PLAN OF WORK UPDATE

SUBMITTED TO CSREES

BY

THE COOPERATIVE EXTENSION SERVICE

AND

THE AGRICULTURAL EXPERIMENT STATION

College of Agriculture University of Wyoming

October 1, 2004 – September 30, 2006

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The University of Wyoming Cooperative Extension and Agriculture Experiment Station Plan of Work Update for the period of October 1, 2004 to September 30, 2006.

This report includes an update of the University of Wyoming plan of work submitted for the period October 1999 – September 2004. This update includes only information which is significantly different from the initial POW.

Stakeholder Input:

A joint research and extension needs assessment was completed fall 2003. The assessment included a mail survey sent to a stratified sample of agricultural producers, 4-H leaders, family and consumer sciences professionals, County Commissioners and College of Agriculture faculty and staff. A phone survey was also conducted with over 200 members of the general public selected from a random sample to determine needs in research and extension. Area advisory committees meet at annually in nine extension areas of the state to provide input on issues and program direction for CES. The Director of CES formed an advisory committee of County Commissioners which meet during quarterly meetings of the Wyoming County Commissioner's Association. In addition, the Cent\$ible Nutrition program (EFNEP and FSNP) holds targeted advisory meetings in each county to gain stakeholder input on reaching limited resource families. County 4-H staff has established 4-H expansion and review committees to specifically address outreach efforts toward underserved youth audiences. The four Research & Extension Centers has an advisory committee that meets annually. These committees provide information on existing research and outreach programs and input regarding priority needs for research and extension.

Program Review Process:

The merit review process for extension programs covers all programs conducted by UW CES. A team leadership model is utilized to review program plans and direction for CES programs as outlined in the 2003 UW CES Strategic Implementation Plan. Program initiative teams develop and review programs on an annual basis. Teams make decisions to maintain, modify, or create new programs to meet the needs identified through external and internal stakeholder input.

Projects supported with formula funds (Hatch, Multi-State, McIntire-Stennis, Animal Health) must be approved projects. The project proposal is transmitted to the Department Head and the Head appoints a minimum of two scientific reviewers, who are knowledgeable in the field, to review the proposal. After a proposal is revised based on the above review, it is transmitted to the AES Director. The Director's office assigns three scientific reviewers, who are knowledgeable in the field, to review the proposal.

The Wyoming Agricultural Experiment Station administers an internal competitive grants program using a portion of its federal dollars. Proposals are reviewed by a ten member university-wide committee. Each proposal is also sent to external reviewers. Proposals are returned with comments to the ten member university-wide committee who submit to the AES Director projects recommended for funding.

Summary of Resource Allocations:

Projected resource allocations for FY 2004 – 2006 are shown at the end of each national program goal.

Multi-State Projects:

The UW College of Agriculture is currently involved in multi-state projects under each national goal. Information is provided under internal and external linkages in programs and goals.

Programs and Goals:

Program 1:

Enhance Agricultural Systems that are highly competitive in the global market.

Issue: Agriculture remains the pillar of Wyoming's economy. Agriculture is among the top five employers in 76% of the state. In addition, 97% of all private land in Wyoming is agricultural, creating a significant repository for the state's resources. Livestock and livestock products generated 77% of agriculture's cash receipts of \$905 million in 2003. The livestock industry is forage based with both private and public lands providing hay and standing forage for livestock production. These same private and public lands provide forage for game and other animals which are important to the State's economy generated from tourism and recreation. Hay is the leading crop with 2003 production valued at over \$220 million, mostly marketed through livestock.

The UW CES Initiative Profitable Sustainable Agricultural Systems (PSAS) recognizes the importance of agricultural communities utilizing a sustainable approach to the adoption of new ideas, technologies, practices and enterprises as well as the traditional values and practices. Economic, environmental, and social impacts must be considered when evaluating existing practices and new technologies in the context of the overall agricultural system now and into the foreseeable future.

