2015 University of Idaho Combined Research and Extension Plan of Work

Status: Accepted

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I. Plan Overview

1. Brief Summary about Plan Of Work

During 2013, CALS began the process of identifying Programs of Distinction (PODs); those program areas in which the College has greatest strengths as well as opportunities for growth. It is expected that there will be two or three PODs proposed and accepted by the beginning of FY 2015. The nature of those PODs is likely to impact this plan of work in directions that cannot yet be described. For the past several years, The University of Idaho (UI) Plan of Work (POW) includes individual POWs developed by each of 15 Topic Teams. For this FY 2015 plan of work, the Topic Team plans have been again assembled to represent our best approximation of anticipated program development and delivery; with an understanding that the PODs may greatly influence how the plan is eventually put into action.

Faculty Teams contributing to this plan of work 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
2015	100.0	0.0	65.0	0.0
2016	100.0	0.0	65.0	0.0
2017	100.0	0.0	67.0	0.0
2018	100.0	0.0	67.0	0.0
2019	100.0	0.0	67.0	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 its 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 NIFA 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 initial 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 is Hispanic. UI Extension has continued to develop and deliver new programs for Spanish-speaking audiences and has worked to hire Spanish-speaking staff. Approximately 8% of the minority population is Native American. UI Extension employs three faculty members 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 individuals

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.

Specificmethodsutilizedtoidentifystakeholderindividuals 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.

• UI Extension has citizen advisory groups in 42 of Idaho's44 counties which represent a broad mix of public interests from the county perspective.

• Idaho's17 agricultural commodity mmissions and organizations are selected by industry representatives with approval by stategovernment officials.

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

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

• IAES researcher and extension faculty conduct several major commodityschools and "fielddays"annually in thestate. 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

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 : Intermediate (One to 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	5%		5%	
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%	
133	Pollution Prevention and Mitigation	0%		5%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	5%		10%	
205	Plant Management Systems	12%		0%	
213	Weeds Affecting Plants	5%		5%	
216	Integrated Pest Management Systems	5%		5%	
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	12%		10%	
308	Improved Animal Products (Before Harvest)	5%		5%	
605	Natural Resource and Environmental Economics	5%		5%	
901	Program and Project Design, and Statistics	1%		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, recreational and conservational 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 permit holders 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
2015	8.7	0.0	5.0	0.0
2016	8.7	0.0	5.0	0.0
2017	8.7	0.0	5.0	0.0
2018	8.7	0.0	5.0	0.0
2019	8.7	0.0	5.0	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.

1. Alfalfa and Annual Forage Production and Harvesting

Contribute to the development of production and management systems that are economically viable, ecologically sustainable, and which ensure the safe and efficient production of forages in Idaho Provide producers with the tools and technologies necessary to implement and maintain effective and efficient forage production systems Provide producers with the tools necessary to develop, market, and deliver high quality, safe and wholesome products. Conduct applied research and provide support for businesses and individual production decisions.

Upcoming projects 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
- Office and field visits

2. Efficient Production Management and Marketing of Livestock

Contribute to the development of production and management systems that are economically viable, ecologically sustainable, and which ensure the safe and humane treatment of livestock Investigate the nutritional, reproductive, genetic, economic, health, and environmental aspects of livestock production Provide producers with the tools and technologies necessary to implement and maintain effective and efficient forage and range based livestock production systems Provide producers with the tools necessary to develop, market, and deliver high quality, safe and wholesome commercial livestock products. Conduct applied research and provide support for businesses and individual production decisions.

Upcoming projects 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
- Office and field visits

3. Rangeland Resource Management and Utilization

Management of Idaho Rangelands requires the integration of research-based information, practical experience and objective observations. This project seeks to increase the understanding of ecological processes and ecological conditions on Idaho rangelands, to improve monitoring, management and environment influence on the productivity, resilience and sustainability of rangelands.

Idaho rangelands are a mosaic of public and private ownership that are used for a plethora of purposes from livestock production, recreation, water production, wildlife and preservation to reintroduction of endangered species Since public policy rather than science often dictates use and management of public lands, good management of public lands can only be accomplished where policy is developed on sound scientific and economic principles.

Invasive plants on Idaho range and pasturelands adversely impact conservation values, forage production for livestock and wildlife, water quality, recreation and jeopardize the safety many Idaho communities from wildfires Education for private and public land managers will improve knowledge and management of invasive species resulting in better decisions for the restraint of invasive species, rangeland restoration and extension of fire cycle.

Upcoming projects 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
- Office and field visits

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 other than eXtension

3. Description of targeted audience

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

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

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

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

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

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

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Producer schools. (number of schools: multiple sessions of instruction on multiple subjects)
- Workshops (including BQA).
- Demonstrations and applied research projects.
- Popular press articles.
- Newsletters; number of issues.
- Field days
- Presentations at producer meetings
- Budgets developed to improve clientele decision making
- Curricula developed
- Surveys conducted
- Tours conducted
- Websites created or significantly enhanced (number of sites)
- Blogs created and maintained

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

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

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

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
- 1862 Research

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

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
- 1862 Research

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

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
- 1862 Research

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

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

Outcome # 5

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 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 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

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.

One major study is to evaluate the savings experienced by participants in the proper vaccine handling educational program.

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	25%		12%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		5%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
213	Weeds Affecting Plants	10%		5%	
216	Integrated Pest Management Systems	15%		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	5%		5%	
504	Home and Commercial Food Service	0%		5%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%		5%	
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

• Increasing participant numbers in the program at some levels - research, support scientists, county extension educators.
• Maintaining 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
2015	4.6	0.0	10.0	0.0
2016	4.6	0.0	10.0	0.0
2017	4.6	0.0	10.0	0.0
2018	4.6	0.0	10.0	0.0
2019	4.6	0.0	10.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

1. Applying beneficial cultural and fertilization crop management practices

- Provide growers with information and technology for:

- improved fertilizer application and management for efficient use and economic production
- management of harvest losses from lodging, delayed harvest, shatter, sprouting, and mechanical losses, storage
- precise seeding for depth, rate, soil conditions, moisture, timing, and seed quality
- irrigation timing, rates, methods, and water management
- interaction of varieties and management practices

2. Development and adoption of improved varieties

Breeders will develop new, adapted cereal varieties for all classes of wheat produced in Idaho that will have:

- high yield potential
- good to excellent end-use quality
- functional disease and insect resistance or tolerance
- good agronomic characteristcs (plant height, establishment, maturity, lodging, response to inputs, harvestability, etc.)
- adaptation for selective herbicide production technology
- end-use demanded by the market
- Extension specialists will test varieties and potential lines in diverse locations and provide this technology to growers to empower selection of superior varieties for their needs.
- County faculty will facilitate variety and line testing in the area, and extension programming of variety information.

3. Integrating cereal production practices into a productive cropping system.

Provide information and technology that will lead to:

- increases in direct seed and conservation farmed acreage in Idaho
- reduce water runoff, soil erosion, pesticide movement on Idaho farms
- increase crop rotation options and farm diversity
- conserve beneficial biodiversity, including natural enemies of pests
- reduce input costs and enhance economic returns in the production system
- foster greater public understanding of farming practices and farmers' environmental stewardship

4. Using economical, effective, and environmentally friendly crop protection practices

The pest, weed, and pathogen protection project will address:

- providing information about new, emerging, and chronic pest problems such as rattail fescue, herbicide resistant weeds, stripe rust, 'hidden' soil borne diseases, viruses, aphids, cereal leaf beetle, Hessian fly, nematodes and other problems
- pesticide registration and environmental fate
- understanding pest biology and interaction with cropping systems and the environment

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 other than eXtension
● Demonstrations	

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)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Idaho Cereal Schools.
- Release and adoption of new cereal varieties.
- Publication of CIS, Progress reports, PNW, and other Ext. Pubs.
- Develop pest control technology - project/experiments.
- Research on management systems - projects/experiments.

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

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

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
- 502 - New and Improved Food Products

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

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

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

3. Associated Knowledge Area(s)

- 202 - Plant Genetic Resources

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

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

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
- 213 - Weeds Affecting Plants
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

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

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
- 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
- Public Policy changes
- Competing Programmatic Challenges

Description

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

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.

Evaluate and review 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.

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 to provide basic but comprehensive, science-based information to owners and employees in Idaho's horticultural wholesale, retail, and service industries. The objective is to help industry personnel operate their businesses on sound environmental and economic principles and to improve the quality of information provided by the green industry to consumers. Educational opportunities include the "Green Collar College" held in conjunction with the Idaho Nursery and Landscape Association's annual Idaho Horticulture Expo, agency and professional certification trainings, clinics, seminars, a professional nursery website, and appropriate publications.

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

V(C). Planned Program (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

Assumptions:

1) Public interest in horticultural sytems, namely food production and green space development, will remain strong and likely increase in the future.

2) The demand for sound, research-based horticultural information will remain strong and probably increase, possibly significantly.

3) University and CALS personnel and financial resources to meet the burgeoning demand for information will not increase, and may continue to decline.

4) The need to influence behavior toward environmental sustainability may become critical in the near future.

5) If public demand for information continues to increase, while at the same time CALS resources continue to decline, it will become very important to recruit new resources by maximizing the use of volunteer programs, and also to increase the use of more efficient electronic information delivery techniques.

6) Educated consumers will 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. This will improve the economic outlook for the green industry in the state.

2. Ultimate goal(s) of this Program

The ultimate goal of the Horticulture Team is to directly improve the lives of Idaho citizens by:

1) Providing the public with the informational resources to increase personal independence through personal food production and the ability to create aesthetically valuable green space.

2) Creating a social environment that espouses environmental awareness and stewardship and increases the use of sustainable horticultural practices.

3) Provide research and educational support for the Idaho green industry that will allow them to remain fiscally strong and to contribute to goals 1 and 2.

