PLAN OF WORK

SUBMITTED TO CSREES

BY

THE COOPERATIVE EXTENSION SERVICE

AND

THE AGRICULTURE EXPERIMENT STATION

College of Agriculture
University of Wyoming

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Glen Whipple, Ph.D.
Associate Dean and Director
Cooperative Extension Service

James J. Jacobs, Ph.D.
Associate Dean and Director
Agricultural Experiment Station

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I. The Mission of the College of Agriculture

Our mission is to serve the educational and information needs of students, Wyoming citizens and communities, and the global scientific community by pursuing and distributing unbiased, scientifically - based information on food and fiber systems, biological and human sciences, and natural resources. We will provide access to information from global sou rces, facilitate open and respectful dialogue, and encourage personal responsibility.

II. The Strategic Plan

Guiding Values

The College of Agriculture's Strategic Plan, completed in May 1998, reflects the land-grant philosophy and tripartite responsib ility of instruction, research, and outreach. This plan stimulates and fosters creativity, diversity, and cooperation as well as competitiveness, entrepreneurship, and accountability while maintaining the academic freedom and financial solvency of the col lege.

The Strategic Plan addresses the educational, research, and professional service needs of Wyoming residents. This plan positions the college to be a credible leader in developing sustainable agricultural systems, managing natural resources, improv ing the quality of everyday life in our communities, and providing a global perspective to enhance the knowledge and decisions of individuals, families, and communities, statewide.

Vision

Our vision is to support the people of Wyoming through problem solv ing and striving to better understand the world in which we live; to provide the nourishment which sustains intellectual creativity and enables our clientele to make life's choices; and to transfer to the people of Wyoming practical information designed to carry out those choices.

Agriculture and Change

Agriculture and society are changing. The institutions that served as the catalyst for change in the past now find themselves in a reactionary mode to ever-increasing change. For the benefit of the people of Wyoming, the College of Agriculture must take steps now to ensure a proactive role in the future. The college must anticipate tomorrow's needs by planning today.

Technological changes in agricultural production and processing, along with consumer dem ands, are altering the way in which markets link producers, processors, and consumers. In this new era, production and processing changes and environmental issues will continue to be driven by consumer demands and concerns. Only through understanding the entire foods system from the primary production inputs to presentation of the final product to the consumer, will our graduates be the most effective contributors to society.

Wyoming residents and communities face challenges from economics and social cha nges. Agriculture, natural resource, and human issues are interdependent parts of these changes and integral components

of rural and urban development. Individuals, families, and communities need academic and proactive community education, research partnerships, and leadership resources to deal with issues that affect them. While the issues are dynamic and often vary by region of the state, child, youth, family, and community development have been identified as relevant to the college's mission.

Wyoming agriculture is a contributor to the balance of trade and is affected by global issues. Recent international trade agreements and changes in federal policies will require new educational efforts and research technology to remain competitive in a global economy. Minimizing production costs of agricultural and natural resource products, developing new and unique products for which Wyoming has a comparative advantage, developing quality assurance programs, forming partnerships, and focusing on value-added opportunities can create niches in the national and international marketplace.

To the best of our ability, we must provide education and information to Wyoming citizens, so that as a state, we can continue to compete successfully in agriculture, food, and natural resource markets. The goal of the college is to develop individuals who are academically outstanding in their disciplines, culturally sensitive, and competent in global issues. The 21st century will demand a well-educated labor force capable of lifelong learning. Academic and professional institutions must bring together the world's best scientists and educators. These individuals must operate in multi disciplinary modes, addressing the increasingly complex problems facing agricultural and natural resource systems to meet the individual, entrepreneurial, and technological needs of society. This will require worldwide access to knowledge and expertise. The top priority must be to deliver high quality, relevant curricula, research, and educational programs.

In looking toward a future filled with opportunities but constrained by resources, the College of Agriculture must focus on priority agricultural, environmental, and human resource needs of the state. In reaction to the changing characteristics of agriculture, the environment, and Wyoming communities, there are several issues the college must address. These interdisciplinary goals, objectives, and strategies have been developed in response to the strategic issues. The college has historically been part of the changes agriculture has faced and will be an integral part of the future of the State of Wyoming.

Wyoming Agricultural Systems

Wyoming is known for its production of livestock, forage, minerals, and natural resources and for its wide-open spaces. Rangelands and forests cover more than 80 percent of Wyoming's land surface, and these areas have consistently been used for livestock and wildlife, timbering, mining, oil and gas, and recreation. Wyoming's open spaces enhance the economic opportunities of individuals, firms, and communities by providing an attractive setting for businesses, tourists, and outdoor recreational enthusiasts who seek a pace and lifestyle that only Wyoming can offer.

Livestock continues to be a major component of Wyoming agriculture. Forage-based animal agriculture is the only basic industry found in all 23 Wyoming counties, and marketing of livestock and livestock

products accounts for approximately 78 percent of statewide agricultural cash receipts. Grazing animals convert grass from rangeland and forage from cultivated lands into marketable products, therefore filling a demand for human consumption.

Alfalfa is an important cash crop and an integral part of livestock production in Wyoming. Aftermath from irrigated crops also supports livestock enterprises on farms and ranches. Crop agriculture throughout the state includes: winter and spring wheat, oats, barley, millet, corn, dry edible beans, sunflowers, potatoes, and sugar beets. In addition to these traditional crops, producers and homeowners are showing an increased interest in horticulture and more speciality crops.

A broad spectrum of regulations and policies, such as those affecting grazing of public lands, endangered species, trade, agriculture, and water, have continuing and significant impacts on Wyoming. Other issues, such as predator control and the subdividing of ranches containing critical winter range, also affect the viability of agriculture. Each of these impacts production agriculture, wildlife, and the economics of Wyoming's rural communities.

During the next decade, college instruction, research, and Cooperative Extension and outreach programs will face many challenges in responding to the changing needs of our clientele. Improved animal and plant genetics, pest control, soil fertility management, soil and water conservation, integrated management systems, and domestic and international marketing are needed to maintain profitable and sustainable agriculture.

Natural Resource Management

Wyoming has abundant natural resources. A variety of ecosystems and agro ecosystems, from near-pristine wilderness to well managed forests, rangelands, and urban landscapes, make Wyoming a unique and inviting place. Wyoming's economy is based on use of its natural resources (minerals, energy, and agricultural products) by United States and global economies. This state is characterized by rural areas and wildlife resources and serves as a national and international tourist destination. Management of natural resources and associated environmental issues permeate nearly every aspect of life in Wyoming. Because this state is known for its wide-open spaces, wildlife, and public lands, demands and expectations of the public can be conflicting. Natural resources issues are of particular interest. The integrity of Wyoming's natural resource base and the state's diverse ecosystems will be the central theme of the college's natural resource focus in research, extension, and teaching efforts.

The natural resource focus of the college will provide research and educational programs designed to foster an understanding of the functioning of Wyoming ecosystems as related to the needs and concerns of the state. The public must have confidence that College of Agriculture personnel are both knowledgeable and unbiased in their research, teaching, and extension responsibilities. The college's focus will involve collaborative efforts with other UW colleges and programs, such as the School and the Institute of Environment and Natural Resources. Also, these programs will build upon the applicable knowledge base from sources outside the university. They will be designed to provide science-based answers to environmental and natural resource management issues., Teaching, research, and

Cooperative Extension outreach efforts will stress an interdisciplinary approach to problem solving and conflict resolution in managing natural resources.