Performance Goal 1: Research, develop and present programs which emphasize new ideas, technologies, practices, and enterprises inclusive of sustainable economic, environmental and social impacts. Strategies for success will include:

- Complex problem solving
- Increase the use of integrated sustainable production systems
- Provide participants with an enhanced understanding of a systematic method for problem solving
- Use of systems that are economically viable, environmentally sound, and socially acceptable
- Collaborative effort with other agencies and groups

Performance Goal 2: Develop an intensive communication grid for program delivery, marketing and problem solving. Strategies for success will include:

• Web Based Information Systems

- Mass communications including TV based programming
- Newsletters and fact sheets
- Compressed video
- E-mail and personalized letters

Performance Goal 3: Provide training to increase the level of competency of the PSAS team to address issues as previously noted. Strategies for success will include:

- Intensive in-service education
- Symposiums and Seminars

Output Indicators:

- 1. Number of programs presented by the PSAS team for issues related to the "Young Beef Female", horticulture, crop management and small acreages
- 2. Professional improvement training for the team members
- 3. Increased understanding of integrated/sustainable production systems
- 4. Number of research and extension publications
- 5. Number of television and radio programs conducted
- 6. Number of web based hits for information provided

Outcome Indicators: Indicators identified to measure impact and effectiveness of efforts includes:

- Increased use of integrated production practices
- Adoption of technology and/or production systems to enhance long-term sustainability and profitability
- Increased decision making and problem solving skills by producers
- Reduced production costs per unit of product produced
- Increased collaborative efforts

The PSAS team is documenting through evaluation impacts that indicate improvements or changes in skills, knowledge, practices or behaviors as a result of projects or programs.

Key Program Components: Program components include but are not limited to:

 Symposiums 	 Web page hits
 Classes, courses 	 Programs
 Seminars 	 Technical Assistance
 Publications, newsletters 	 Office visits, telephone inquiries
 Research 	 Media based learning opportunities
	including TV and radio

Internal and External Linkages:

Research and Extension professionals are currently involved in five multi-state projects W-1177, W-112, W-006, NC-226, and W-186 with 21 ongoing Hatch projects. Well over 50 percent of the projects are integrated research and extension. Partnerships, collaborative ventures and team based opportunities will pervade PSAS programming to ensure multi-disciplinary sharing of knowledge and expertise. Regional, national or international efforts are encouraged when

appropriate. Funding will be sought for PSAS Team efforts from inside and outside the formal CES System.

Target Audiences:

Educators and specialists are committed to serving their area/state with programs to meet this national goal. Research and educational efforts will focus on agricultural managers and producers as well as state and federal resource managers, persons living on a few acres and homeowners dealing with horticulture related problems and planning. CES and other college professionals are committed to reaching the total population of Wyoming including the under served and under represented Native American and Hispanic populations.

Category		FY 2004	FY 2005	FY 2006
Extension	(S)	\$2.01 M	\$ 2.1 M	\$2.1 M
FTE's		22.27	22.27	22.27
Research	(S)	\$3.5 M	\$3.0 M	\$ 3.1 M
FTE's		14.8	15	15

Program Duration: FY05 and FY06 (October 2004 – September 2006)

Program 2:

Enhance a safe and secure food and fiber system.

Issue: Food is essential for life and a safe food supply is key to health. This plan seeks to reduce the risk of foodborne illness through research and education that will foster a safe, secure food supply.

Given the public's varied avenues for access to food, reducing the risk of foodborne illness necessitates comprehensive educational intervention from the producer to the consumer. At all levels, food safety activities in this plan will build on principles of HACCP (Hazard Analysis Critical Control Points), the prevention-based food safety system that identifies and monitors foodborne hazards. Research addressing food quality and safety issues directed at these processing, handling and preparation sites is key to enhancing the safety of the food supply. Research-supported food safety educational programs are necessary at all levels to reduce foodborne illness. Programs need to be reactive to emerging issues such as new pathogens and more virulent strains of existing ones, and threats by bioterrorists.

Performance Goal: Reduce the risk of foodborne illness by improving the safety of the food supply in Wyoming from producer to consumer.

Objective: Promote safe food handling practices through collaborative educational efforts.