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
2015	7.7	0.0	1.3	0.0
2016	7.7	0.0	1.3	0.0
2017	7.7	0.0	1.3	0.0
2018	7.7	0.0	1.3	0.0
2019	7.7	0.0	1.3	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Planned Activities - Master Gardener Education Project:

1. Consumer Horticulture Education

The Consumer Horticulture Education project is designed to provide outreach and information that will improve understanding of basic horticultural principles among citizens statewide. Educational topics include landscape design, landscape management, tree selection, soil management and improvement,

vegetable production, fruit production, water conservation, proper use of pesticides, environmental stewardship, solid waste management, and many others. Homeowners and public managers will be taught using various tools, including workshops, seminars, publications, web sites, newsletters, presentations on broadcast media, social media, and associations with local horticulture-based organizations. This project has the potential to benefit every citizen in the state of Idaho and ultimately increase public awareness and support for UI extension activities. Impacts include an increase in the quality of life as a result of improved care of public and private green spaces, reduction of pressure on municipal and natural resources, improved food security, increased home and property values, better water quality, reduced home pesticide use, and improved sustainability in common landscaping and gardening practices.

2. Green Industry Education

The green industry includes all retail, wholesale, production, and service industries that deal in horticultural products. It is a significant segment of Idaho's economy, accounting for over $40 million in sales. The green industry includes a diverse group of businesses, including nursery crop producers, Christmas tree growers, wholesale greenhouse producers, turf producers, retail nurseries, landscape designers, landscape installers, lawn care services, tree trimming companies, and many others. Until the recent economic downturn, the green industry was one of the fastest growing segments of Idaho's agricultural economy. Its diversity and requirement for highly trained employees creates a critical need for extension-derived education. Current extension and outreach inputs include a certified nurseryman training course, the Green Collar College associated with the Idaho Hort Expo, a web-based informational resource center, web-based and printed publications, field days and demonstrations, pesticide applicator training events, and seminars and workshops on timely and critical topics. Team resources dedicated to this program area are limited and programming currently does not meet critical industry needs. The impact of this project is improved products and services provided by the green industry. Due to their frequent and direct interface with the public, well-informed green industry employees equates to better educated consumers. This project has a direct impact on product sales, industry growth, and thus state economy.

3. Master Gardener Volunteer Development Education

Idaho's demand for consumer horticulture information far outstrips U-Idaho Extension personnel resources to supply the reaquired education. The Master Gardener and Junior Master Gardener programs are designed to help alleviate this problem through the development of county-based volunteer educational teams. Trained Master Gardener volunteers provide public education in the form of organized public workshops and seminars, plant problem diagnostic clinics, personal contact with community members, design and completion of plant-related public works projects, demonstration gardens, development of popular publications, and personal contact with neighbors and other members of the public. Master Gardener education intensive and comprehensive. As a result, Master Gardeners become capable teachers and influential mentors, thereby providing impacts that are varied, critical, and widespread. Master Gardener trainees benefit personally by developing employable skills. As volunteers, they assist with county and community improvement projects that provide measurable economic value. They provide extensive consumer education that results in public benefits such as greater family economic independence through more efficient home food production, improved water conservation and water quality, reduced environmental impacts related to the adoption of sound horticultural practices, better management of solid waste, and improved quality of life for Idaho citizens. Also, youth-based Junior Master Gardener programs enrich health, science and nutrition education and help reduce problems with troubled 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 ● Newsletters ● TV Media Programs ● Web sites other than eXtension

3. Description of targeted audience

Target Audience - Master Gardener Education Project:

Wide perspective: all Idaho citizens who are consumers of horticultural information and products. The program is designed to develop volunteers capable of providing education that will have an impact on resources management and quality of life within counties and communities statewide.

Narrow perspective: potential Master Gardeners, meaning any Idaho citizen with interest in horticulture and a desire for service. Beginning Master Gardeners are required to participate in 30 to 70 hours of basic training in horticultural topics that include botany, basic soils, plant development, fertility, irrigation, plant problem diagnosis, pest control, etc., followed by 30-70 hours of volunteer service to the public. 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.

Target Audience - Consumer Horticulture Education Project:

The target audience for this project includes most citizens of Idaho, specifically anyone who consumes horticultural information or products. This broad audience seeks opportunities to learn sustainable horticultural principles from numerous sources, including web sites, publications, popular press articles, presentations, workshops, conferences, demonstrations, short courses, Master Gardener Volunteers and other teaching forums. Organized groups from this target audience, including community public works departments, garden clubs, civic groups, public libraries, church groups, and other interested organizations will often sponsor educational events.

Target Audience - Green Industry Education Project:

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

Underserved Audiences

Current underserved groups, include Hispanic, native American, and immigrant populations.

Service to the hispanic communities is hindered by language issues. Spanish-language gardening workshops are being offered in some parts of the state. Team members provide pesticide training to green industry workers in English and Spanish.

The Treasure Valley region of Idaho has become a significant refugee resettlement location, providing a new home to refugees from Asia, Eastern Europe and Africa. Educators and Master Gardeners are partnering with refugee agencies to train these new citizens for success in limited-space commercial and home food production, community gardening projects and green industry jobs.

Pilot programs are being developed to provide Master Gardener and Consumer Horticulture education for the Shoshone-Bannock tribes in southeastern Idaho and the Nez Perce tribe in northern Idaho. If successful, these programs will be expanded by the participating county faculty.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Advanced MG Workshops/Tours: faculty contribution to Advanced MG Training (Does not include beginning MGs). O: Number of faculty presentations at Advanced MG training events.
- Beginning MG Courses Organized/Supervised: Number of MG courses (not classes within a course) organized/supervised by educators. O: Number of whole courses delivered during the past year.
- Consumer Education-Public Outreach Pubs/Products: Number of faculty-authored press and Extension media products developed for consumers. Includes magazine articles, newspaper columns, newsletters or newsletter articles, radio or television spots. I: The number of products developed/published during the past year.
- Consumer Education-Websites: Statewide and county websites (faculty-authored) containing current, relevant consumer-based horticultural information. O: The number of actual websites developed or actively improved during the year.
- Consumer Education-Workshops, Seminars, Demonstrations, Field Days: Faculty contributions to consumer-based education events (exclude MG classes, reported elsewhere). I: Number of specific faculty presentations at Extension consumer education events.
- Green Industry Education-Workshops, Seminars, Clinics: Faculty presentations associated with green industry educational events. O: Number green industry education events and presentations.
- Master Gardener-Volunteer Hours: Total number of hours contributed by all volunteers over the past year.
- Green Industry Education-Websites: Number of statewide or county web sites with green industry-targeted content developed or actively improved during the year. O: The number of current, relevant, active sites.
- Direct Contacts with Stakeholders Made by Certified MGs: . Number of direct contacts during the past year by volunteers.
- Faculty presentations to Beginning MG classes: Number of presentations.
- Master Gardener-Volunteer-Authored Pubs/Products: Number of products developed during the past year by supervised MGs or other volunteers (exclude those with faculty authors): bulletins, fact sheets, web content, PowerPoint, media productions for radio or television.
- Master Gardener-Volunteer MG Contributions to Workshops, Seminars, and Demonstrations: Number of volunteers who organized or presented at educational events.
- Consumer Education-Scholarly Pubs/Products: Number of research-based, peer-reviewed scholarly products published by team faculty. Examples: journal papers, bulletins, CISs, or peer-reviewed web content or video productions.

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

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

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

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

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

2. Outcome Type : Change in Condition Outcome Measure

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

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

2. Outcome Type : Change in Condition Outcome Measure

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 # 4

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

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

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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

Evaluation - Master Gardener Education Project:

The Idaho Master Gardener program is currently the subject of a major evaluation effort. Surveys and case studies are being employed to evaluate behavioral changes in participants that result from completing the Master Gardener basic training course, or being in contact with Master Gardener volunteers. Changes in attitudes and practices are being assessed in relation to adoption of research-based, sustainable horticultural principles. Adoption of principles will be translated into Impact on communities in the form of monetary savings, natural resource conservation, water quality, management of solid waste materials, and amelioration of issues with troubled youth.

Training effectiveness for the Master Gardener program will be assessed by measuring student improvement during the basic course using before and after exams. The goal is to improve knowledge as expressed in exam scores by 20-30%

Program efficacy will be assessed by calculating the percentage of county-based Master Gardener programs that conform to published statewide policies. Over the life of the plan, an effort will be made to bring at least 80% of the programs into statewide compliance.

Other assessments of Master Gardener program operations will also be conducted. One is to measure the number of new Master Gardener volunteers certified each year, as an indicator of increases in educational personnel resources. Another is to measure retention of qualified volunteers, as an indicator of program effectiveness in maintaining educational personnel resources. Each year the number of new certified Master Gardeners, and the number of total Master Gardener volunteers will be calculated on a statewide basis.

Evaluation - Consumer Horticulture Education Project:

Statistics will monitored for the horticulture web site. The number of hits will be recorded each year.

Evaluation - Green Industry Education Project:

A hit counter is installed in the green industry web site. The number of site visitors will be recorded each year and added to the number of contacts made to the Technical Resource Center and the total used as a measure of program impact.

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 Idaho communities in meeting these challenges, three priorities will be addressed:

1. Human and Social Capital Development

2. Business and Community Entrepreneurship

3. Community 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 Community Development Topic Team lends 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. 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
2015	4.5	0.0	1.5	0.0
2016	4.5	0.0	1.5	0.0
2017	4.5	0.0	1.5	0.0
2018	4.5	0.0	1.5	0.0
2019	4.5	0.0	1.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

1. Business and Community Entrepreneurship

This program helps strengthen Idaho's economy by increasing numbers of entrepreneurs and small business owners and building their capacity to succeed Business development goals are accomplished through educational activities related to starting, sustaining and expanding businesses Economic development goals are related to building social, human, cultural, financial and built capital at the regional, county, community and family levels Activities include helping leaders access and utilize data to make better decisions, creating networks and partnerships to build and expand economic development efforts, connecting communities to resources for building infrastructure and capital and by a strong focus on building the capacity of young adults to create career pathways.

2. Community Spaces and Places

This project focuses on the natural capital of communities, including design and planning for an enhanced sense of community, as well as sustainable economic development Planning and design projects have been identified as significant priorities by the large majority of the 33 communities the University of Idaho worked with through the Horizons project. Example projects include gardens, community centers, green belts and farmer's markets.

There is much opportunity for Extension and Moscow-based faculty to work together to build this natural capital. Teams of graduate students are matched with volunteer private sector professionals and Extension County Educators as 'Rapid Response Design Teams' to complete concepts for community designated priority public space projects.