Family and Community Resources

Historically, the land-grant mission has included a focus on the roles of people in agriculture and rural communities. The college strives to better understand individuals, families, and communities in order to better serve them. In acknowledging these roles, the College of Agriculture has, throughout its history, had a strong social and human science emphasis.

Family and Consumer Sciences has been a part of the college since its inception. The focus of improving quality of everyday life in near environments (home, school, work and communities) has been influenced by its history of service in home economics. The community resource focus of Agricultural and Applied Economics appeared much later, having been an important part of the college's mission since the department was formed in the 1950s.

4-H and youth programs were initiated early on in the history of UW Cooperative Extension in order to disseminate technology and information to farmers, ranchers, and families through the education of their children. The double impact of education and development for children and youth as well as the influence on families and communities has been a continuing success of these programs.

The people of Wyoming, particularly those in rural areas, have needs that demand knowledge and skills in the social and human sciences. Examples of these needs are: divestiture of the federal government's responsibilities in human services; balances between environmental protection and economic development; child and youth development; workforce preparedness; maintaining and ensuring a quality food supply; adjustment to significant demographic changes, including a rapidly aging population and geographic population shifts; and an increased impact of global economies and issues on United State markets and communities.

Integrated Focus

Providing a quality education, discovering new knowledge, and serving a diverse clientele encompass the primary responsibilities of the College of Agriculture. Society's perception of how responsive and credible the college is stems mainly from the manner and the extent to which these responsibilities are met.

The College of Agriculture has a long and distinguished history of research, teaching, extension, and professional service focusing on human and renewable natural resources. The college will utilize a more cooperative and integrated approach to build upon this strength through the identification and development of specific program areas. The following three program areas were identified through the strategic planning process as being of highest priority to the people of Wyoming:

- Profitability and Sustainability of Agricultural Systems
- Natural Resource Management

- Family and Community Resources

The college's teaching, research, and extension activities will support these program areas. To address the needs of Wyoming's citizens, goals were selected to insure that many avenues can be pursued.

- Support the three core programs in the college with basic research to insure future relevancies.
- Conduct basic and applied research that discovers and verifies knowledge addressing the problems and issues of society.
- Research and Extension Centers will use a collaborative and integrated approach in responding to the needs of Wyoming.
- An administrative structure will be implemented that includes policies to ensure fairness to all college personnel, equitable distribution of opportunities, integration with teaching and research, collaboration across content areas, and an overall focus on providing quality educational programs and service to the people of Wyoming.
- Cooperative Extension will increase its university collaboration within and beyond the College of Agriculture and increase its state, national, and international linka ges with counterpart institutions and organizations to collaborate in providing high -quality programs to the people of the state.
- There will be greater integration of traditional Cooperative Extension program areas (agriculture and natural resources; individual, family, and community resources; and 4 -H and youth development) and greater collaboration across content lines to address the problems and issues of importance to the people of Wyoming.
- Programs in Cooperative Extension will be strengthened at both the county and specialist levels, and a mutually beneficial relationship will be developed between Cooperative Extension field personnel and other elements of the college and the university.
- The relationship between Cooperative Extension and the people of Wyoming will be strengthened by providing a greater role for clientele in planning, implementing, evaluating, and supporting Extension programs.
- There will be greater visibility for Cooperative Ex tension throughout the state.

III. Stakeholder Input:

In 1997 the University of Wyoming contracted with the Custom Syndicated Research, Inc. to prepare a statewide stakeholder satisfactions study. In the survey, county clientele were asked to list the most pressing issues facing the county for the next 3 - 5 years and the most pressing issues facing the family for the next 3 - 5 year. The results of these intermediate and long term issues were gathered for each county and compiled for the state.

In addition to the pressing issues facing the county and family mentioned above, other questions asked included: have local people been involved in determining extension programs; are the programs based on current knowledge/research; are programs responsive to requests; what type of contact have you had with the extension office; what types of services were used; how could individuals be better served; and what is the purpose of the county extension program.

The Most Pressing Issues Facing the County for the Next 3 - 5 Years

Issues mentioned by respondents can be divided into several categories including economic, environmental, health and education. The most frequently mentioned issues included "growth increase", "influx of people", "business, economic develop ment, growth", "environmental issues, conservation", "water supply, drought, use", "economic issues (general)", "education, schools", "money finances", "jobs, employment, career opportunities", "lack of funding for county programs or services", "agriculture and the survival of Ag", "public land issues and use", and "government regulation and controls".

The Most Pressing Issues Facing Family for the Next 3 - 5 Years

When thinking of family issues, more emphasis was given to personal finances, education and health. Where as environmental issues were considered more important when considering questions facing the county. The most frequently mentioned issues include "money/finances", "education/college", "health, fitness and nutrition", "job or career security /opportunities", "family and child development/parenting", "retirement or planning for retirement", "economic issues (unspecific)", "inflation or cost of living", "cattle/livestock prices", "cost of or paying for education", and "taxes".

Following the statewide survey several counties conducted an individual program review and needs assessment that included focus groups and individual clientele contacts. Information gathered from the assessments is being used to determine the intermediate and long term ne eds.

The county programs utilize their formal or informal advisory councils to determine programming direction, especially for short term needs. In some counties, the advisory councils are program specific; whereas, others represent the total Cooperative Extension Service. The current advisory councils are representative of the county demographics, including gender, ethnicity, interests, and residence. Individuals represent elected officials, business people, home and business owners, school personnel , governmental agencies such as Department of Family Services, and Natural Resources and Conservation Service, commodity groups, and volunteers.

In addition to input through county extension programs, the College of Agriculture has four Research & Extension Centers located across the state. Each of the four Research & Extension Centers has an advisory committee that meets annually. These advisory committees are provided information on existing research and outreach programs and they provide input regar ding priority needs for research and outreach. Some of the top priorities they have identified are alternative crops, sustainable agricultural systems, grass and alfalfa seed production, and economic analysis of all research projects. The college of Agri culture maintains a separate statewide advisory committee. That committee meets

annually to exchange information of the college's programs and to seek input of future concerns and issues. Three Departments, Animal Science, Family & Consumer Sciences, and Veterinary Sciences, have separate advisory committees that provide input on programs in those departments.

Stakeholder input through formal and informal advisory committees will be continued by the College of Agriculture. In addition, every five years a needs assessment, focus groups, and a random survey will be conducted statewide to determine the Cooperative Extension Service and Research needs for the state. On a rotating basis following the state assessment, a district needs assessment, including focus groups, will be administered, with each county in the specified district participating.

Additional input will be gathered from the advisory councils within each of the four districts. The research and extension center's advisory committees will also be incorporated. Information will be included on the web site to allow public input. Thus, the stakeholders will have an opportunity for input about strategic planning.

IV. Program Evaluation:

Accountability is increasingly important to secure new resources, maintain visibility, and market effectiveness. Every academic professional in the College of Agriculture provides an annual summary, accomplishment reports, and impact statements for the previous year and a plan of work for the next year. Additionally, CRIS reports and annual performance reports are completed for Research and Extension. Some of the impact statements are available on the WEB.

The College Strategic Plan, completed in 1998, was implemented to support and promote production agriculture, the economic and social well-being of associated communities, and the long-term sustainable productivity of our renewable resources. The University finalized the Academic Plan in 1999 and the Cooperative Extension Service is presently involved in a strategic planning process.