Output Indicators:

- 1. Programs and other educational efforts conducted with food producers, food processors, food service personnel and home food preparers regarding food quality and safety.
- 2. Number of participants completing programs regarding food quality and safety.
- 3. Research and Extension publications developed and/or distributed.
- 4. Extramural funding sought to support Research and Extension programs.

Outcome Indicators:

Impact Statements reporting outcomes and impacts of Research and Extension programs will be used to indicate outcomes such as:

- 1. Increase consumer awareness regarding food safety and foodborne risks and illnesses.
- 2. Demonstrate completion of food safety program.
- 3. Improved food safety behaviors or practices.

Key Program Components:

The College of Agriculture conducts research and provides educational programs to adults and youth throughout the state.

 Workshops, seminars 	 Electronic learning opportunities
 Classes, courses 	 Programs, public events
 Publications, newsletters 	 Technical Assistance
 Research 	 Assessments
 Displays 	 Media based learning opportunities

Internal and External Linkages:

Partnerships with Cooperative Extension and Research in other states will be developed as appropriate to meet this goal. In addition, partnerships with other food safety leaders both within and outside Wyoming will be developed and enhanced. Collaboration of programs and sharing of resources are financial necessities.

Research and Extension professionals at UW are currently involved in multi-state projects. Current multi-state Research and Extension collaborations will be supported and future participation will be encouraged.

Target Audiences:

Extension and Research professionals are committed to reaching the total population of Wyoming including the under-served and under-represented populations. Educational efforts will focus on agricultural producers; meat and other value-added food processors; food service personnel in commercial facilities, institutions and non-profit organizations; and residents of all ages who prepare and serve food.

Category		FY 2004	FY 2005	FY 2006
Extension	(S)	\$379,694	\$387,287	\$395,032
FTE's		4.07	4.0	4.0
Research	(S)	\$.16 M	\$.16 M	\$.17 M
FTE's		.5	.5	.5

Program Duration: FY05 and FY06 (October, 2004-September, 2006).

Program 3:

Enhance a healthy, well-nourished population

Issue: Many Americans have eating and physical activity habits that are not in keeping with recommendations for optimal health. A recent survey shows that Wyoming residents tend to be too sedentary and eat too few fruits and vegetables. A three-state research study that included two Wyoming communities has linked overweight/obesity with frequency of certain behaviors: intake of sweetened beverages, consuming super-sized portions, and eating while doing other activities. A complicating factor is that many Wyomingites have limited resources, which increases their risk of nutrition-related health problems and chronic diseases.

Research-based educational programs are needed to promote people's enjoyment of nutritious, affordable food and physically active living and to help them feel good about their bodies and who they are. This can motivate people to achieve healthy and enjoyable lifestyles regardless of age, weight, or income.

Performance Goal: Enhance the lives of Wyoming residents through research and education on human nutrition and healthy lifestyles.

Objective: Promote good nutrition, healthy and pleasurable food preparation and eating, sound resource management practices, active living and positive self-image.

Output Indicators:

- 1. Participants completing non-formal nutrition education and health programs.
- 2. Participants whose intent is to adopt improved nutrition and health practices after completing one or more of these educational programs.
- 3. Research and Extension publications developed and/or distributed.
- 4. Extramural funding generated to support Research and Extension programs.

Outcome Indicators:

Impact Statements reporting outcomes and impacts of Research and Extension programs will be used to indicate outcomes such as:

- 1. Improved food resource management practices.
- 2. Improved nutrition practices, including: improve food preparation skills, increase fruits and vegetable intakes, better control of portion sizes, and increase mental

presence when eating.

- 3. Increased physical activity.
- 4. Shift focus to health-centered from weight-centered lifestyle choices.

Key Program Components:

The College of Agriculture conducts research and provides educational programs to adults and youth throughout the state. Activities include:

 Workshops 	 Electronic learning opportunities
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 Classes, courses 	 Programs
 Seminars 	 Technical Assistance
 Publications, newsletters 	 Assessments
 Research 	 Media based learning opportunities
 Displays 	 Public events

Internal and External Linkages:

Partnerships with CES and Research in other states will be developed as appropriate to meet this goal. Partnerships with other food safety leaders both within and outside Wyoming will be developed and enhanced. Collaboration of programs and sharing of resources are financial necessities.