3. Human and Social Capital

This program addresses the need for a skilled workforce and an active community leadership. It focuses on building social, political and human capital through community leadership development training and facilitation, individual leadership & skill building training, non-profit board training, and programs to increase access to training for living wage work. Methods include formation of community leadership committees, workshops, in-depth training, and coaching, and community-based schemes for access to higher education and workforce training. Target audiences include new and future leaders, individuals currently serving in leadership roles, small rural non-profit organizations, and youth transitioning to adulthood

Planned activities in Community Development include:

- 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 U Igraduate 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 other than eXtension

3. Description of targeted audience

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.

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)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Steering Committees/Teams formed.
- Materials/Curriculum developed.
- Presentations/Workshops delivered
- Series/Short Courses/workshops - organized &/or taught
- Conference posters/presentations
- Boards & Communities - Facilitated/Mentored/Coached.
- Communities served.
- Counties served.
- Web-based educational materials developed

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	O: Entrepreneurs: Current & future Idaho Entrepreneurs learn business practices and develop skills needed for starting a business. I: Number of participants learning skills
2	O: Customer: Small business owners and government organizations adopt customer oriented operating practices. I: Number of participants indicated adoption of practices. (customer service follow-up checklist)
3	O: Leadership: Incumbent and emerging leaders learn skills for leadership positions. I: Number of participants with increased skills (pre-post test)
4	O: Leadership: New leaders will assume leadership roles. I: Number of new leaders serving in communities. (1 yr. follow up checklist/count)
5	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
6	O: Human capital development. I: Youth gain understanding of post-high school educational opportunities.(Retrospective pretest)
7	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)
8	O: Social Capital Development: Community Partnerships will be developed through community networks and mentoring. I: Number of participants in network and mentoring relationships.
9	O: Spaces and Places: Student teams will develop design concepts that meet community planning and design needs. I: Completed design project.
10	O: Entrepreneurs: entrepreneurs establish or expand their businesses. I: Number of business owners extablishing or expanding their business.

Outcome # 1

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

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 # 2

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

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 # 3

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

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 # 4

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

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: 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

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 # 6

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

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

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

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 Extension
- 1862 Research

Outcome # 8

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

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 # 9

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

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

Outcome # 10

1. Outcome Target

O: Entrepreneurs: entrepreneurs establish or expand their businesses. I: Number of business owners extablishing or expanding their business.

2. Outcome Type : Change in Condition Outcome Measure

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
- 608 - Community Resource Planning and Development
- 609 - Economic Theory and Methods

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 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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

We will employ evaluation methods as appropriate to this program.

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 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, while providing a dependable supply of affordable food products.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%		10%	
307	Animal Management Systems	20%		10%	
308	Improved Animal Products (Before Harvest)	0%		10%	
311	Animal Diseases	20%		10%	
	Total	100%		100%	

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

1. Situation and priorities

In 2010, Idaho's dairy farm families provided a record 12.8 billion pounds of milk, up 4.7% from the 12.2 billion pounds of milk produced in 2009. Idaho ranked third in the nation for milk production in 2010, behind California and Wisconsin. Idaho cash milk receipts were $1.89 billion in 2010, up 24.3% from 2009. Milk has been the number one agricultural commodity in Idaho in eight of the past ten years. During

December 2010, the average number of cows on Idaho farms was 574,000 animals. Dairy extension focus can be categorized into two broad topic areas: dairy management, and workforce development.

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.

Dairy Workforce Development. The Idaho dairy industry relies on a strong, knowledgeable, and committed workforce. For the past 8-12 years, dairy topic team members have continuously developed, improved, and delivered training for Dairy Workforce Development. Recognizing that Idaho dairy producers rely on a Spanish-speaking workforce, University of Idaho Dairy Extension plays a very important role in providing training to improve the knowledge and skills of this traditionally underserved audience. English language programs are also offered --- in fact, many educational opportunities for Dairy Workforce Development are offered in a bi-lingual format. The dairy topic team continues to provide training in the following areas:

· Milking procedures, milk quality, food safety
· Artificial insemination
· Raising dairy calves
· Hoof trimming
· Mixing total mixed rations
· Identifying sick cows and calves

Extension Advisory Committees have consistently rated Dairy Workforce Development (in Spanish and English) as a high priority. Recently, Dairy Topic Team members have observed that Hispanics are employed at various management levels on the dairy, ranging from section managers (milking parlor, feeder crew managers, hospital managers, etc.) up to whole dairy operation managers. The trend of Hispanics holding middle-to-upper management positions is relatively new to Idaho dairies. To ensure the sustainability and profitability of Idaho dairies, it is vital to build the knowledge and skill level of these new managers in topics related to dairy management, advanced dairy topics, and strategies to cope with new responsibilities.

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.

Target Audience

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

Underserved Audiences

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

2. Ultimate goal(s) of this Program

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

Dairy managers will have current, unbiased, science based information to make informed management decisions

Dairy employees (both English and Spanish speaking) will understand principles of recommended production practices.

Dairy owners will adopt recommended practices to improve production profitability and efficiency.

Milk quality on dairies will improve with lower somatic cell counts, fewer cases of clinical mastitis, 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
2015	2.0	0.0	2.5	0.0
2016	2.0	0.0	2.5	0.0
2017	2.0	0.0	2.5	0.0
2018	2.0	0.0	2.5	0.0
2019	2.0	0.0	2.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

1. Dairy Management

Dairy is the number one agricultural commodity in the state of Idaho Achieving optimal production efficiency and profitability are goals for all Idaho dairy producers New management techniques are available for improving reproductive performance, nutritional management, heifer management, milk quality, and cow comfort Extension faculty conduct field demonstration trials for a variety of management techniques Successful trial results can be used to encourage adoption of management techniques which ultimately increase production efficiency and profitability.

2. Dairy Workforce Development

University of Idaho Dairy Extension provides educational opportunities for current and future Idaho dairy employees Educational programs are offered in English and Spanish to provide the greatest opportunity for participants to acquire the knowledge and skills necessary to be a productive, reliable member of the dairy workforce. Topics covered include milking, milk quality and food safety, artificial insemination, raising healthy calves, mixing feed, hoof trimming, and identifying sick cows and calves. Ultimately, the integration of an educated workforce with optimal production practices, and adoption of new technology, will likely help determine the growth, sustainability and profitability of the Idaho dairy industry in the future.

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 than eXtension ● 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.

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

Idaho dairy extension team members serve on western regional program planning committees for the Western Dairy Management Conference, and the Pacific Northwest Nutrition Conference. Partner institutions include: Washington State University, Oregon State University, University of California, University of Arizona, Utah State University, New Mexico State University, Texas A & M, Kansas State University, and Colorado State University. Idaho producers, private consultants, and allied industry attend these regional conferences.

Faculty from the Animal and Veterinary Science Department at the University of Idaho are actively conducting nutrition, physiology, and management research at the campus dairy research center. The AVS department has a strong teaching program in all aspects of dairy production and offers undergraduate and graduate degree programs.

District dairy advisory committees serve a pivotal role in program planning and development across southern Idaho. Advisory committees include dairy producers and allied industry. Field demonstration projects are frequently supported by grants and donated pharmaceuticals from regional and national companies.

The Idaho dairy extension team collaborates in developing educational resources with the following state organizations: United Dairymen of Idaho, Idaho State Department of Agriculture, Idaho Dairy Herd Improvement Association, Idaho Agricultural Statistics, and the College of Southern Idaho.

Members of the Idaho dairy extension team participate on national committees for American Dairy Science Association, National Mastitis Council, and e-X-tension. Idaho specialists have contributed to the frequently asked questions section of the nation e-X-tension effort as well as serving on topic committees

within dairy e-X-tension.

Currently, one University of Idaho faculty member with an Extension and Research appointment is a member of the University of Idaho/ Washington State University Center for Reproductive Biology (CRB). The Center's objective is to foster high quality research and collaboration among its members, which currently stand at greater than 80 faculty members from 7 colleges and 17 departments from two universities.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Winter Dairy Forums.
- Milker schools.
- Calf Schools.
- Artificial Insemination Schools.
- Feeder Schools.
- Popular Press articles.
- Abstracts and Proceedings.

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

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

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

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

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

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 level of financial support from industry has declined in the last few years. Despite declining state, federal, and industry financial support, the UI dairy Extension team has successfully offered a broad range of educational topics that addressed needs of our target clientele.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

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 used to determine changes in calf health and feeding management practices as a result of attending calf and feeder schools. Case studies will be conducted on dairies where middle managers participate in the University of Idaho middle managers training sessions.

We will conduct post-/pre- testing and pre-/post- testing at educational meetings. We will count the number of meeting participants.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Family Finance

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%		0%	
	Total	100%		0%	

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.

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
2015	2.8	0.0	0.0	0.0
2016	2.8	0.0	0.0	0.0
2017	2.8	0.0	0.0	0.0
2018	2.8	0.0	0.0	0.0
2019	2.8	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Basic Financial Management

Extension educators will teach topics such as financial goals setting, tracking expenses, understanding credit scores, budgeting, record keeping, saving money, ways to increase income and decrease expenses using ongoing UI curricula, Small Steps to Health & Wealth, and other curricula, PowerPoint lessons and fact sheets including Dollar Decision$, Building BUC$ and Credit Cents.

- How to organize and maintain financial records will be taught with the ongoing Organize Your

Financial Records PowerPoint, worksheets and fact sheets.

• The concepts of using credit wisely, credit card selection, credit reports, credit rating, and reducing or eliminating debt will be taught using the Credit Cents curriculum and fact sheets. The concepts of understanding your credit score will be taught using the training and materials from The Road to 850.

• Identity Theft-what is, how to avoid it, what to do if you are a victim will be taught using a Guarding Against Theft lesson (ongoing) and fact sheets.

• The topics listed above will also be provided to thousands of Idahoans through the Family Economics Urban Extension internet and county internet sites.

Financial Security in Later Life

• Extension educators will partner with community agencies, Area Office on Aging, Legal Aid, Health and Welfare, the Idaho Department of Insurance and others in offering ongoing Long Term Care workshops that teach concepts such as community services that allow disabled seniors to remain in their homes, the types of facilities that provide care to frail elders, how to pay for long term care, and basics of long term care insurance.

• Educators will team with local professionals to offer Legally Secure Your Financial Future, an ongoing curriculum that teaches how to organize important personal, financial and legal documents; legal goals and how to establish them; Advance Directives and how to communicate your wishes with others; how to select and work with an attorney; estate planning and property ownership laws.

• The Retirement Ready curriculum will the used to provide retirement planning education to baby boomers and others through seminars, publications, and media. Community and government partnerships will assist UI Extension to implement the programs.