Merit Review*:* The merit review process will be conducted with Utah. The two states are collaborating on projects and have similarities in some program areas. Addi tionally, Department heads and CES specialists in the College of Agriculture will review the appropriate section(s) of the plan.

Peer Review: Projects supported with formula funds (Hatch, Multi-State, McIntire-Stennis, Animal Health) must be approved proj ects. To initiate project approval, the principal investigator develops a project proposal that includes title, duration, justification, review of previous work, objectives, procedures, personnel, and literature. 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 Experiment Station Director. The Director's office assigns three scientific reviewers, who are knowledgeable in the field, to review the proposal. After a proposal is revised to conform with the reviewers comments, the proposal is approved by the Director's office and forwarded to CSREES for review and approval.

V. Calculation of Resources Allocated:

Resources allocated to various goals and activities were based on estimates of FTE's devoted to a particular project or goal. Cooperative Extension educators and faculty reports FTE's spent on the goals and other activities. Agricultural Experiment Station faculty report time committed to various station projects, grants and other activities.

Projected effort or expenditures were estimated by multiplying the FTE's dedicated to the activi ty by the average expenditure per FTE. The average expenditure per FTE for Cooperative Extension was calculated by totaling all appropriated funds expended including Smith Lever funds, State matching and other appropriated funds and county local government funds by the number of professional (faculty and academic professional) FTE's in the organization. (All appropriated expenditures/Professional FTE's) Expenditures per FTE is estimated at $70,000 per year for Cooperative Extension for FY 2000.

The average expenditure per FTE for Agricultural Experiment Station was calculated by totaling all appropriated funds and grant funds expended and dividing by the number of professional FTE's (faculty and academic professional) in the organization. Expenditure per F TE is estimated at $150,000 per year for Agricultural Experiment Station for FY 2000.

Estimates of expenditure for FY 2001-2004 were based on the FY 2000 estimate plus an annual adjustment of 2% per year to account for salary increases. This is considered to be a conservative estimate. Estimated costs are shown below.

Estimate Annual Expenditures per FTE as a basis for Expenditure Estimates

	Cooperative Extension	**Agricultural Experiment Station**
FY 2000	$70,000	$150,000
FY 2001	$71,400	$153,000
FY 2002	$72,800	$156,000
FY 2003	$74,200	$159,000
FY 2004	$75,600	$162,000

VI. Summary of Resource Allocations for FY 2000

The table below summarizes the resource allocations and projected appropriations for the University of Wyoming Agricultural Experiment Station and Cooperative Extension for FY 2000. It also shows the commitment to the five national CSREES goals. These projections show a more than adequate match to the federal funds. Based on the total appropriated expenditures, UW Agricultural Experiment Station dedicates fully 84% of it's resources to the CSREES goals. UW Cooperative Extension dedicates about 92% of it's total resources to the national goals.

	Projected Expenditures		**Projected Appropriations**	
	Extension (FTE's)	**Research (FTE's)**	**Smith Lever**	**Hatch**
Goal 1	$1.689 M (24.13)	$2.115 M (14.10)	$0.321 M	$0.616 M
Goal 2	$0.667 M (9.54)	$0.135 M (0.9)	$0.133 M	$0.043 M
Goal 3	$0.375 M (5.37)	$0.240 M (1.6)	$0.066 M	$0.070 M
Goal 4	$0.396 M (5.67)	$1.785 M (11.9)	$0.078 M	$0.532 M
Goal 5	$2.641 M (37.73)	$0.495 M (3.3)	$0.509 M	$0.140 M
TOTAL	$5.768 M (82.44)	$4.770 M (31.8)	$1.107 M	$1.400 M

VII. Programs and Goals:

Program 1:

Enhance Agricultural systems that are highly competitive in the global economy.

Issue: Wyoming is known for its production of livestock, forage, minerals, and natural resources and for its wide open spaces. Rangelands and forests cover more than 80 percent of Wyoming's land surface. These areas have consistently been used for livestock and wildlife, timbering, mining, oil and gas, and recreation.

The agriculture sector is a key component of the Wyoming economy ranking behind oil, gas and minerals and approximately equal with tourism in income generation. Wyoming is a rural state and agriculture is a key component of the economy of most of the cities and towns. Livestock and livestock products generated approximately 77 percent of agriculture's cash receipts of $864 million in 1997. The livestock industry of Wyoming is forage based with both private and public lands providing hay and standing forage for livestock production. It is important to note that these same private and public lands provide forage for game and other animals which are important to another pillar of the State's economy, tourism and recreation.

A broad spectrum of regulations and policies, such as those affecting grazing of public lands, endangered species, trade, and water, have continuing and significant impacts on Wyoming. Others issues, such as animal disease and the subdividing of public and private lands, also impact the sustainability of agricultural and natural resource systems. Each of these impacts production agriculture, wildlife, lifestyle, and the economies of rural communities in Wyoming.

Technological changes in production and processing of commodities, along with changing consumer demands, are altering the way markets link producers, processors, and consumers. Production and process changes and environmental issues will continue to be driven by consumer demand. Due to the high elevation (average 6800') and harsh climate over most of the state, Wyoming's agricultural industry faces unusual challenges. Improved animal and plant genetics, pest control, soil fertility management, soil and water conservation, integrated resource systems, and domestic and international markets are needed to maintain a profitable and sustainable agricultural system. Stakeholder input suggests that all aspects of profitability and sustainability are important issues for research and extension including productivity, markets and price, management and care of land and water resources. The College of Agricultural will conduct research and education to provide knowledge and technology to maintain economically viable and sustainable forage, crop, and animal systems consistent with Wyoming's resource base.

Performance Goals for Plant and Animal Systems: Research, develop and present programs which emphasize integrated plant and animal systems for farm/ranch resources (livestock, wildlife, human, financial, natural/scenic and agronomic) that enhances sustainability and profitability.

1. To increase the use of integrated sustainable production systems.
2. To improve the adaptability and use of plants and animals in high elevation/arid

environments.

3. To improve and increase the use of pest management practices.
4. To increase monitoring and enhancement of rangeland forages for livestock and wildlife.
5. To better understand plant and animal interactions and their effects on soil, water, insects, and nutrients.

Performance Goals for Sustainability and Profitability: Research, develop, and present programs that evaluate the sustainability of integrated management systems for farm/ranch resources.

1. To analyze costs and benefits of alternative production systems.
2. To improve quality and marketing of plant and animal products.
3. To promote the use of best cultural management practices and adoption of sustainable production systems.
4. To enhance profitability.

Output Indicators:

Plant and animal systems

1. The total number of people completing education programs/workshops provided by UW CES personnel on integrated production practice and profi tability.
2. Number of research and extension publications.
3. Extramural funding generated to support research and extension programs.
4. Increased understanding of integrated/sustainable production systems.
5. Professional improvement training conducted for extension educators.

Sustainability and profitability

1. The total number of people completing education programs/workshops provided by UW CES personnel on integrated management of resources.
2. Number of research and extension publications.
3. Extramural funding generated to support research and extension programs.
4. Increased understanding of best management practices, profitability, and marketing.
5. Professional improvement training conducted for extension educators.

Outcome indicators:

Impact statements will be used to indicate outcomes from research and extension programs. Some of the anticipated outcomes are stated below.