Research and Extension professionals are currently involved in multi-state projects NC-167 and W-1003. Current multi-state Research and Extension collaborations will be supported and future participation will be encouraged.

Target Audiences:

Extension and Research professionals are committed to reaching the total population of Wyoming including the under-served and under-represented populations.

	FY2004	FY 2005	FY 2006
Extension (\$)	\$2.4 M	\$ 2.5 M	\$2.5 M
FTE's	26.15	26	26
Research (S)	\$.18 M	\$.4 M	\$.41 M
FTE's	.75	2.25	2.25

Program Duration: FY05 and FY06 (October, 2004-September, 2006)

Goal 4 - Greater harmony between agriculture and the environment

Issue: An educational program initiative was established to consider the profound influence of natural resource issues on the economy, quality of life, and "custom and culture" of Wyoming communities. Livestock production is largely dependent upon native rangelands, which also provide critical wildlife habitat, water resources, oil, gas, mineral reserves, and recreational opportunities. A variety of ecosystems, from near-pristine wilderness, forests, and rangelands to

urban landscapes, make Wyoming a unique and inviting place. The demand for science-based information, education, and technical expertise in developing sustainable management strategies, evaluating public policy, and addressing complex natural resource issues is increasing in Wyoming. As an "upstream state" with a small population and semi-arid climate, there is critical concern in Wyoming over water resources and the increasing demand from lower basin states. Water quality and quantity policies, particularly those related to non-point source pollution, continue to be crucial statewide issues.

Performance Goal 1: Wyoming rangeland resource issues will be addressed through an integrated educational approach to meet the complex needs of statewide clientele.

- Utilize an institutional structure that promotes and supports interdisciplinary approaches when developing educational programming.
- Address rangeland resource issues through participation and leadership in collaborative processes.
- CES will provide trained and competent facilitators, technical advisors, and process participants to assist the collaborative process in resolving natural resource conflicts.

Performance Goal 2: Educational programs will target non-technical audiences to increase understanding and appreciation for sustainable rangeland resource management.

• Public education is a proactive approach to minimizing rangeland resource conflicts, formulating sound public policy, and mitigating existing situations. Media including television, radio, newspapers and web-based information will be used to disseminate natural resource information to the public.

Performance Goal 3: Educational programs for Wyoming agricultural producers, landowners, and other rangeland resource managers will promote natural resource sustainability and stewardship.

- Increase awareness and the knowledge base of clientele on environmental science including conserving, maintaining and protecting ecosystem integrity and biodiversity.
- Increase the effectiveness of constituent and citizen participation on public policy issues affecting agricultural production, the environment and ecosystem integrity and biodiversity.
- Provide educational programs that address public policy influences on rangeland resource management issues in Wyoming.
- Increase the effectiveness of grazing programs through educational efforts. The majority of Wyoming ranches are dependent upon forage from federal and state lands during some portion of the annual production cycle. The economic viability of many ranches is directly dependent upon forage availability.

Output Indicators:

- Applied research, demonstrations, and educational materials developed.
- Extension educators improving or maintaining their knowledge of rangeland resource subject matter, current issues, and their proficiency in employing integrated management approaches through in-service training.
- Facilitation, technical assistance, or representation by CES's as a stakeholder in the collaborative process.
- Media used to disseminate information including radio, TV and print.
- Number of educational rangeland resource programs for youth, including 4-H projects, wildlife habitat evaluation, range judging, Ag in the Classroom, and natural resource camps.
- Educational programs developed to address existing or emerging policy decisions Number of collaborative partnerships formed with federal and state agencies and other stakeholders.
- Research and Extension publications developed and/or distributed.
- Extramural funding sought to support Research and Extension programs.

Outcome Indicators: The SMRR team is looking for impacts that indicate improvements or changes in skills, knowledge, behaviors or practices as a result of Extension products or programs.