• The topics listed above will also be provided to thousands of Idahoans through the Family Economics Extension internet site. Financial Security in Later Life education will be provided through the eXtension Legally Secure Your Financial Future consumer internet site.

• Non-titled property, what it is and distribution of property such as furniture, guns, jewelry, art, etc., will be explained using an ongoing curriculum titled Who Gets Grandma's Yellow Pie Plate?

Youth Financial Literacy

• Preschool children and their parents will learn basic financial concepts when educators present an ongoing curriculum, 'Money on the Bookshelf'.

• School-age youth will learn consumer and financial management concepts through ongoing and new 4-H CCS projects, and a program titled 'Kids Kredit'.

• Junior and senior high students will learn financial management concepts in school and youth groups settings through an ongoing experiential curriculum titled Welcome to the Real World.

• The ongoing High School Financial Planning Program will be taught to high school students. The program teaches financial planning, budgeting, credit, financial services, saving and investing, and how careers influence income. Extension personnel (including the extension specialist when filled) and credit union partners will train high school teachers how to implement the curriculum in the classroom.

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 other than eXtension

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)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Newsletter articles published; print or electronic.
- Popular Press articles.
- Professional or paraprofessional trainings.
- Classes, seminars, and workshops.
- Websites developed or updated.
- Lesson/curriculums developed and published.

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

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 Finance 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

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

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

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 Finance 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

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

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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

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. The team will improve existing evaluation survey tools and work toward better collection of participant behavior changes.

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. We provide management tools and education to Idaho farmers, ranchers and agribusinesses that allows 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%	
601	Economics of Agricultural Production and Farm Management	25%		25%	
602	Business Management, Finance, and Taxation	25%		5%	
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%	
	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 2010 agriculture was responsible for

generating $19 billion in sales (18% of Idaho's total), 100,600 jobs (12% of Idaho's workforce), and $6.4 billion in value added (12% 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 passed 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.

2. Scope of the Program

- In-State Extension
- Multistate Extension

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

1. Assumptions made for the Program

Agriculture is and will remain an inherently risky business that is susceptible to periods of severe financial stress. Volatile commodity prices and rising input prices will continue to put Idaho farmers and ranchers in a cost-price squeeze that only the efficient producers will survive. Producers need a better understanding of their major sources of risk and the tools and resources available to help them develop and evaluate appropriate risk management strategies. Idaho's farmers and ranchers must adopt cost efficient production practices that are based on maximizing profit, not production. Accurate and up-to-date cost of production estimates (enterprise budgets) are essential to this process.

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
2015	3.5	0.0	2.0	0.0
2016	3.5	0.0	2.0	0.0
2017	3.5	0.0	2.0	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2018	3.5	0.0	2.0	0.0
2019	3.5	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Farm and Ranch Production Management Economics

The focus of this program is to develop and to provide to producers costs and returns estimates for both traditional and alternative enterprises and traditional and alternative production systems, cost efficient production management strategies, and tools needed to evaluate the production efficiencies of their operations. Presentations will be given at traditional commodity schools, farm and ranch management schools, and other extension venues, such as the Lost River Grazing Academy.

Farm Management

This project will teach both existing and beginning Idaho farmers and ranchers business management skills needed to successfully manage their operations and to transition from one generation to the next. They need up-to-date management and marketing information and access to tools that will help them to identify financial problems, to develop and evaluate economically viable alternatives, and to develop a sustainable business plan with accurate financial statements. The focus of this program is on the delivery of basic farm management education through workshops and in-depth classes that are tailored to the needs of local producers.

Financial Condition of Idaho Agriculture

This program will develop an annual projection of the financial condition of Idaho agriculture based on cash receipts, revenue, expenses, and net farm income for Idaho's major commodities for the current year, as well as maintaining and presenting historical trend data. This information will be presented to the Idaho legislature, commodity groups and other interested stakeholders to help them better understand the trends impacting agriculture in Idaho and to help them develop policies that contribute to a strong agricultural economy.

Sustainability Through AgrAbility

The AgrAbility program provides assistance to help producers assess their situation and to either consider alternative enterprises, change their roles to more of a management perspective, and/ or utilize their abilities along with assistive technology to be productive in their operation. Farmers and ranchers with disabilities are at risk of being able to manage day to day operations due to physical or mental limitations.

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 other than eXtension

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)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Farm Management Schools/Classes.
- Crop & Livestock Costs and Returns Estimates Published.
- Media Contacts.
- Workshops/presentations at Commodity Schools/conferences, Farm Management Schools or other appropriate venues.
- Office/one-on-one consultations
- Hits on Idaho AgBiz web site
- Pupular press articles and papers in prodeedings published for commodity schools

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

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

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

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

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

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

2. Outcome Type : Change in Action Outcome Measure

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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

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

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 Teamworks with individuals, families and organizations to help reduce the incidence of food-borne illness. Team members teach skills related to food preservation, food handling, food preparation, and food storage. The Food Safety Topic Team is integrated with Eat Smart Idaho (our EFNEP and SNAP-Ed programs) and manages our Master Food Safety Advisors volunteer program. The Team reaches into high schools through the Ready, Set, Food Safe program and delivers ServSafe education to food service managers and employees. Faculty engage with distance learners through the Preserve@Home curriculum and with youth through Germ City. A significant investment is made to deliver just-in-time food safety education and information through our consumer communication networks and through responses to telephone inquiries.

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
308	Improved Animal Products (Before Harvest)	0%		15%	
311	Animal Diseases	0%		10%	
315	Animal Welfare/Well-Being and Protection	0%		10%	
501	New and Improved Food Processing Technologies	5%		15%	
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

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

One sixth of Idahoans are affected by food borne illness; some groups such as elderly, pregnant women and children are particularly vulnerable Knowledge about safely storing and preparing food is declining as this information is omitted from school curricula Annually about 6000 consumers call Idaho extension offices for food safety information Consumers who call extension offices for food safety information, attend extension classes, access one or more of the 29 extension bulletins on food handling topics, and use the extension food safety website are the target audience for these programs As a result of these programs, consumers will experience less illness from food borne pathogens and benefit financially through less spoilage of food.

2. Food Service Food Safety Training

Foodborne illness is an increasing concern for Americans who get nearly half of all meals from dine-in or take out restaurants Those businesses also provide first jobs for more teenagers than any other industry This program targets teens who prepare food for others, particularly in commercial establishments and FCS high school teachers who need to deliver food service food safety information to their students Learning safe food handling skills reduces food borne illness and qualifies teenagers to compete for jobs with greater responsibility and compensation.

3. Hand Hygiene Education

Hand washing is important in the prevention of foodborne illness, transmission of pathogenic bacteria

and disease prevention, however, it is an often overlooked behavior Studies support the need for behavior change as well as for effective hand washing education MRSA and H1N1 outbreaks in the last few years have stressed the importance of this type of education This program targets elementary age children, families and children at county fairs, and adults at health fair settings Children and adults will practice improved hand hygiene behaviors and reduce the number of colds, flu, and food-borne illness.

Regular hand washing forchildren resultsin fewersick days

4. Master Food Safety Advisor

Interest in home food preservation has always been strong in Idaho and has recently been increasing because consumers want to save money, preserve garden produce, have more control over their food, and live more sustainably These programs target consumers with particular interest in home food preservation and food safety topics, and particularly consumers who have interest in sharing knowledge with others As a result of these programs, Idahoans will store and preserve food safely and access to food preservation information by the general public will be increased via volunteers.

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

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: fewer 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
2015	3.3	0.0	1.5	0.0
2016	3.3	0.0	1.5	0.0
2017	3.3	0.0	1.5	0.0
2018	3.3	0.0	1.5	0.0
2019	3.3	0.0	1.5	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 other than eXtension

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)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of food safety calls answered.
- Consumer food safety classes taught.
- Number of new certified Master Food Safety Advisors.
- Number of re-certified Master Food Safety Advisors.
- Number of volunteer hours logged by MFSAs.
- Students receiving a RSFS certificate.
- Participants in hand hygiene education programs.
- Number of Preserve@home students passing the final test.
- Number of individuals receiving ServSafe certification.
- Number of classes taught by MFSA volunteers
- Number of food preservation equipment safety checks.
- Number of food safety questions categorized as a potentially serious food safety issue that could cause illness or even death.

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

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

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

2. Outcome Type : Change in Action Outcome Measure

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 Action Outcome Measure

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

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

3. Associated Knowledge Area(s)

- 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

3. Associated Knowledge Area(s)

- 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 Knowledge Outcome Measure

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

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

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

Description

- CompetingPublicpriorities
- Populationschanges (immigration,new culturalgroupings,etc.)

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Food Service Food Safety Training

Interviews with 20 students who have taken Ready, Set Food Safe and who work in food service to assess value and application of information. Their immediate food service supervisor will also be

interviewed if the student gives permission.

Consumer Food Preservation Program Delivery. The Food Safety Topic Team is developing evaluation protocols for assessing the impact of food preservation programs, including in-depth training (Master Food Preserver/Food Safety Advisor), calls to Extension offices, on-line class, short series or stand alone classes, and gauge testing.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Climate Change: Forest Management

2. Brief summary about Planned Program

Knowledge empowers people to make changes by enabling them to develop information-based opinions and develop ethical standards by which they will act. Attitudes about natural resource issues are often counter-indicative to established scientific knowledge. By not having access to factual information, people develop opinions and base their actions on information gleaned from the media and other non-scientific sources. Poor natural resource management decisions and policies are often the result, impacting Idaho's rural communities.

Idaho has some of the most productive family forests in the Rocky Mountains. Over 41% of Idaho is forested with approximately 11% of Idaho forests (2.3 million acres) belonging to family forest owners. Using the Idaho Department of Lands Idaho Forest Action Plan Resource Assessment (2010), developed in partnership University of Idaho Extension, other partners and stakeholders, critical issues and ecological drivers that influence forest management on family and wildland forests in Idaho have been identified and prioritized.

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

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

1. Situation and priorities

Idaho has some of the most productive forests in the Rocky Mountains. Over 41% of Idaho is forested, with approximately 11% of Idaho forests (2.3 million acres) belonging to family forest owners. Family forest acreage in Idaho has been increasing, due to forest product companies selling lands, former pasture or marginal cropland being actively planted back into trees, and land naturally seeding back into forest after tillage stops. The number of Idaho family forest owners has been steadily growing (e.g., 21,700 owners in 1978, to 47,400 family forest owners in 1993). Family forest demographics are always changing, as family forestlands are bought, sold, subdivided and as industry forest lands are sold off.