Plant and animal systems

1. Increased use of integrated production practices by producers.
2. Reduced production costs per unit of product produced.
3. Adoption of technology and/or production systems to reduce use of inputs (pesticides, etc.) and impacts on the environment.
4. Increased monitoring and enhancement of rangelands.

Sustainability and profitability

1. Increased use of integrated management plans by producers.

2. Increased use of marketing strategies by producers.
3. Adoption of alternative crops and productions practices to enhance long-term sustainability and profitability.

Key Program Components:
The College of Agricultural conducts research and provides educational programs to adult and youth throughout the state. The college's research and education activities will continue to be offered on campus, at the colleges' four research and extension centers located across the state, and on farms and ranches through cooperation with county extension offices. In addition to specific research and education projects, there will be demonstrations, field days, newsletter, and popular publications. A few of the college's on going efforts in this program area are:

1. Reproductive performance in domestic ruminants
2. Biology of brown root rot
3. New and emerging animal diseases
4. Western Integrated Resource Education (WIRE)
5. Economics of farm/ranch enterprise systems with respect to risk and profitability

Internal and External Linkages:
Research and Extension professionals at the University of Wyoming are currently involved in multi-state projects W-006, 112, 177, 188, NC-226, S-274, NCR-87, WCC-077, 089, 091, 093, 097, and WCC-001, 039, 1040, 104, 027, 051. These current multi-state research and extension committees will be supported and future participation will be encouraged. The College has current MOU's with Montana, Utah, and Idaho and such arrangements will be fostered and encouraged. Cooperative research and extension programs are also conducted with Utah, Idaho, Montana, Nebraska, Kansas and Colorado. The College also has external linkages with commodity associations in the state, state agencies, special interest groups, USDA-ARS, and other federal agencies. Internal linkages exist with other colleges at the University of Wyoming in research and extension as well as degree programs. The Agricultural Experiment Station encourages these linkages through its university wide competitive grants program. Research and Extension partnerships within UW and with other states will be developed and encouraged to support and enhance efforts in this program area.

Target Audiences:
Research and educational efforts will focus on agricultural managers and producers as well as state and federal resource managers. In addition, educators in extension, colleges, high schools and rural businesses will be provided results through training and outreach programs. UW Extension and Research professionals are committed to reaching the total population of Wyoming including the under served and under represented Native American and Hispanic populations. There is at least one office in each of the 23 counties plus the Wind River Reservation.

Category	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004

Extension ($) **FTE's**	$1.689 M 24.13	$1.667 M 22.9	$1.610 M 21.7	$1.521 M 20.5	$1.459 M 19.3
Research ($) **FTE's**	$2.115 M 14.1	$2.090 M 13.4	$1.945 M 12.7	$2.019 M 12.0	$1.717 M 11.3

Program Duration: The program will continue for the 5 year life of this plan. As shown in the resource allocation table, the college intends to reduce resources committed to this program area over the 5 year time period. The reductions in this program area may change, which will be determined by needs assessments and program reviews.

Program 2:

Enhance a safe and secure food and fiber system.

Issue: Food is a key to life and a safe, nutritious food supply is a key to enjoyment and quality of life. This plan seeks to improve the quality of life within Wyoming through research and education which will foster a safe food supply, promote enjoyment of food that is nutritious and affordable, and support Wyoming residents' health.

Given the public's varied avenues for access to food, reducing the risk of food born illness necessitates comprehensive educational intervention from the producer to the consumer – truly a 'farm to table to plate' approach. At all levels, the food safety activities in this plan will build on principles of HACCP, (Hazard Analysis and Critical Control Points), the prevention-based food safety system that identifies and monitors food borne hazards. Agricultural producers, food processors, food-service personnel and home food preparers are critical points of control for food born illness. Research addressing food quality and safety issues directed at these processing, handling and preparation sites is key to enhancing the food supply. Research supported educational programs which expose the expanding base of food-safety knowledge and emergence of new pathogens and more virulent strains of existing ones is necessary at all levels to reduce food born illness and increase food quality.

Performance Goal: Reduce food born illness by improving the safety of the food supply in Wyoming from the farm to the consumer's plate.

1. To take leadership in preventing food borne illness.
2. To make appropriate decisions regarding food handling in critical situations.
3. To provide assistance to food service industry who train employees in-house.

Output Indicators:

1. Number of programs conducted with food producers, food processors, food service personnel and home food preparers regarding food quality and safety.
2. Number of food producers, food processors, food service personnel and home food preparers completing programs regarding food quality and safety.
3. Number of research and extension publications.
1. 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. Increase consumer awareness regarding food safety and food borne risks and illnesses.
2. Demonstrate completion of food safety program.
3. Adopt one or more food safety behaviors.

Key Program Components:

Programs that are ongoing include *Going for the Gold* and *Food Safety Training*.

The College of Agriculture conducts research and provides educational programs to adults and youth throughout the state. The college's research and educational activities will continue to be offered on

campus, at the college's four research & extension centers located across the state, and in communities through the cooperation with county extension offices. Additional activities include:

- Research proposals will be developed to attract funds from Agricultural Experiment Station and external sources to conduct research projects.
- Scholarly and popular articles and well as other media will be used to disseminate research results.
- Educational programming content will be structured around research based information.
- Educational workshops, classes and seminars for specific audiences such as agricultural producers, food processors, food service workers and home food preparers and preservers.
- Educational newsletters including county and association newsletters and news releases.
- Video tapes and other media based educational materials.
- Participate in Health Fairs and other public events where food safety education can be offered.
- Contribute to existing and emerging national initiatives in food safety.
- Partnerships with other food safety leaders including the Wyoming Departments of Agriculture and Health, Wyoming Beef Council, Wyoming Meat Processors, the Wyoming Lodging and Restaurant Association.

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. Current partnerships include the Wyoming Departments of Agriculture and Health, Wyoming Beef Council, Wyoming Meat Processors, the Wyoming Lodging and Restaurant Association. Collaboration between county programs and sharing of resources is a financial necessity.

Research and Extension professionals at the University of Wyoming are currently involved in multi-state projects NCR-97 and WCC-108. These current multi-state research and extension committees will be supported and future participation will be encouraged.

Target Audiences:

UW Extension and Research professionals are committed to reaching the total population of Wyoming including the under served and under represented Native American and Hispanic populations. There is at least one office in each of the 23 counties plus the Wind River Reservation. Dissemination of research results will be focused on scholarly as well as lay audiences. Educational efforts will focus on Agricultural producers, meat and other value added food processors, food service personnel in commercial facilities, institutions and non-profit organization including restaurants, outfitters day-care programs, and emergency feeding programs and Wyoming residents of all ages who prepare food.

Category	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Extension ($)	$667,000	$681,156	$694,512	$707,868	$721,224
FTE's	9.54	9.54	9.54	9.54	9.54

Research ($) **FTE's**	$135,000 0.9	$137,700 0.9	$140,400 0.9	$143,000 0.9	$162,000 0.9

Program Duration:

The program will continue for the 5 year life of this plan. As emphasis in research or extension programming may change, resources such as time and money may be shifted from one program to another or within a program area. The needs will be determined by advisory councils, needs assessments, and program reviews.

Program 3:

Enhance a healthy, well-nourished population.