- Increased collaborative efforts among CES, specialists, faculty, and stakeholders.
- Increased use of collaborative processes to address rangeland resource issues.
- Reduced regulatory and litigious responses to rangeland resource issues.
- Increased appreciation, knowledge, and understanding of rangeland resource management by the general public.
- Improved long-term profitability, economic stability of Wyoming ranches.
- Increased adoption of sustainable rangeland resource management strategies.
- Increased implementation of rangeland monitoring programs.
- Increased implementation of integrated management strategies.

Key Program Components: Program components include but are not limited to:

 Workshops, programs 	 Electronic learning opportunities
 Classes, courses 	 In-service training
 Range College 	 Technical Assistance
 Publications 	 Range Monitoring
 Research 	 Media based learning opportunities

Internal and External Linkages

Multi-state research projects include: W-170, W-128, and W-188. Partnerships, collaborative ventures, team based opportunities and focused targeting of audiences will characterize efforts to ensure comprehensive and integrated multi-disciplinary educational programming. Funding will be sought for educational efforts from inside and outside the formal CES system.

Target Audiences

Extension educators are committed to serving the area/state clientele with programming serving the national goals. Audiences to be targeted include the general public, casual users of information who have specific information requirements, and those whose larger needs create a critical demand for comprehensive, integrated, and multidisciplinary information.

	FY2004	FY 2005	FY 2006
Extension (\$)	\$1.0 M	\$ 1.0 M	\$1.2 M
FTE's	10.72	12	12
Research (S)	\$1.5 M	\$1.5 M	\$1.7 M
FTE's	4.5	7.0	8.0

Program Duration: FY05 and FY06 (October, 2004-September, 2006).

Program 5

Enhance economic opportunity and quality of life for Americans.

Issue: Community assessments conducted around the state in 2000-2003 consistently identify community economics as a major issue or concern among residents, businesses, community leaders, elected officials and young people. The Community Economic Development pyramid from the Kansas State Research and Extension shows a layered approach to understanding community economics. The pyramid's foundation begins with superior leadership, adds efficient local government, and building effective partnerships. These foundational layers within the Community Economic Development pyramid are followed by business environment, retention and expansion, firm creation, local linkages, capture dollars and attraction. The UW CES initiative called Enhancing Wyoming Communities and Households (EWCH) can assist communities with research based information, process assistance, expanding partnerships, educational sessions and technical assistance. The goal of the EWCH team is to enhance Wyoming communities and the well being of households through relevant integrated educational and resource management programs. The team focuses on increasing the capacity of communities, enterprises and families to create communities which offer a sustainable future in which to live learn and work.

For over one hundred years, 4-H has been giving youth the opportunity to develop competencies or life skills that enable them to grow into mature, productive, and healthy adults. Recent studies conducted by the Search Institute have shown that over 60 percent of youth are lacking in sufficient developmental assets needed for healthy development. Not only are youth lacking in developmental assets, they are making unhealthy choices that lead to at-risk behaviors. Research has shown that continuous participation in a positive youth development organization, such as 4-H, youth are less likely to participate in risky behaviors and more likely to posses the developmental assets to succeed as adults.

Performance Goal 1: Community issues will be addressed using a multi-disciplinary educational approach (Community capacity).

- 1. The Extension Volunteer Organization for Leadership, Vitality, and Enterprise (EVOLVE) program provides rural Wyoming communities with a collaborative process to plan, implement and evaluate their community-based leadership development efforts. The process involves local, regional and state partners in a comprehensive program aiming to develop social capital and enhance individual and communities leadership capacity.
- 2. As trained mediators, the EWCH team provides process skills in mediation and facilitation to assist individuals and groups in visioning, problem-solving, decision making, planning meeting management and conflict resolution. Participation in a process or structured format enhances individual abilities in active listening, effective communication, questioning and dialogue to address family, group or community issues.
- 3. Community economic analyses show the structure of local economics (jobs, income, taxes), Wyoming's relationship to the rest of the world, and local economic and demographic data helpful to Wyoming leaders. The compilation of unbiased data and information assists Wyoming's leader's understanding of community economies to allow for more informed and knowledgeable decision-making.

Performance Goal 2: Increase job opportunities, sustain viability for rural communities and improve business opportunities, and develop home-based and other small business enterprises. (Firm Capacity).