Most logs from family forests are processed into wood products in Idaho, supporting living wage jobs in rural Idaho communities. Since 1992, family-owned forests have annually produced 25% of Idaho's timber harvest (much more in some communities) and are well positioned to continue supplying companies gearing up to use smaller logs and forest biomass, 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 quantity and quality, wildlife, and many other public benefits since they 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).

There are conservatively over 500 professional foresters in Idaho working for public forest land agencies, forest industry and as consulting foresters. There are roughly 2,000 full- and part-time loggers in Idaho. A variety of new credentials have been developed to document these professionals development (e.g., The Society of American Foresters "certified forester" program and the Idaho Pro-logger program). Participation in Extension programs helps all of these individuals improve their skills in managing forests and other natural resources and meet continuing education requirements. K-12 teachers must also stay

updated, and value research-based sources of forestry education to integrate into their classrooms.

Idaho counties have lost many natural resource based jobs and are looking for ways to develop economic opportunities to develop jobs in existing and new industries.

Inadequate knowledge of natural resource science often contributes to poor natural resource management decisions and policies, impacting Idaho's rural communities. Using information from the Idaho Department of Lands Idaho Forest Action Plan Resource Assessment (2010), Idaho Master Forest Stewards, the Idaho Forest Owners Association, the Association of Logging Contractors, and other stakeholders and partners, and critical issues and ecological drivers that influence Idaho forest management, we identified the following issues which will be the main focus of the forest management topic team:

- Over-stocking, poor species composition, insects, diseases, climate change, and uncharacteristic wildfires threatening Idaho's forest health, productivity, and sustainability;
- Natural resource professionals', loggers', and teachers' needs for opportunities to fulfill job requirements for continuing education, certification, and recertification credits that improve and enhance their understanding of natural resources management; and
- Natural resource dependent communities' need to maintain existing businesses and develop new economic opportunities related to forests.

Objectives:

- To increase participant understanding of forest disturbance ecology, wildland fireand wildland/urban interface issues, and ecosystem dynamics and processes.
- To increase participant knowledge and skills in best forest management practices as well as economic development of forest-based business related activities.
- To widen our delivery methodology to include non-traditional methods such as social media, iPads, Smartphones,and Kindle readers.

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.

The identified issues which will be the main focus of the forest management topic team are:

- the high threat of uncharacteristic wildfires in all wildland/interface areas of Idaho as well in identified priority wildland areas;
- the high to moderately high forest health threats from insects and diseases in identified priority landscape areas; and
- the relatively high potential for developing sustainable forest-based opportunities utilizing forest biomass and other non-traditional forest products.

Objectives:

• To increase participant understanding of forest disturbance ecology, wildland fire and wildland/urban interface issues, and ecosystem dynamics and processes.
• To increase participant knowledge and skills in best forest management practices as well as economic development of forest-based business related activities.
• To widen our delivery methodology to include non-traditional methods such as social media, iPads, Smartphones, and Kindle readers.

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

• Targeted audiences need more information about currently identified threats and issues within forest systems.
• Ecological and biological concepts must be conveyed to enhance understanding of forest systems, presenting programming challenges that require delivery methods aligned to individual learning preferences.
• With a better working knowledge of identified threats and issues and recommended best management practices, targeted audiences can sustainably produce more wood fiber and simultaneously improve forest health and growth, wildlife habitat, and other values.
• When forest managers and operators understand the "spirit of the law" within forest practice act regulations, they will modify their practices to reach forest management goals.
• Idaho counties have lost many natural resource based jobs and are looking for ways to develop economic opportunities by maintaining existing forest-based businesses and developing new ones.

2. Ultimate goal(s) of this Program

The goal of the forest management topic team is to improve the knowledge and skills of target audiences so they can improve forest health and vigor through recommended best forest management practices and sustain the full spectrum of benefits that society values from Idaho's forests, including economic opportunities.

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
2015	3.4	0.0	2.0	0.0
2016	3.4	0.0	2.0	0.0
2017	3.4	0.0	2.0	0.0
2018	3.4	0.0	2.0	0.0
2019	3.4	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

1. Forest and Natural Resource Workforce Development

To support employment in natural resource industries and businesses Extension professionals will offer professional development and certification programs for those working in forest related occupations.

2. Forest and Natural Resource-based Economic Development

To promote economic development in Idaho's rural counties, Extension professionals will provide programming to help Idaho landowners and small business entrepreneurs gain knowledge and skills needed to better take advantage of economic opportunities related to forest lands.

3. Forest Productivity and Sustainability

To improve the productivity and sustainability of Idaho's working forests, natural resource Extension professionals will offer forest owners and managers programming to help them increase their knowledge and skills to achieve their forest management goals.

Specific activities planned for 2015 include:

- Idaho Master Forest Stewards (70 hours - annually as long as there is demand).
- Forestry Shortcourse (18 hours - 2-3 times annually)
- Current Topics in Forest Health (5 hours - twice annually)
- Family Foresters Workshop (6 hours - once annually)
- Free Computer Mapping (4 hours - once annually)
- Android Forestry (2 hours - once annually)
- Landscaping for Fire Prevention (2 hours- once annually)
- Backyard Forests (2 hours - once annually)
- Scaling & Marketing Private Timber (6 hours - once every other year)
- Rural Land Purchasing 101 (once annually)
- Identifying Idaho's Trees (2 hours once annually)
- LEAP Update (8 hours 5-6 times annually)
- Successful Tree Planting (4 hours 2-4 times annually)
- Safely Using Herbicides in Forestry (6 hours once annually)
- Ties to the Land (6 hours - twice in 2014 every other year thereafter)
- Family Forest Owners/Managers Conference (12 hours - once annually)
- Measuring your Trees (6 hours twice annually)
- Forest Economics and Contracting (once annually)
- Thinning and Pruning Field Day (7 hours - 1-2 times annually)

· Forest Insects & Disease Field Day (7 hours - twice annually)
· Root Disease- The Hidden Menace (7 hours - once every other year)
· Pruning to Restore White Pine (7 hours - once every other year)
· Using your GPS (7 hours - once annually)
· Articles in Farm Bureau Gem State Producer (8 articles - 15,000 households)
· Articles in Farm Bureau Quarterly (4 articles - 61,000 households)
· Forest Water Quality/BMP (publication, video and web site)
· UI Extension Forestry web site (12,000 hits annually)
· Logger Education to Advance Professionalism (20 hours - twice annually)
· 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)
· Natural Resource Workshop (96 hours, once annually)
· We Grow Full Circle (816 hours, once annually)
· Inland Empire Forest Engineering Conference (8 hours, once annually)
· Master Gardener training (as needed or requested)
· Webinars addressing identified issues to targeted audiences
· Publications, posters, conference proceedings, popular press articles/other media, and communications in journals, workshops, meetings, and conferences.
· Webinars addressing identified issues to targeted audiences
· Various extension workshops targeting areas of acute professional interest (e.g. root disease)
· Webinars addressing identified issues to targeted audiences

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 other than eXtension
● Demonstrations	● Other 1 (e-mail)

3. Description of targeted audience

The primary audiences for this topic team are:
· family forest owners
· loggers
· natural resource professionals
· fire and emergency services professionals
· landscape architects, designers, and contractors
· extension educators, master forest stewards, master gardeners
· teachers/educators, and youth

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of workshops, field days, etc.
- Number of participants in workshops, field days, etc.
- Number of articles in popular and trade press.
- Number of hits on UI Extension Forestry website, YouTube videos; number of likes on UI Extension Forestry Facebook page; number of webinar attendees.
- Continuing Education hours for foresters, loggers, & other natural resource Professionals.

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	O: Other scientists are aware of our research findings. I: Number of refereed scientific journal articles.
2	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.
3	Forest and Natural Resource Workforce Development: Workers in forest management related occupations have increased job skills and maintained certification requirements. Numbers of participants indicating they will adopt various specific recommended practices.
4	Forest and Natural Resource Workforce Development: Numbers of programs offered for formal continuing education credits (e.g., Society of American Foresters CFEs, ISDA pesticide credits, Idaho pro-logger credits, etc.). Numbers of programs.
5	Forest and Natural Resource Workforce Development: Workers in forest management related occupations have increased job skills and maintained certification requirements. Numbers of Idaho loggers gaining or maintaining enrollment in the Idaho Pro-logger program.
6	Forest and Natural Resource Workforce Development: Workers in forest management related occupations have increased job skills and maintained certification requirements. Numbers of foresters gaining or maintaining enrollment in the SAF Certified Forester program.
7	Forest and Natural Resource-based Economic Development: Forest owners, managers, entrepreneurs, and decision-makers are taking greater advantage of economic opportunities related to forest lands, improving rural economies. Numbers of participants that have indicated they will take greater advantage of economic opportunities related to forests.
8	Forest Productivity and Sustainability: The productivity and sustainability of Idaho's working forests has improved, and forest owners and managers are more successful at achieving their management goals. Numbers of participants indicating they will adopt various specific recommended forest management practices.

Outcome # 1

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

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 # 2

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

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

Outcome # 3

1. Outcome Target

Forest and Natural Resource Workforce Development: Workers in forest management related occupations have increased job skills and maintained certification requirements. Numbers of participants indicating they will adopt various specific recommended practices.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management

- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Forest and Natural Resource Workforce Development: Numbers of programs offered for formal continuing education credits (e.g., Society of American Foresters CFEs, ISDA pesticide credits, Idaho pro-logger credits, etc.). Numbers of programs.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

Forest and Natural Resource Workforce Development: Workers in forest management related occupations have increased job skills and maintained certification requirements. Numbers of Idaho loggers gaining or maintaining enrollment in the Idaho Pro-logger program.

2. Outcome Type : Change in Knowledge Outcome Measure

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 # 6

1. Outcome Target

Forest and Natural Resource Workforce Development: Workers in forest management related occupations have increased job skills and maintained certification requirements. Numbers of foresters gaining or maintaining enrollment in the SAF Certified Forester program.