Issue: Many Americans appear to have less-than-positive attitudes about eating, even though eating should be one of life's pleasures as well as a source of nourishment to sustain life and promote health. Additionally, many have eating and exercise habits that are not in keeping with recommendations for optimal health. A recent survey has shown that Wyoming residents tend to be too sedentary and eat too few fruits and vegetables. Another complicating factor is that many people in Wyoming have limited resources.

Because of limited resources - time, money, and expertise - selected research-based programs need to be included. Wellness in Wyoming is one new approach to promote people feeling good about their bodies and about who they are, motivating them to maintain healthy behaviors.

Performance Goal: Improve the health of Wyoming residents through research and education on human nutrition and health.

1. To enhance eating and exercise habits in keeping with recommendations for optimal health.
2. To improve practices of food resource management.
3. To improve nutritional practices.
4. To continue partnerships with extension, research, and other internal and external linkages.

Output Indicators:

1. Number of persons completing non-formal nutrition education and health programs.
2. Number of participants whose intent is to adopt improved nutrition and health practices after completing one or more of these educational programs.
3. Number of research and extension publications.
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. Demonstrated acceptable practices of food resource management.
2. Demonstrated acceptable nutrition practices.
3. Demonstrated behavior changes in food safety practices.

Key Program Components:

Programs that are ongoing include *Cent$ible Nutrition Programs - EFNEP* and *FSNEP*.
The College of Agriculture conducts research and provides educational programs to adults and youth throughout the state. The college's research and educational activities will continue to be offered on campus, at the college's four research & extension centers located across the state, and in communities through the cooperation with county extension offices. Additional activities include:

- Research proposals will be developed to attract funds from Agricultural Experiment Station and external sources to conduct research projects.

- Scholarly and popular articles as well as other media will be used to disseminate research results.
- Educational programming content will be structured around research based information.
- Workshops, classes, seminars for specific audiences such as WIC, senior citizens, limited resource audiences, limited English speaking audiences, youth, school food service, and health care professionals.
- Educational materials such as newsletters, calendars, cookbooks.
- Media presentations via radio, television, and newspapers.
- Health fairs and other public events.

Internal and External Linkages:
Research and Extension professionals at the University of Wyoming are currently involved in multi-state projects W-191 and NC -167. These current multi-state research and extension committees will be supported and future participation will be encouraged.

Partnerships will be continued with Extension and Research at other universities, the Wyomin g Department of Education and Department of Health, medical professionals, UW School of Physical and Health Education, Dairy and Beef Councils, Wyoming Family Practice Residency, WIC, school districts, and the private sector. There is collaboration between county programs and sharing of resources is a financial necessity.

Target Audiences:
UW Extension and Research professionals are committed to reaching the total population of Wyoming including the under served and under represented Native American and Hispanic populations. There is at least one office in each of the 23 counties plus the Wind River Reservation. Dissemination of research results will be focused on scholarly as well as lay audiences. Educational efforts will focus on elementary, secondary and college students, parents, homemakers, service clubs and church associations, professionals and volunteers in food related occupations, and other Wyoming individuals and families.

Category	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Extension ($) FTE's	$375,000 5.37	$383,418 5.37	$390,936 5.37	$398,454 5.37	$405,972 5.37
Research ($) FTE's	$240,000 1.6	$244,800 1.6	$312,000 2.0	$318,000 2.0	$324,000 2.0

Program Duration:
The program will continue for the 5 year life of this plan. As emphasis in research or extension programming may change, resources such as time and money may be shifted from one program to another or within a program area. The needs will be determined by advisory councils, needs assessments, and program reviews.

Program 4:

Enhance greater harmony between Agriculture and the Environment.

Issue: Wyoming has abundant and diverse natural resources. A variety of ecosystems and agro ecosystems, from near-pristine wilderness, forests, and rangelands to cropland and urban landscapes, make Wyoming a unique and inviting place. Wyoming's economy is based on the use of its natural resources (minerals, energy, and agricultural products) by U.S. and global economies. Wyoming is also a tourist destination, and acts as a reservoir of rural and wildland resources on a national and international scale. Management of natural resources and associated environmental issues permeate nearly every aspect of life in the State. Public demand and expectations often conflict, when determining appropriate management strategies for Wyoming's wide-open spaces, wildlife and public lands. Nearly half of the land in Wyoming is publicly owned, and public sentiment, management policies, and regulations are continually changing.

Agriculture, an important user of natural resources in the State, is at the center of many of the issues in natural resource and environmental management. The need for science-based information and expertise in evaluating public policy, and facilitating conflict resolution is ever increasing in Wyoming.

As a headwaters 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 issues in Wyoming.

Wyoming's ecosystems, whether agro, range or forest, have both plant and insect pests. These pests effect the value of the resources for wildlife, crop, livestock or human uses. On the other hand, improper control can have unintended consequences for the environment. The effective use and value of range, forest and cropland resources depends on the appropriate management of noxious weeds, insect pests and diseases. Research and education programs in integrated pest management, bio-control and other environmentally friendly pest control techniques are important to the State's ecosystems.

A large share of the State's income is generated from extraction on mineral and fossil fuels. Coal, trona, and natural gas are examples of large and/or rapidly growing extractive industries in the State. Research and education programs on improving rangeland and reclaiming disturbed sites benefit individuals, communities and the State by enhancing the productivity and stability of reclaimed lands.

The integrity of Wyoming's natural resource base and the State's diverse ecosystems will be a central focus of the University of Wyoming's Extension and Research programs. Natural resource related research and extension programs are designed to foster an understanding of the functioning of Wyoming ecosystems as related to the people and economic viability of our state.

Performance Goal: Develop research and extension programs on environmentally friendly biotic systems as well as alternative biotic systems. All aspects will be addressed including biological, human and economic.

Objectives:

Wyoming Extension Professionals and Researcher will;

1. Increase the knowledge base of CES clients and cooperators on environmental science and agriculture, including conserving, maintaining and protecting ecosystem integrity and biodiversity.
2. Increase agricultural producer awareness, understanding and adoption of agricultural practices which sustain and protect ecosystem integrity and biodiversity.
3. Increase producer adoption of agricultural production practices that conserve and protect surface and groundwater supplies on or adjacent to agricultural production sites on land uses.
4. Increase the effectiveness of constituent and citizen participation on public policy issues affecting agricultural production, the environment and ecosystem integrity and biodiversity.

Output Indicators:

1. The number of education programs provided by CES personnel regarding natural resource, agro ecosystem and environmental management.
2. The total number of people completing education programs provided by UWCES personnel related to natural resource, agro ecosystem and environmental management.
3. Number of research and extension publications.
4. Extramural funding generated to support research and extension programs.
5. Professional improvement training under taken by UWCES personnel related to natural resource, agro ecosystem and environmental management.

Outcome Indicators:

Impact Statements reporting outcomes and impacts of Research and Extension programs will b e used to indicate outcomes using measures such as:

1. Increased client and cooperator understanding of agricultural, environmental and ecological issues and systems.
2. Increased producer awareness understanding and adoption of agricultural practices which sustain and protect ecosystem integrity and biodiversity.
3. Adoption of agricultural production practices which conserve and protect surface and ground water supplies adjacent to or on agricultural production sites or land uses.
4. Change in citizen or constituent competency or attitude regarding agricultural, environmental and ecosystem policy issues.

