H events.

  2012:2500 **2013:**2500 **2014:**2500 **2015:**2500 **2016:**2500

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

  2012:1500 **2013:**1500 **2014:**1500 **2015:**1600 **2016:**1700

- Number of hits on the web site each year.

  2012:45000 **2013:**45000 **2014:**45000 **2015:**45000 **2016:**50000

V(I). State Defined Outcome

O. No	Outcome Name
1	O: Youth will expand science, engineering, and technology skills through participation in 4-H Youth Development Programs. I: Number of youth participating in 4-H Youth Development programs designed to expand science and technology skills.
2	O: Participants will increase their knowledge of healthy living. I: Number of youth participating in healthy living activities and programs.
3	O: Youth will learn life skills through participation in 4-H Youth Development programs. I: Number of youth indicating life skill development
4	O: Participants will adopt healthy lifestyle behaviors. I: number of youth who change behaviors, such as eating healthy snacks and increasing physical activity.
5	O: Participants will learn leadership skills through participation in 4-H Youth Development programs. I: Number of youth indicating live skill development through completing an evaluation survey.
6	O: Participants will build leadership and youth development skills through training and support. I: Total number of volunteers receiving one or more trainings.
7	O: Increased participation of underserved audiences through relevant programs. I: Number of underserved youth participating in 4-H Youth Development programs.
8	O: Participants will learn to design youth-adult partnerships. I: Number of committees, councils, and boards with youth and adults serving together.

Outcome # 1

1. Outcome Target

O: Youth will expand science, engineering, and technology skills through participation in 4-H Youth Development Programs. I: Number of youth participating in 4-H Youth Development programs designed to expand science and technology skills.

2. Outcome Type : Change in Condition Outcome Measure

2012:7500	**2013:**7500	**2014:**7500	**2015:**7500	**2016:**7500

3. Associated Knowledge Area(s)

- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

O: Participants will increase their knowledge of healthy living. I: Number of youth participating in healthy living activities and programs.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:7500	**2013:**7500	**2014:**7500	**2015:**7500	**2016:**7500

3. Associated Knowledge Area(s)

- 724 - Healthy Lifestyle
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

O: Youth will learn life skills through participation in 4-H Youth Development programs. I: Number of youth indicating life skill development

2. Outcome Type : Change in Knowledge Outcome Measure

2012:4000	**2013:**4000	**2014:**4000	**2015:**4000	**2016:**4000

3. Associated Knowledge Area(s)

- 724 - Healthy Lifestyle
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

O: Participants will adopt healthy lifestyle behaviors. I: number of youth who change behaviors, such as eating healthy snacks and increasing physical activity.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:3000	**2013:**3000	**2014:**3000	**2015:**3000	**2016:**3000

3. Associated Knowledge Area(s)

- 724 - Healthy Lifestyle
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

O: Participants will learn leadership skills through participation in 4-H Youth Development programs. I: Number of youth indicating live skill development through completing an evaluation survey.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:4000	**2013:**4000	**2014:**4000	**2015:**4000	**2016:**4000

3. Associated Knowledge Area(s)

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

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

O: Participants will build leadership and youth development skills through training and support. I: Total number of volunteers receiving one or more trainings.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:1425	**2013:**1425	**2014:**1425	**2015:**1425	**2016:**1425

3. Associated Knowledge Area(s)

- 724 - Healthy Lifestyle
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

O: Increased participation of underserved audiences through relevant programs. I: Number of underserved youth participating in 4-H Youth Development programs.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:2500	**2013:**2500	**2014:**2500	**2015:**2500	**2016:**2500

3. Associated Knowledge Area(s)

- 724 - Healthy Lifestyle
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 8

1. Outcome Target

O: Participants will learn to design youth-adult partnerships. I: Number of committees, councils, and boards with youth and adults serving together.

2. Outcome Type : Change in Knowledge Outcome Measure

2012:60	**2013:**60	**2014:**60	**2015:**60	**2016:**60

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The underlying assumption for all work is a continuation of a viable 4-H Youth Development program in Idaho, and that extension and research programming by 4-H Youth Development team.will adapt to meet problems and challenges as they arise.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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

Description

4-H Youth Development programs and events are reported through the 4-H Plus and CALS Plan databases. These two databases allow for reporting of number of opportunities, participation rate, and other information to understand the breadth of the 4-H program.

To capture gains in knowledge, and development of life and content skills Extension faculty/staff

will use a life skill survey, client satisfaction survey and post program surveys. In selected programs, observation, interviews and parent surveys will be implemented.

2. Data Collection Methods

- Sampling
- On-Site
- Structured
- Unstructured
- Observation
- Portfolio Reviews

Description

A life skill evaluation survey may be used by faculty and staff to document life skill development in youth participants. The survey tool was developed by Washington State University Extension 4-H and approved annually by the University of Idaho Human Assurance Committee.

Other surveys indicating knowledge gained may be developed by faculty and staff that are specific to the content or topic. Topic team members will report results annually in the CalsPlan reporting system.