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

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

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 7

1. Outcome Target

Forest and Natural Resource-based Economic Development: Forest owners, managers, entrepreneurs, and decision-makers are taking greater advantage of economic opportunities related to forest lands, improving rural economies. Numbers of participants that have indicated they will take greater advantage of economic opportunities related to forests.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 122 - Management and Control of Forest and Range Fires
- 123 - Management and Sustainability of Forest Resources
- 131 - Alternative Uses of Land
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 8

1. Outcome Target

Forest Productivity and Sustainability: The productivity and sustainability of Idaho's working forests has improved, and forest owners and managers are more successful at achieving their management goals. Numbers of participants indicating they will adopt various specific recommended forest management practices.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 112 - Watershed Protection and Management
- 123 - Management and Sustainability of Forest Resources
- 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
- 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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

Evaluation study methods include the number of direct and indirect contacts, web hits, event attendees, and articles and publications written and distributed.

- Idaho Master Forest Stewards program evaluation is built into the Participatory Action Research (PAR) structure of the program. IMFS volunteers meet twice annually, and a major piece of these meetings is peer-peer sharing, which includes discussions of program effectiveness and outcomes. Idaho Master Forest stewards also complete a 148 item pre-post-test as part of their training.
- Additional evaluation of the effectiveness of these programs will come from meetings with the Idaho Lands Resource Coordinating Council (ILRCC), the Idaho Forest Owners Association, the Associated Logging Contractors of Idaho, the Idaho Sustainable Forestry Initiative State Implementation Committee, and the Idaho Statewide Logger Education Committee.
- Information gathered will be used in annual reporting as well as to write Impact Statements and popular reports to be used by Extension and other personnel for promoting Cooperative Extension, University of Idaho Extension Forestry, and the Renewable Resource Extension Act (RREA) to key local, state, and federal decision makers and grantors.
- Efforts will be made to secure funding to assess larger, long-term impacts, outcomes, and public values (e.g., the economic and ecological impact of people reducing forest stocking as a result of extension programs). Where needed, extension programming may be revised to generate and document more robust extension forestry program outcomes.

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

Fifteen Family & Consumer Science extension faculty contributed to the 2015 Health and Nutrition five-year Plan of Work. It contains adult and youth educational experiences within two projects: (1) Eat Smart Idaho and (2) Healthy Living. The Eat Smart Idaho audience will include individuals who participate in the Expanded Food and Nutrition Education Program (EFNEP) and the Supplemental Nutrition Assistance Program (SNAP-Ed). The Healthy Living project focuses on nutrition and physical activity classes that include: Meal Time in Less Time, Seafood at its Best, Dietary Guidelines for Americans, MyPlate, Fit and Fall Proof, Kick Your Boot Camp, Strength and Balance, Strong Women, Balanced Living and Food Preparation classes.

Eat Smart Idaho

This program targets vulnerable or underserved populations and childhood obesity It is estimated that 16.5% of Idahoans live in poverty. Approximately 30% of Idaho youth and 23% of high school teens are classified as overweight or obese. Idaho reaches the vulnerable or underserved populations in 37counties through three programs - Expanded Food and Nutrition Education Program (EFNEP), the Extension Nutrition Program (ENP) and the Senior Extended 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 Adults in the EFNEP, ENP and SENP learn how to eat healthy, plan menus and stretch their food dollars. Youth in the EFNEP and ENP learn healthy eating principles and physical activity is promoted as methods to target childhood obesity. Adults and youth who attend these programs will improve their eating habits, their nutritional status, food safety behaviors and decrease their level of food hunger and food insecurity.

Healthy Living

Many Americans have poor nutritional habits, are inactive, are overweight or obese and have difficulty managing stress Researchers have found that Americans don't consume enough fruits, vegetables, whole-grains, and low-fat dairy products and consume too much fat, sugar, salt, and calories. The University of Idaho Extension combats these issues through EatSmart Idaho and classes that target healthy living. Participants learn the national USDA Dietary Guidelines for Americans and Choose My Plate and can participate in the Tufts University nutrition and physical activity program called Strong Women. The target audience is youth, adults, and the elderly. Intended outcomes include improved eating habits, increased physical fitness and strength, and greater life balance. Parents who learn how to adopt a healthy lifestyle may be role models for their children. Anyone who follows a healthy lifestyle may decrease or prevent the likelihood of developing certain chronic diseases such as heart disease, diabetes or osteoporosis.

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

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

- Increase awareness of health and nutrition programs by promoting Eat Smart Idaho to adult and youth Idahoans.
- Teach adults and youth how to live healthy in order to prevent overweight and obesity by increasing

their intake of fruits and vegetables, whole grains, low-fat dairy, and be physically active.

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

- Consumption of fruits and vegetables are an indicator of an overall healthy diet.
- 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.
- The eating and physical activity behaviors of adults will influence the eating and physical activity behaviors of youth.
- Increased time spent in physical activity will improve health.

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 by participants reporting time spent in physical activity.

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
2015	6.5	0.0	2.0	0.0
2016	6.5	0.0	2.0	0.0
2017	6.5	0.0	2.0	0.0
2018	6.5	0.0	2.0	0.0
2019	6.5	0.0	2.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

- In the Healthy Living project, FCS extension faculty will conduct 850 classes to adults and youth.
- In the Eat Smart Idaho project, there will be 200 classes conducted to adults and youth.
- In the Eat Smart Idaho project, a website will be developed.

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
● Demonstrations	● Web sites other than eXtension
	● Other 1 (brochures)
	● Other 2 (nutrition blogs)

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 37 counties through three programs - the Expanded Food and Nutrition Education Program (EFNEP), the Supplemental Nutrition Assistance Program Education (SNAP Ed), and the Senior Extension Nutrition Program (SENP). EFNEP and SNAP Ed, funded through USDA, target mainly adults and youth while the SENP, funded through the Area Agency on Aging (AAA), targets seniors at high-nutritional risk and most of them are low-income or

vulnerable. The target audience for the Nutrition and Chronic Disease program includes those interested in learning how to manage or prevent type 2 diabetes and osteoporosis. The target audience for the diabetes classes includes adults with type 2 diabetes, pre-diabetes, or caregivers. The target audience for the osteoporosis classes includes adults with osteoporosis, osteopenia, or those who have a history of these diseases in their family and youth whose bones are still growing and developing. The target audience for the Healthy Lifestyles program includes adult and youth who have poor nutritional habits, are inactive, overweight or obese., and adults that are role models who would influence youth and others to follow a healthy lifestyle.

Idaho reaches the underserved population in 37 counties through Eat Smart Idaho, a combined program that includes SNAP-Ed and EFNEP. Eat Smart Idaho is funded through USDA grants and through the State appropriation for Agricultural Research and Extension. Eat Smart Idahotargetsadultsand youth. The individuals who benefit directly from these programs are low-income adults, youth, and elderly. Adults in Eat Smart Idaho learn how to eathealthy, plan menus, stretch their food dollars, and to be physically active. Youth in the program learn healthy eating principles and physical activity, which are promoted as methods to target childhood obesity. Adults, elderly, and youth who participate in these programs will improve their eating habits, their nutritional status, food safety behaviors and level of physical activity and will decrease their levels of sedentary behavior, food hunger and food insecurity.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Develop Extension publications that can be used in the Eat Smart Idaho project or the Healthy Living Project.
- Submit a journal article based on research conducted in either the Eat Smart Idaho or Healthy Living project.
- The number of youth who attend health and nutrition educational events
- The number of adults who attend health and nutrition educational events

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Adult Eat Smart Idaho participants will improve their diets after completing the Eating Smart Being Active course. I: Number of adults that improve their diets by at least one food group (determined through pre/post food behavior checklist).
2	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.
3	Participants in the Healthy Habits online course will improve their eating habits. Number of adult Healthy Habits participants who consume more fruits, vegetables, whole grains, or low-fat dairy products.

Outcome # 1

1. Outcome Target

Adult Eat Smart Idaho participants will improve their diets after completing the Eating Smart Being Active course.
I: Number of adults that improve their diets by at least one food group (determined through pre/post food behavior checklist).

2. Outcome Type : Change in Action Outcome Measure

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 # 2

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

3. Associated Knowledge Area(s)

- 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

Outcome # 3

1. Outcome Target

Participants in the Healthy Habits online course will improve their eating habits. Number of adult Healthy Habits participants who consume more fruits, vegetables, whole grains, or low-fat dairy products.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 701 - Nutrient Composition of Food
- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 723 - Hazards to Human Health and Safety
- 724 - Healthy Lifestyle

4. Associated Institute Type(s)

- 1862 Extension

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 programs that target low-income and underserved audiences, resulting in a decrease in the size of our Eat Smart Idaho program which is funded by USDA. With the increase in the 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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

Data will be collected on adults in the Healthy Habits program. They will fill out a six-item questionnaire before and after and 8-week course to measure changes in eating habits and 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 : Intermediate (One to 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
101	Appraisal of Soil Resources	10%		10%	
102	Soil, Plant, Water, Nutrient Relationships	10%		10%	
111	Conservation and Efficient Use of Water	10%		10%	
132	Weather and Climate	10%		10%	
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%		5%	
601	Economics of Agricultural Production and Farm Management	10%		10%	
	Total	100%		100%	

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

1. Situation and priorities

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 stakeholders about best practices that lead to profitable, sustainable agricultural production.

Idaho agriculture depends on an abundant, inexpensive supply of water. The primary water source 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. Adaptation measures may include deficit irrigation, changes to the distribution of water allocated to different crops based on their consumptive use characteristics and crop value, and selection of different or additional crops suitable for different climates.

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.

Effective management of livestock wastes is important for air and water quality. 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 and by triggering eutrophication in waterways, and impact air quality through ammonia, particulate matter, nitrous oxides, and other greenhouse gases emissions.

Extensive natural resource development, such as timber management and mining, can also affect water quality conditions. Along with nutrient concerns, these altered landscapes are often times affected by sedimentation and increased solar loading to streams, which can have detrimental impacts on fish. The fishery population in Idaho is important both to the state's economy and to the citizens and tourists that enjoy the benefits of clean and thriving waterways. Strategies on how to monitor water quality and sustainable practices targeted towards conserving resources are a necessity for both landowners and natural resource professionals.

After dust storms triggered an 18-car pile-up and several highway closings in the spring of 2012, Idaho growers have been seeking out solutions to prevent severe wind erosion soil losses from their fields. In order to prevent wind erosion, growers must consider methods that keep their soils covered with plant material when field is not in production. These solutions include conservation tillage and the inclusion of cover crops in their rotation. Information on how to implement these practices in Idaho's landscapes is greatly needed by growers.