Key Program Components:

- Research proposals will be developed to attract funds from Agricultural Experiment Station and external sources to conduct research projects.
- Scholarly and popular articles as well as other media will be used to disseminate research results.
- Educational workshops, field demonstrations, media opportunities, etc., will be directed for specific audiences such as agricultural producers, natural resource and environmental agency personnel, and other natural resource interested groups.
- Educational newsletters including county and association newsletters and news releases.
- Video tapes, INTERNET and other media based educational materials.
- Contribute to existing and emerging national initiatives natural resource and environmental management.

- Partnerships with other natural resource and environmental leaders including the Wyoming Departments of Agriculture and Environmental Quality, Natural Resource Conservation Service, Conservation Districts, Weed and Pest, and other natural resource interested groups.

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 natural resource and environmental leaders both inside and outside Wyoming including the Wyoming Departments of Agriculture and Environmental Quality, Natural Resource Conservation Service, Conservation Districts, Weed and Pest, and other natural resource interested groups. The College has formal MOU's with two Native American tribes, USDA - ARS, University of Idaho and Utah State University. Research and Extension professionals at the University of Wyoming are currently involved in multi -state projects W-186, 128, 170, 185, 133, 184, WCC - 021, 067, 069, 066, 103, and NRSP - 4. These current multi-state research and extension committees will be supported and future participation will be encouraged.

Target Audiences:
UW Extension and Research professionals are committed to reaching the total population of Wyoming including the under served and under represented Native American and Hispanic populations. There is at least one office in each of the 23 counties plus the Wind River Reservation. Dissemination of research results will be focused on scholarly as well as lay audiences. Educational efforts will focus on agricultural producers, extension educators, master gardeners, natural resource and environmental agency and organization personnel, irrigation districts, weed and pest districts, grazing associations, oil, gas and mineral industry, conservation and wildlife organizations and the general public including youth.

Category	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Extension ($)	$396,000	424,830	$462,266	$483,784	514,000
FTE's	5.67	5.95	6.23	6.52	6.8
Research ($)	$1.785 M	$1.912 M	$2.043 M	$2.146 M	$2.265 M
FTE's	11.9	12.5	13.1	13.5	14.0

Program Duration: The program will continue for the 5 year life of this plan. As emphasis in Research or Extension programming may change, resources such as time and money may be shifted from one program to another or within a program area. The needs will be determined by advisory councils, needs assessments, and program reviews.

Program 5:

Enhance economic opportunity and quality of life for Americans.

Issue: In 1996 Wyoming Information Sources Study and a 1997 Satisfaction Study conducted by the UW Cooperative Extension Service. Money/personal finances and investment; health, fitness and nutrition; family and child development; and economic issues were identified to be the highest priority for the State of Wyoming residents when asked to identify the most pressing issues facing families in the next 3 - 5 years.

Young families often lack the basic skills to maintain a household and balance a budget. The need for educational programs in this area for individuals and families at all income levels and at all stages of life is crucial for basic independent living as well as enhancing the quality of life.

The economies of Wyoming communities are at a critical juncture. The Wyoming Business Plan and Steering Committee notes that per capita income growth statewide from 1994 to 1996 was less than 60 percent of the national average and that Wyoming experienced an 8 percent growth rate in jobs, while neighboring states enjoy a 13 percent growth rate. Communities need to diversify their economies to provide for their economic future. Each community must decide whether and how it wants to seek economic growth and development.

Several communities across Wyoming have identified children, youth, and family issues - including child care, after school programs, family strengthening, violence and drug abuse prevention, and workforce preparation - as priorities for programming. In addition, many communities identified needs for public awareness and collaboration on youth issues. According to Capital Briefs (February 1996), young people who are more involved in youth development programs are less involved with drugs and alcohol, do better in school, and have better relationships with their parents and peers than do youth not involved in such programs. Through building community partnerships between young people, adult volunteer leaders, and other adults, youth organizations help develop leadership and citizenship skills, gain positive attitudes and habits about work, become stewards of the environment, and engage in entrepreneurial opportunities.

Performance Goal 1: Increase the capacity of individuals and families to enhance their economic well-being.

1. To increase capacity of individuals and families in Wyoming to make sound financial decisions through educational programs which teach basic money management skills, including basic budgeting and savings.
2. To increase knowledge and understanding of the use of credit.
3. To increase awareness and understanding of financial planning practices which will impact individuals and families ability to prepare for retirement.

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

within Wyoming that are complementary to the life-style and quality of rural life associated with Wyoming.

1. To increase awareness of community economic assessment tools.
2. To enhance household disposable income and increased job growth in Wyoming.
3. To provide educational opportunities related to the impacts of planning for business, community, and economic development.
4. To increase participation in business, community, and economic development efforts by individuals with the community.

Performance Goal 3: Increase the capacity of youth and adults to enhance their quality of life.

1. To increase family strengthening knowledge and skills.
2. To increase understanding of youth attitudes and behaviors.
3. To increase awareness of youth issues and assets by citizens and decision makers.
4. To integrate volunteer development program with 4-H and other community volunteer programs.

Output Indicators:

1. Number of people completing educational programs provided by UWCES/R&E personnel.
2. Number of educational programs given by UWCES/R&E personnel.
3. Extramural funding generated to support research and extension projects.
4. Number of publications and presentations resulting from research and extension projects.
5. Number of communities assisted in the development of economic assessment tools for the ir communities.
6. Number of individuals assisted in developing survival strategies for micro-businesses and other small business enterprises.
7. Number of 4-H leaders trained to improve leader effectiveness.

Outcome Indicators:

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

1. Demonstrated increased knowledge in financial planning.
2. Demonstrated financial debt reduction.
3. Adopted a recommended practice to help new business or help expand existing businesses.
4. Demonstrated an increase in decision making skills in youth.
5. Reported behavior changes as a result of wellness programs.

Key Program Components:

Programs that are ongoing include *Money 2000*, *On Common Ground*, *Leadership Assessment*, and *Certified Business Counselor* training. The College of Agriculture conducts research and provides educational programs to adults and youth throughout the state. The college's research and educational activities will continue to be offered on campus, at the college's four research & extension centers located across the state, and in communities through the cooperation with county extension offices. Additional activities include:

- Workshops, classes, seminars to include diverse audiences such as limited resource audiences, senior citizens, limited English speaking audiences, and other individual and family members.
  - Assessment tools
- Food product development
  - Educational materials such as WEB pages, newsletters and news releases
  - Media presentations such as radio and television
- Decision making and judging contests
- Camps, shows, and matches

Internal and External Linkages:
Research and Extension professionals at the University of Wyoming are currently involved in multi -state projects W-167, 192, 193, 194, NC-233, and WCC-023, 072, 083, 055 . These current multi-state research and extension committees will be supported and future participation will be encouraged. Partnerships will be continued with extension, research, other universities, federal, state and local agencies and community organizations, and the private sector as appropriate to these performance goals. Possible groups might include the Wyoming Business Council, Wyoming Economic Development Association, Small Business Development Association, AARP, Wyoming financial industry (bankers, financial planners, insurance agents, retirement planning, estate planning, budg eting), local businesses, families, youth groups, youth agribusiness organizations, producers, entrepreneurs, and other citizens. There is collaboration between county programs and sharing of resources is a financial necessity.