- 1. Gaining expertise to make better economic decisions, diversify economic activities, manage resources and develop effective financial plans will assist rural enterprises to compete more effectively locally, regionally and internationally.
- 2. Learning to better manage agriculture risk, insurance and labor will result in more effective labor relations, economic decisions and better practices to manage risk by agriculture businessmen and producers.
- 3. Participation in international education will cross cultures to identify commonalities, opportunities and may influence or alter decisions made by rural family enterprises in several countries.

Performance Goal 3: Wyoming residents' knowledge and understanding of consumer and household economic issues will increase through education programs that focus on lifelong financial management and decision making skills (Family Financial Capacity).

- 1. Awareness of consumer issues such as fraud and scams will allow choices and alternatives for decision making.
- 2. Limited resource audiences will improve their financial skills through assistance from personnel at Department of Family Services, Employment Centers, Drug Courts and other organizations and agencies trained by CES.
- 3. With aging baby boomers, particularly in Wyoming, financial security in later life can provide a more stable, planned-for future for retirees.

Performance Goal 4: UWCES will engage in educational programs that give youth an opportunity to build assets and life skills essential for a productive healthy lifestyle.

- 1) Foster asset building and life skills development in Wyoming youth through traditional 4-H delivery methods.
- 2) Benefit and complement the current 4-H program by offering life skills education to non-traditional audiences.
- 3) Empower volunteers to become key players in 4-H and youth development programs.

Output Indicators:

- 1. Programs or courses taught or provided by EWCH team members in topics relating to community, firm or family financial capacity.
- 2. Publications, research studies, and technical assistance for Wyoming people to increase their capacity at the community, firm or family financial level
- 3. Number of programs delivered targeting youth and volunteer leaders.
- 4. Numbers of youth and volunteer leaders served.
- 5. Extramural funding generated to support research and extension projects.

Outcome Indicators:

Seven indicators have been identified to measure impact and effectiveness in the three EWCH performance goals. CES is looking for impacts that indicate improvements or changes in skills, knowledge or behaviors as a result of Extension products or programs with the following indicators:

- Communication
 Problem solving
- Decision making
 Leadership
- Goal achievementNetworks
- Financial skills

Additional indicators for youth development programs include:

- 1) Increased asset development.
- 2) Increased life skills.
- 3) Increased career development.
- 4) Increased demonstration of leadership skills for youth and adults.

Key Program Components:

Program components include but are not limited to:

 Workshops 	 Electronic learning opportunities
 Classes, courses 	 Programs
 Seminars 	 Technical Assistance
 Publications 	 Assessments
 Research 	 Media based learning opportunities
 Decision making and judging 	 Food Project Development
contests	 Newsletters and news releases

Internal and External Linkages:

Partnerships, collaborative ventures and team based opportunities will pervade EWCH and 4-H and youth programming to ensure multi-disciplinary sharing of knowledge and expertise. All

youth organizations, agribusiness organizations, schools, government entities and other UWCES initiative teams will be important partners. Regional, national or international efforts are encouraged when appropriate. Funding will be sought for initiative team efforts from inside and outside the formal CES system. Current multi-state projects include: W- 192, W-193, NC-223, W-194, and W-1133.

Target Audiences:

Existing or potential leaders throughout Wyoming, community organizations, individuals and families with rural family enterprises, low-income and aging individuals interested in improving their financial skills, agency personnel and non-profit organizations. 4-H/Youth educators and specialists are committed to serving their county/state with programs under this national goal. Targeted audiences are youth enrolled in the traditional 4-H program, at-risk youth, parents/families, under-served and under-represented population of Wyoming including Native American and Hispanic, limited English speaking audiences, senior citizens, and youth agencies and organizations.

	FY2004	FY 2005	FY 2006
Extension (\$)	\$3.6M	\$3.7 M	\$ 3.75
FTE's	38.66	39	39
Research (S)	\$.35 M	\$.45 M	\$.46 M
FTE's	1.75	2.25	2.25

Target Audiences:

Program Duration: FY05 and FY06 (October, 2004-September, 2006).