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
2015	4.3	0.0	9.0	0.0
2016	4.3	0.0	9.0	0.0
2017	4.3	0.0	9.0	0.0
2018	4.3	0.0	9.0	0.0
2019	4.3	0.0	9.0	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 nutrient management, waste management, water quality, and water management. 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 inquires.

Nutrient and agricultural waste management

• Nitrogen management of fertilizers and animal manures for the prevention of degraded groundwater quality, yield losses, and financial losses
• Phosphorus loading potential from animal manures to prevent degradation of surface water quality
• Wind erosion prevention through use of conservation tillage and cover crops
• Nuisance dairy odors and environmentally hazardous gas emissions from dairies
• Effective dairy waste treatment through composting and other biological methods
• Field applications of manure for greatest crop nutrient use efficiency
• Other impacts of plant nutrients besides N and P on plant health and crop production
• Broad-base extension/outreach efforts in nutrient and agricultural waste management

Water Quality

• Protection of Idaho's water resources with the use of pest management practices
• Community involvement efforts in water quality protection
• Sediment erosion prevention preserve watersheds, Idaho streams, and surface water quality
• Impacts of agriculture on water quality degradation related to nitrate and phosphate pollution
• General extension/outreach efforts in water quality
• Control of aquatic nuisance species to prevent issues such as disruption of native aquatic habitats, clogging of irrigation systems, etc.

Water Quantity

• Preserving Idaho's limited water resources through irrigation water use efficiency
• Shifts in crop selection and water management in response to climate change
• Shifts in snow accumulations and spring runoff, due to climate change

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 than eXtension

3. Description of targeted audience

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

Underserved Audiences

- Spanish-language programs and materials developed and delivered for Hispanic workers
- Develop training on nutrient and waste management issues and BMPs specifically designed for small acreage and small volume producers.
- Conducting educational programs for Native Americans.
- Serving senior populations

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Educational workshops, seminars and presentations to producer groups: number of events.
- Applied and basic laboratory and field research experiments, number of projects
- Newsletters distributed (number of issues) and number of articles submitted for other newsletters
- Tours and Field Days
- Professional presentations; number of invited and volunteer papers presented.
- CCA credits offered for participation in courses; number of credits offered.

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Participants use best practices for water, pesticide, nutrient, or waste management. I: Number of program participants indicating adoption of recommended practices (follow-up survey data) or indicating intention to adopt recommended practices (post-program questionnaire)
2	Producers are aware of issues and knowledgeable of practices that affect the environmental and economic sustainability of crop production. I: Number of participants reporting that their knowledge had been increased because of their participation in program.

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

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
- 1862 Research

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: Number of participants reporting that their knowledge had been increased because of their participation in program.

2. Outcome Type : Change in Knowledge Outcome Measure

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
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

This plan of work we are submitting is based on conditions in 2013. Team members are unable to predict whether these conditions will exist into 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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

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

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.

1. Food Quality and Safety

There is tremendous demand and expectation by consumers for high quality potatoes and potato-based products. This expectation includes the necessity of a strong food safety program ensuring safe and sustainably grown and handled potatoes. Providing research-based information to the potato industry regarding best production and storage management practices for currently grown and future potato varieties to achieve consumer mandated quality is necessary. Advancing knowledge in potato quality and safety will allow Idaho potato producers, fresh pack operations and processors to supply a high quality potato to local, national and international consumers.

2. Integrated Pest Management

Potatoes, the single largest crop produced in Idaho in terms of gross revenue, are vulnerable to a long list of devastating pests. Idaho potato producers and the extension educators, field agronomists, consultants and agricultural professionals who advise them need the continual development and dissemination of new integrated pest management (IPM) technology by targeted research and extension programs to alleviate detrimental consequences to the potato crop and industry as a whole.

3. Production and Economics

Idaho leads the nation in potato production, producing approximately 30 percent of the U.S. crop. Potatoes are Idaho's most valuable crop, accounting for 27% of crop cash receipts in 2011. Potatoes are an expensive crop to grow with 2011 production costs between $2,600 and $4,300 per acre. Producers need to adopt production practices that minimize cost, while still producing a high quality product that is acceptable to the end users. Improving the competitiveness of the Idaho potato industry will require producers to adopt management practices that optimize the efficient use of pesticide, fertilizer and irrigation inputs. Educating growers and those who advise them about improvements in potato production technology will help move the industry in a direction that is economically and environmentally sustainable.

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
2015	4.7	0.0	11.0	0.0
2016	4.7	0.0	11.0	0.0
2017	4.7	0.0	11.0	0.0
2018	4.7	0.0	11.0	0.0
2019	4.7	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.

Some projects within the potato team collaborate with other universities such as Washington State University and Oregon State University on issues common to all states, such as pest management and storage management. This collaboration is beneficial since similar issues are experienced in Idaho and throughout the Pacific Northwest. United States Department of Agriculture provides funding for research and Extension, and also provide scientific expertise. Industry and organizations such as the Idaho Crop Improvement Association, Idaho Grower Shippers Association, and Far West Agribusiness Association contribute to dissemination of information and or development. The Idaho Potato Commission is key in providing funding for many research and Extension education activities. Independent and industry crop advisors and individual growers cooperate in field demonstrations, research, and educational meetings. Potato team members also cooperate with private companies. Potato team members also cooperate with private companies and researchers.

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 other than eXtension

3. Description of targeted audience

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

Spanish-speaking population in Idaho potato-producing areas make up a large percentage of the potato work force, and is potentially underserved in educational opportunities.

V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Seminars, workshops, field day presentations.
- Trade Journal Articles.
- Field Days.
- Individual Consultations.
- Graduate Students.
- Workshops conducted.
- Email Information Dissemination.
- Potato costs and return estimates

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

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

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 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
- 1862 Research

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

3. Associated Knowledge Area(s)

- 212 - Pathogens and Nematodes Affecting Plants
- 216 - Integrated Pest Management Systems

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

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

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
- 1862 Research

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

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
- 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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

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.

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

Members of the Small Acreages and Emerging Specialty Crops Topic Team engage with landowners and producers to conduct applied research and deliver education that addresses issues related to land stewardship, scale-appropriate livestock and crop production, marketing, and local food systems.

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%		25%	
111	Conservation and Efficient Use of Water	10%		10%	
202	Plant Genetic Resources	5%		25%	
205	Plant Management Systems	20%		25%	
212	Pathogens and Nematodes Affecting Plants	20%		10%	
602	Business Management, Finance, and Taxation	10%		0%	
604	Marketing and Distribution Practices	20%		5%	
	Total	100%		100%	

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

1. Situation and priorities

1. Land Stewardship for Small Acreages

Agricultural land in many parts of Idaho is being converted to urban/suburban use at rapid rates with development parcels of ½ to 40 acres becoming commonplace. Landowners on these acreages, many of whom are new to Idaho, are actively seeking information and education on basic land management related

to soil, water, livestock, weeds and more. This program includes in-depth courses, workshops, tours, and consultations that empower small acreage landowners to solve their issues. Documented evaluation results indicate landowners in these extension programs gain knowledge, implement best management practices, become more effective land stewards, and successfully manage their natural resources.

2. Small Farms and Local Food Systems

The 2007 Census of Agriculture shows a continuation in the national trend toward the dichotomy of more small and very large farms. In Idaho, 49% of all farms comprise 50 acres or less, and both new and experienced small scale producers are exploring options for starting rural farm businesses to meet the increased demand for locally produced food and fiber products. Programming in this area provides research, education, outreach and expertise to facilitate producer success in specialty crop, livestock, organic, value added, agri-tourism or other farm enterprises on small acreages. Participants in this program gain knowledge in production, planning, risk management and more; they also adopt sustainable production practices, stabilize and expand personal and community income, and achieve success in maintaining successful small farm businesses.

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
2015	2.4	0.0	1.5	0.0
2016	2.4	0.0	1.5	0.0
2017	2.4	0.0	1.5	0.0
2018	2.4	0.0	1.5	0.0
2019	2.4	0.0	1.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

1. Activity for the Program

Small Farm/Marketing Conference
Courses (8-15 weeks)

- 2 Living on theLand courses in 2012

- 2 Sustainable Small Farming and Ranching Courses
- 1 Business Planning Course - Online Planning for ProfitII- Available to Statewide audience
- 1 Building Farmers in the West Course

Workshops and Short Courses

- 2 Farmer Market Vendor/Manager Workshops-Northern and Southern Districts
- Exploring Your Small Farm Dream

Tours and Field Days

- 1 Specialty Crop/Organic Tour
- 1 Stewardship for Small Acreages Tour
- 4 Small Farm SeriesTours

Publications

- 4 Enterprise budgets for small scale production (Healthy Dozen crops)
- 2 CIS addressing Community Supported Agriculture
- 1 Small Acreage Landowner Factsheet

Websites

- Small farms website
- Cultivating Success website (multi-state with WSU)

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	● Newsletters
● Workshop	● TV Media Programs
● One-on-One Intervention	● Web sites other than eXtension
● Demonstrations	● Other 1 (publications and press releases)
● Other 1 (Field days, farm tours)	● Other 2 (posters and brochures)
● Other 2 (Conferences, consultations)	

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)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Small Farms / Marketing Conferences
- Small Acreage Farming Course
- Small Acreage Business Planning / Entrepreneurship Courses.
- Land Stewardship courses.
- Tours, Demonstrations and Field Days
- Farmers Market workshop with ISDA
- Workshops and Shortcourses

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

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

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 205 - Plant Management Systems
- 212 - Pathogens and Nematodes Affecting Plants
- 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

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
- 212 - Pathogens and Nematodes Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

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

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
- 212 - Pathogens and Nematodes Affecting Plants

4. Associated Institute Type(s)

- 1862 Research

Outcome # 5

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

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
- 212 - Pathogens and Nematodes Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- 1862 Extension

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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

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
- Case Studies

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 : Intermediate (One to 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%	
111	Conservation and Efficient Use of Water	5%		10%	
201	Plant Genome, Genetics, and Genetic Mechanisms	5%		10%	
202	Plant Genetic Resources	10%		10%	
205	Plant Management Systems	15%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	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 and fertilizer runoff) as a result of increased IPM practice adoption, improved profitability, improved water use efficiency and increased efficacy of pesticides while reducing pesticide resistance potential.