Target Audiences:
UW Extension and Research professionals are committed to reaching the total population of Wyoming including the under served and under represented Native American and Hispanic populations. There is at least one office in each of the 23 counties plus the Wind River Reservation. Audiences will included the traditional extension participants, the Wyoming financial industry (bankers, financial planners, insurance agents, retirement planning, estate planning, budgeting), community educators and decision makers, local businesses and government, state and federal agencies, families, youth agribusiness organizations and producers, entrepreneurs, the general public, and those who work in all capacities with Wyoming youth.

Category	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Extension ($) **FTE's**	$2.641 M 37.73	$2.748 M 38.5	$2.856 M 39.24	$2.968 M 40.0	$3.079 M 40.74
Research ($) **FTE's**	$495,000 3.3	$504,900 3.30	$592,800 3.80	$604,200 3.80	$615,600 3.80

Program Duration: The program will continue for the 5 year life of this plan. As emphasis in research or extension programming may change, resources such as time and money may be shifted from one program to another or within a program area. The needs will be determined by advisory councils, needs assessments, and program reviews.

VIII. Multi-State and Integrated Programming:

A detailed listing of multi-state and integrated collaborations is provided in tabular form following this section of the plan. A summary of projected effort on both multi-state and integrated programs are shown here.

Allocations of Effort on Multi-State & Integrated Projects
Agricultural Experiment Station - Cooperative Extension Service
CREES "Plan of Work" October 1, 1999 - September 30, 2004

	Projected Effort on Integrated Projects		Projected Effort on Multi-State Projects		Projected Appropriation
	AES	CES	AES	CES	
Goal 1	$0.798 M (5.32 FTE)	$0.245 M (3.5 FTE)	$0.259 M (1.73 FTE)	$0.291 M (4.16 FTE)	
Goal 2	0.0 (0.0 FTE)	0.0 (0.0 FTE)	$0.037 M (0.25 FTE)	0.0 (0.0 FTE)	
Goal 3	$0.102 M (0.68 FTE)	$0.061 M (0.88 FTE)	$0.079 M (0.53 FTE)	$0.051 M (0.73 FTE)	
Goal 4	$0.618 M (4.12 FTE)	$0.319 M (4.57 FTE)	$0.301 M (2.01 FTE)	$0.054 M (0.77 FTE)	
Goal 5	$0.189 M (1.26 FTE)	$0.186 M (2.66 FTE)	$0.181 M (1.21 FTE)	$0.168 M (2.41 FTE)	
TOTAL	$1.707 M (11.38 FTE)	$0.812 M (11.61 FTE)	$0.859 M (5.73 FTE)	$0.565 M (8.07 FTE)	
Smith Lever CES **Multi-State AES** **Total Hatch AES**					

The UW AES is projected to dedicate 11.38 FTE's to integrated programming with an expenditure of $1.707 M and 5.73 FTE's to multi-state programming with and expenditure of $0.859 M. Total Hatch appropriations are expected to be $1.4 M for the UW AES in FY 2000. Multi-state funds are projected to be $0.500 M for UW AES.

With a projected total Hatch allocation of $1.4 M and multi-state allocation of $0.500 M, University of Wyoming Agricultural Experiment Station (UW AES) easily meets the criterion for commitment to multi-state and integrated programming.

University of Wyoming Cooperative Extension (UW CES) is projected to dedicate 11.61 FTE's to integrated programming with a projected expenditure of $0.812 M and 8.07 FTE's to multi-state programming with a projected expenditure of $0.565 M. With a Smith Lever allocation of $1.107 M, UW CES will easily meet the 25 percent of Smith Lever requirement for both multi-state and integrated programming

Title	CSREES Program Area	Collaborating Units	AES (FTE)	CES (FTE)
Economics of Farm/Ranch Enterprise Systems with Respect to Profitability and Risk	1		0.5	1
Ecological Relations and Management of Selected Rangeland Plants	1		0.42	0.42
Etiology & Pathogenesis of Animal Diseases	1		3.57	0.33
Enhancing the Global Competitiveness of U. S. Red Meat	1	AK, AZ, CA, CO, HI, ID, MT, NM, OR, UT, WA, WY	0.33	1
Coordination of Sheep and Goat Research and Education Programs for the Western States	1	AZ, ID, CA, CO, MT, ND, NM, NV, OR, TX, UT, WY	0.1	0.1
Beef-Cow-Calf Nutrition & Management Committee	1	SD, IN, WY	0.05	0.15
Rangeland Ecological Research and Assessment	1	CA, CO, ID, MT, ND, NM, OR, TX, UT, WA, WY	0.05	0.1
Coordination and Support for Sustainable Agriculture Research and Education in the Western Region	1	CO, GU, ID, MT, NM, NV, OR, WA, WY	0.05	0.05
Potato Virus Disease Control	1	AZ, CO, ID, MN, MT, NY, OR, WA, WY	0.05	0.1
Improving Stress Resistance of Forages in the Western United States	1	AZ, CA, CO, HI, MT, NM, OK, UT, WA, WY	0.05	0.05
Research on Disease of Cereals	1	CA, CO, ID, KS, MT, ND, OR, UT, WA	0.05	0.1

Title	CSREES Program Area	Collaborating Units	AES (FTE)	CES (FTE)
Western Region Soil Survey and Inventory	1	AK, CA, CO, HI, ID, MT, NM, NV, UT, WY	0.05	0.05
Research & Administrative Coordination in Animal Science	1	AK, AZ, CA, CO, ID, MT, NM, NV, UT, WY	0.05	0.05
Nutrient Bioavailability--A Key to Human Nutrition	3	AZ, CA, CO, IN, MA, MI, NE, NM, OR, WA, WY	0.33	0.33
Factors Influencing the Intake of Calcium-Rich Food Among Adolescents	3	CA, CO, HI, ID, IL, IN, NM, UT, WA, WY	0.2	0.4
Differentiation Between Asthmatics at the Response Level	3		0.15	0.15
Nematode-Resistant Trap Crops: A Biological Alternative to Pesticides in Sugar Beet Production	4		1.4	0.25
Reducing Cost of Livestock Production with Winter Grazing	4		0.95	1.9
Determination of Water, Plant, and User Requirements for Maintaining Riparian Resources	4		0.33	0.33
Riparian Vegetation Filter Impacts on Nonpoint-Source Pollutants from Range and Cropland	4		0.33	0.33
Long-term Climatic Reconstruction of Eastern Wyoming	4		0.33	0.33
A National Agriculture Program: Clearances of Chemicals and Biologics for Minor or Special Uses	4	AR, CA, DC, DE, FL, HI, IA, KS, MD, MI, NC, NH, NJ, NY, OR, PA, TX, VA, WY	0.25	0.25
Salt-Cedar Ecology and Control in Big Horn River Basin, WY	4		0.33	0.66
Revegetation and Stabilization of Deteriorated and Altered Lands	4	CA, CO, ID, ND, OR, MT, NM, UT, WA, WY	0.05	0.025

Title	CSREES Program Area	Collaborating Units	AES (FTE)	CES (FTE)
Integrated Management of Russian Wheat Aphid & Other Cereal Aphids	4	CA, CO, DE, ID, KS, MT, NE, OK, OR, TX, UT, WY	0.05	0.1
Coordination of Integrated Pest Management Research and Extension Programs for the Western United States	4	AK, AZ, CA, CO, GU, HI, ID, MA, MP, MT, NM, NV, OR, UT, WA, WY	0.05	0.35
Soil, Water and Plant Analysis for Improved Nutrient Management and Water Quality	4	AK, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	0.05	0.05
Experience of University Faculty Doing Interdisciplinary Work: Beyond Fragmentation of Knowledge	5		0.25	0.25
Family & Work Linkages	5	CA, CO, ID, NM, OR, SD, UT, WA, WY	0.26	0.26
Resilience to Violence Among At-Risk Youth	5	AZ, CA, CO, NV, OR, WY	0.3	0.9
Rural Communities and Public Lands in the West: Impacts and Alternatives	5	CO, ID, NM, NV, OR, UT, WA, WY	0.4	1.2
Agribusiness Research Emphasizing Competitiveness	5	AZ, CA, CO, GA, ID, IL, IN, KS, MS, ND, NE, NM, OR, PA, TX, WA, WY	0.05	0.05

Title	CSREES Program Area	Collaborating Units	AES (FTE)	CES (FTE)	Integrated
Enhancing the Global Competitiveness of U.S. Red Meat	1	AK, AZ, CA, CO, HI, ID, MT, NM, OR, UT, WA, WY	0.33	1	*
Reproductive Performance in Domestic Ruminants	1	AZ, CA, CO, HI, ID, KS, MN, MO, MT, NE, NM, NV, OH, OR, TX, WA, WY	0.4		
Beef Cattle Breeding Research in Western Region	1	AZ, CO, IA, MT, NM, TX, WA, WY	0		
Coordination of Sheep and Goat Research and Education Programs for the Western States	1	AZ, ID, CA, CO, MT, ND, NM, NV, OR, TX, UT, WY	0.1	0.1	*

Title	CSREES Program Area	Collaborating Units	AES (FTE)	CES (FTE)	Integrated
Beef-Cow-Calf Nutrition & Management Committee	1	SD, IN, WY	0.05	0.15	*
Plant Genetic Resource Conservation and Utilization	1	AK, AZ, CA, CO, HI, ID, MT, NM, OR, UT, WA, WY	0.25		
Improved Characterization and Quantification of Flow and Transport Process in Soils	1	AZ, CA, CO, IA, ID, IN, KS, MT, ND, NV, UT, WA, WY	0.25		
Rangeland Ecological Research and Assessment	1	CA, CO, ID, MT, ND, NM, OR, TX, UT, WA, WY	0.05	0.1	*
Coordination and Support for Sustainable Agriculture Research and Education in the Western Region	1	CO, GU, ID, MT, NM, NV, OR, WA, WY	0.05	0.05	*
Biology and Control of Winter Annual Grass Weeds in Winter Wheat	1	CO, ID, KS, MT, NE, NM, OK, OR, UT, WA, WY	0.05		
Potato Virus Disease Control	1	AZ, CO, ID, MN, MT, NY, OR, WA, WY	0.05	0.1	*
Improving Stress Resistance of Forages in the Western United States	1	AZ, CA, CO, HI, MT, NM, OK, UT, WA, WY	0.05	0.05	*
Research on Disease of Cereals	1	CA, CO, ID, KS, MT, ND, OR, UT, WA	0.05	0.1	*
Western Region Soil Survey and Inventory	1	AK, CA, CO, HI, ID, MT, NM, OR, UT, WA, WY	0.05	0.05	*
Research & Administrative Coordination in Animal Science	1	AK, AZ, CA, CO, ID, MT, NM, NV, UT, WY	0.05	0.05	*
WIRE - Western Integrated Ranch Education Program	1	MT, UT, ID, WY		1	
Cross Border Labor Migration	1 & 4	ID, NV, AZ, WY		1.5	
Regulation of Adipose Tissue Accretion in Meat Animals	2	WI, WY	0.2		
Protecting the Safety of Food	2	CA, GU, HI, ID, NM, WA, WY	0.05		
Nutrient Bioavailability--A Key to Human Nutrition	3	AZ, CA, CO, IN, MA, MI, NE, NM, OR, WA, WY	0.33	0.33	*
Factors Influencing the Intake of Calcium-Rich Food Among Adolescents	3	CA, CO, HI, ID, IL, IN, NM, UT, WA, WY	0.2	0.4	*

Title	CSREES Program Area	Collaborating Units	AES (FTE)	CES (FTE)	Integrated
Jointed Goatgrass Initiative Technology Transfer	4	MT, ID, CO, NE, KS, WA, WY	0.05		
A National Agriculture Program: Clearances of Chemicals and Biologics for Minor or Special Uses	4	AR, CA, DC, DE, FL, HI, IA, KS, MD, MI, NC, NH, NJ, NY, OR, PA, TX, VA, WY	0.25	0.25	*
Genetic Variability in the Cyst and Root-Knot Nematodes	4	AZ, CA, HI, ID, MI, NC, NE, NM, OR, WA, WY	0	0	
Biogeochemistry and Management of Salts and Trace Elements in Aris-Zone Soils, Sediments, and Waters	4	CA, MT, NV, UT, WA, WY	0	0	
Micro Irrigation for Optimum Crop Productivity and Minimum Groundwater Contamination	4	AZ, CA, CO, FL, GU, HI, IA, ID, KS, MN, NM, OR, SC, TX, VA, WA, WY	0.33		
Chemistry and Bioavailability of Waste Constituents in Soils	4	AL, AR, CA, CO, FL, GU, HI, IA, KS, MD, MI, MO, NM, NY, OH, OK, WA, WY	0.58		
Biological Control in the Pest Management Systems of Plants	4	AZ, CA, GU, HI, ID, KS, MT, NM, NY, OR, UT, WA, WY	0.6		
Revegetation and Stabilization of Deteriorated and Altered Lands	4	CA, CO, ID, ND, OR, MT, NM, UT, WA, WY	0.05	0.025	*
Integrated Management of Russian Wheat Aphid and Other Cereal Aphids	4	CA, CO, DE, ID, KS, MT, NE, OK, OR, TX, UT, WY	0.05	0.1	*
Coordination of Integrated Pest Management Research and Extension Programs for the Western United States	4	AK, AZ, CA, CO, GU, HI, ID, MA, MP, MT, NM, NV, OR, UT, WA, WY	0.05	0.35	*
Soil, Water and Plant Analysis for Improved Nutrient Management and Water Quality	4	AK, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY	0.05	0.05	*
Economic Development by Merchandising Producing & Distribution Textiles	5	CA, CO, IA, ID, IN, KT, LA, MA, MI, MN, MO, NE, NH, OH, OR, SD, UT, WI, WY	0.05		
Family & Work Linkages	5	CA, CO, ID, NM, OR, SD, UT, WA, WY	0.26	0.26	*

Title	CSREES Program Area	Collaborating Units	AES (FTE)	CES (FTE)	Integrated
Resilience to Violence Among At-Risk Youth	5	AZ, CA, CO, NV, OR, WY	0.3	0.9	*
Textile and Apparel Research Coordination	5	AZ, CA, CO, ID, MT, OR, UT, WA, WY	0.1		
Rural Communities and Public Lands in the West: Impacts and Alternatives	5	CO, ID, NM, NV, OR, UT, WA, WY	0.4	1.2	*
Rangeland Resource Economics and Policy	5	CA, CO, ID, MO, NM, NV, OR, SD, TX, UT, WY	0.05		
Agribusiness Research Emphasizing Competitiveness	5	AZ, CA, CO, GA, ID, IL, IN, KS, MS, ND, NE, NM, OR, PA, TX, WA, WY	0.05	0.05	*