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
2015	4.2	0.0	9.0	0.0
2016	4.2	0.0	9.0	0.0
2017	4.2	0.0	9.0	0.0
2018	4.2	0.0	9.0	0.0
2019	4.2	0.0	9.0	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 other than eXtension

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)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Extension workshops, schools and conferences.
- Field tours and demonstration projects.
- Applied and basic laboratory and field research experiments
- Professional invited presentations.
- Presentations at Extension Workshops, schools, and conferences
- Sugarbeet costs and returns estimates

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

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: Number of Idaho growers indicating adoption of recommended practices (follow-up survey data).
2	O: Development of new research information. I: Research publications (peer reviewed).
3	O: Growers use best practices in regard to irrigation management and nutrient use efficiency in the production of sugar beet and minor crops. I: Number of Idaho growers indicating adoption of recommended practices (follow-up survey data).
4	O: Producers have increased knowledge of pest management and water / nutrient management practices that affect the environmental and economic sustainability of sugar beet and other minor crop production. I: Number of participants who demonstrate increased knowledge following Extension education programs.

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

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
- 1862 Research

Outcome # 2

1. Outcome Target

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

2. Outcome Type : Change in Condition Outcome Measure

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
- 1862 Research

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 402 - Engineering Systems and Equipment

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 4

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

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
- 215 - Biological Control of Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 402 - Engineering Systems and Equipment

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 plan of work we are submitting is based on conditions in 2011. Team members are unable to predict conditions into 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 - Planned Evaluation Studies

Description of Planned Evaluation Studies

The effectiveness of the Sugar beets and minor 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 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

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, composed of Educators, staff and volunteers, will work on the following topics:

- 4-H Science- Use research based methods, curricula and materials to increase the knowledge and skills of youth in science, engineering and technology.
- Healthy Living - 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.
- Youth and Adult Leadership and Volunteer Development - Recruit, Train and Retain adult and youth volunteers to enhance their leadership skills and provide opportunities for these volunteers to use the skills learned.
- Reaching Underserved Audiences - Expand partnerships and increase efforts to provide programs for underserved 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
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 professionals design programs that encompass the 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 4-H Science, Healthy Living and Leadership/Volunteer Development programs as they fit with federal mandates.

4-H Science

Programming in 4-H Science 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 many schools have reduced science instruction in order to focus more on math and reading.
- 48% of 4-H youth are involved in animal science projects
- Fewer youth live on a working farm and have no background in animal science production. Youth need an understanding of good production practices and animal quality assurance practices

Healthy Living

- 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.
- 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/)
- 28% of children (ages10-17) in Idaho are overweight or obese and national average is 32%.
- 55% of Idaho high school students are not meeting recommended physical activity level.
- The statewide framework for nutrition and physical activity, Healthy Eating Active Living (HEAL) Idaho 2011-2013, has identified the priority areas of infrastructure and capacity building, nutrition, and physical activity across the life span.

Youth and Adult Leadership and Volunteer Development

- Volunteerism and leadership are critical elements of the 4-H program.
- Idaho does not have enough volunteers to meet 4-H member and program demands.
- Trained volunteers enhance programming efforts.
- Educating volunteers enhances their experience and increases retention.
- Youth want to be involved in making decisions that affect their lives.
- Youth-adult partnership programming addresses the 4-H National Citizenship mission mandate.

Reaching Underserved Audiences

- 42% of Idaho's youth live in low-income households and 16% of Idaho's youth live in poverty.
- 31% of Hispanic in Idaho are 4-H age (5-19 years).
- 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.
- Deployment of military parent(s) in Idaho has increased.
- National research documents increased stress on military teens, especially among National Guard and Reserve youth living in small communities.
- USDA is partnering with the White House to address the concerns and challenges of our military families. This government-wide initiative was released in the report, "Strengthening the Military Family: An Interagency Review" (Jan. 2011).

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, workshops, curricula ,and learning activities in the four key areas.They will present posters and exhibits, write publications and media materials to actively promote4-H Youth Development. Program impacts will be reported through appropriate Extension publications and web sites.

Desired Outcomes: 4-H Science-including Animal Science

- Increase youth engagement in authentic science through 4-H projects
- Integrate science-based principles, increase processing skills and quality assurance practices into all youth programming.

Desired Outcome: Healthy Living

- Increased knowledge and practice of healthy living skills.

Desired Outcome: Youth and Adult Leadership and Volunteer Development

- Each Idaho County will have an increase of net 10% in new volunteers, while retaining 85% of their current volunteer rosters.
- Adult and youth volunteers will learn skills and engage in leadership and citizenship learning activities to become more involved in their communities.

Desired Outcome: Reaching Underserved Audiences

- Continue outreach to underserved youth and adults in the University of Idaho 4-H Youth Development programs.

In order to deliver the outcomes 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.
- A larger number of youth and adults will develop/enrich leadership and citizenship skills through focused recruiting, retention, and training programs at teh local, district and state level.
- Continue to reach underserved and new audiences through expanded partnerships, increased programming efforts and more effective marketing of the program.

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
2015	17.0	0.0	0.0	0.0
2016	17.0	0.0	0.0	0.0
2017	17.0	0.0	0.0	0.0
2018	17.0	0.0	0.0	0.0
2019	17.0	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Project 1: 4-H Science

Youth and adults will increase science processing skills through current 4-H projects. Animal science programs and projects will integrate science processing skills and quality assurance practices. Target areas include robotics at the county, district and state levels and animal evaluation and livestock skill-a-thons at the local and state levels.

Project 2: Healthy Living

Youth and adults will increase knowledge and practice of healthy living skills by focusing on think-your-drink activities to reduce sugar and calorie intake and redirect participants to increasing fruits, vegetable, whole grains and low-fat dairy foods.

Project 3: Youth and Adult Leadership and Volunteer Development

Youth/adult leadership and citizenship skills are enhanced and enriched through continous development in the areas of recruitment, retention, and training. These activities will be research-based adn will best meet the individual county needs. As a part of this improvement process, the roles of youth and adults should be both meaningful and clearly defined.

Project 4: Reaching Underserved Audiences

Continue outreach to underserved youth and adults in the University of Idaho 4-H Youth Development programs through afterschool and targeted programs.

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 ● Other 1 (4-H clubs, camps, afterschool pr)	● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites other than eXtension

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)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(H). State Defined Outputs

1. Output Measure

- Number of youth in educational classes, workshops, trainings, seminars taught (individual teaching contacts).
- Number of volunteers in educational classes and workshops.
- Number of opportunities to promote 4-H Youth Development (publications, newsletters, columns, radio PSA's, radio/TV appearances) written or developed.
- Number of educational classes, workshops, trainings, seminars taught (teaching contacts).
- Number of 4-H clubs or groups.
- Number of youth attending statewide 4-H events.
- Number of volunteers attending county, multi-county, district, state, regional, and national events.
- Number of hits on the web site each year.

☑ Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

V(I). State Defined Outcome

O. No	Outcome Name
1	Professional Development for 4-H professionals and volunteers, increasing awareness for 4-H Science project areas. Indicator: Number of workshops offered.
2	Increased knowledge of healthy beverage choices Indicator: Number of program participants who are able to identify what a healthy beverage is and why it is a healthy choice.
3	Increase the number of volunteers per year to reflect the needs of 4-H POW project areas. Indicator: A net increase of 200 volunteers per year accounted for on the annual ES237 volunteer categories.
4	Increase youth and adult volunteer participation in up-to-date, relevant Positive Youth Development, Leadership, and content-related training. Indicator: Total number of youth and adults who attend training and demonstrate knowledge gained in up-to-date positive youth development, content-related training, and leadership-related trainings.
5	Policy changes and cultural climate support to create acceptance of non-traditional programs and their participants. Indicator: Training on the use of culturally relevant curricula and resources
6	Increase youth awareness, application, and value of science in everyday life. Surveys using Common Measures Indicators.
7	Increase the number of educational opportunities to enhance animal husbandry knowledge among youth and adults. Number of educational opportunities offered.
8	The total number of youth and adults trained in communication, teamwork, and other community development skills will increase. Indicator: The total number of youth and adults who assume leadership roles will increase.
9	Increase support for under-served populations by developing programs specifically targeted for youth in non-traditional homes. Indicator: The number of partnerships through Extension and county offices with non-UI funded organizations, businesses, or agencies through cash funding (grants) or in-kind contributions.

Outcome # 1

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

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

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

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 724 - Healthy Lifestyle
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Increase youth and adult volunteer participation in up-to-date, relevant Positive Youth Development, Leadership, and content-related training. Indicator: Total number of youth and adults who attend training and demonstrate knowledge gained in up-to-date positive youth development, content-related training, and leadership-related trainings.

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 724 - Healthy Lifestyle
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 5

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 6

1. Outcome Target

Increase youth awareness, application, and value of science in everyday life. Surveys using Common Measures Indicators.

2. Outcome Type : Change in Knowledge Outcome Measure

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 # 7

1. Outcome Target

Increase the number of educational opportunities to enhance animal husbandry knowledge among youth and adults. Number of educational opportunities offered.

2. Outcome Type : Change in Knowledge Outcome Measure

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

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

2. Outcome Type : Change in Knowledge Outcome Measure

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 # 9

1. Outcome Target

Increase support for under-served populations by developing programs specifically targeted for youth in non-traditional homes. Indicator: The number of partnerships through Extension and county offices with non-UI funded organizations, businesses, or agencies through cash funding (grants) or in-kind contributions.

2. Outcome Type : Change in Knowledge Outcome Measure

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

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

Due to the economic uncertainty, the 4-H Youth Development team may be required to reduce programs and opportunities offered to youth and families. The work outlined in this document assumes that a base level of funding will remain in place. The 4-H Youth Development team will adapt to meet problems and challenges as they arise.

V(K). Planned Program - Planned Evaluation Studies

Description of Planned Evaluation Studies

Faculty and staff may use several data collection types to document changes in condition, knowledge and behavior changes. The following data collection methods have specifically been identified by the various project teams

4-H Science
* Pre/Post test Knowledge and skill survey and follow up (Animal Science)

Volunteer and Leadership Development
* Use of 4-H Online to track participation in workshops and trainings
* Pre/Post course survey to determine learning gains
* Use ES237 and 4-H Online to track total number of volunteers