Utah State University

Extension and the Agricultural Experiment Station

Plan of Work

October 1, 1999 – September 30, 2004

Five Year Plan

Certification Signatures
1862 Directors

Robert L Gilliland

7-9-99
Date

Dr. Robert L. Gilliland
Vice President and Dean Extension
Director Cooperative Extension Service
Utah State University

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July 9, 1999
Date

Dr. H. Paul Rasmussen, Director
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Section I

Stakeholder Input Process

Utah State University determined to develop a collaborative plan of work for the state of Utah. Beginning in early December 1998 the Utah Cooperative Extension (CES) and the Utah Agricultural Experiment Station (UAES) POW development team devised a plan, which would insure stakeholder input at the county, regional, and state level. Stakeholders at each of these levels including specialty commodity groups, community and regional leaders, extension advisory committees and lay citizens were invited to participate in stakeholder meetings held in 27 Utah counties.

Extension advisory councils convened these open meeting held between January – March 1999, seeking input on programs and research that potentially could be developed and conducted in respective counties. More than 500 persons statewide participated in these open to the public meetings. Additionally, advisory councils solicited input from under represented minorities, commodity group representatives and community leaders. The resultant effect of these sessions and contacts was a five-year plan of work, October 1, 1999 – September 30, 2004 developed by each county in the state. County extension staff refined and developed the county plans following the general topical matrix suggested by CSREES for the over-all state plan. County officials reviewed and agreed to the final county plan of work. The county plan of work along with targeted stakeholder program recommendations from the stakeholder meetings was then submitted.

Stakeholders also participated in nine regional CES and UAES listening sessions held March – April 1999. These sessions involved over 350 individuals who came to participate in a futuring session on how they perceived the next five years would change their communities and to establish targeted program and research priorities based on those perceived changes. An overall description of the programs and research priorities identified in these stakeholders listening sessions consistent with USDA goal areas is provided below.

The goal area with the least expressed interest is that related to a healthier, more well-nourished population (goal #3), with goal areas #1 and #5 being the primary concern, a competitive agricultural production system and enhanced economic and quality of life for families and communities, respectively.

Geographic Area	Goal Areas				
	1	2	3	4	5
Ogden	UAES, CES	UAES, CES	CES	UAES, CES	UAES, CES
Southeast (Green River)	UAES, CES	UAES, CES	CES	UAES	UAES, CES
Provo	UAES, CES			UAES, CES	CES
Uintah (Roosevelt)	UAES, CES	UAES		UAES	UAES, CES
Southwest (Cedar City)	CES			UAES, CES	UAES, CES
Northern (Logan)	UAES, CES	UAES		UAES	CES
South-central (Richfield)	UAES, CES	UAES, CES		CES	CES
Salt Lake	UAES, CES	UAES, CES		UAES, CES	UAES, CES
Utah State University	UAES, CES	UAES		UAES, CES	UAES, CES

Goal 1: An Agricultural Production System that is Highly Competitive in the Global Economy

Goal 2: To Provide a Safe and Secure Food and Fiber System

Goal 3: To Achieve a Healthier, More Well-Nourished Population

Goal 4: To Achieve Greater Harmony Between Agriculture and the Environment

Goal 5: To Enhance Economic Opportunities and Quality-of-life Among Families and Communities

UAES - Utah Agricultural Experiment Station

CES - Utah Cooperative Extension Service

Identification of Critical Statewide Issues

A compilation of items determined to be the most important from stakeholder input meetings (not ranked in order of importance) are provided below under the agricultural experiment station and extension subheadings.

Agricultural Experiment Station

Preserving farmland and open spaces

Improving production efficiency

Determine ways of enhancing quality of life and improving family life

Identify the important relationships between work and family

Develop socially acceptable methods of water conservation, recycling, and use

Develop alternative crops and enhance existing crops

Expand study of intensively managed pastures

Investigate best methods of waste control and disposal

Expand marketing options for farmers

Develop better methods of weed control/management

Develop methods of identification and control of animal and plant diseases

Utah Cooperative Extension Service

Continue and expand technical to production agriculture, homeowners, and gardeners, etc.

Expand master gardener program

Encourage increased participation by volunteers

Develop more technically related short courses (pesticide applications, etc.)

Provide information to public on food safety

Explore various livestock and crop marketing options

Develop more community-based leadership programs for youth

Continue with the satellite educational programs

Provide information related to water use, conservation, and re-use

Assist in development of community networks

Expand use of partnerships to accomplish mutual purposes

Educate the population as to what agriculture is and does

Provide flexible program in money and financial management

Educate local officials and populations regarding growth issues

The most important extension and research issues identified in stakeholder listening sessions by region are listed in Addendum I and II respectively.

Utah State University Extension

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Utah State University Extension

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October 1, 1999 – September 30, 2004

Goal 1

Through research and education, empower the agricultural system with knowledge that will improve competitiveness in domestic production, processing, and marketing.

- Agronomy/Crop Production
- Horticulture – Commercial Fruit and Vegetable Production
- Livestock

CSREES - USU Extension POW - October 1, 1999 - September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Program Support FTE x $150k/year
Agronomy/Crop Production	Long Term Five Year Planning Period	Crop varieties common throughout the region such as alfalfa, corn silage, grass hay, pasture, cereal grains cut for hay, barley, wheat, oats and grain corn will be field tested under regional environments. Improved practices and better yields is the major goal of the program.	Goal 1	Ralph Whitesides USU, Plants, Soils and Biometeorology Phone 435 797-2259	CES Units In Idaho, Arizona, New Mexico, Wyoming, Colorado, Nevada. Multiple Utah Counties.	1.51 FTE	$226,500 annually-all sources
Horticulture - Commercial Fruit and Vegetable Production	Long Term Five Year Planning Period	An expansion of the fruit and vegetable production capabilities of Utah will be implemented in this program. Concentration will be on developing increased commercial production of onions, sweet corn, melons and pumpkins.	Goal 1	Ralph Whitesides USU, Plants, Soils and Biometeorology Phone 435 797-2259	CES Units In Arizona, Nevada and California. Multiple Utah Counties. Higher Education Institutions: Brigham Young University	2.80 FTE	$420,000 annually-all sources
Livestock	Long Term Five Year Planning Period	The majority of of livestock receipts come from cow-calf operations, dairies and sheep but the future is grim because of economic considerations. This program will explore alternative marketing and production improvement strategies with dairy, swine, sheep, cattle producers, pasture owners and forage producers.	Goal 1	Ralph Whitesides USU, Plants, Soils and Biometeorology Phone 435 797-2259	CES Units In Idaho, Arizona, New Mexico, Wyoming, Colorado, Nevada. Multiple Utah Counties.	2.49 FTE	$373,500 annually-all sources

Certification Signature of Collaborating Unit

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Date 7-9-99

Executive Summary

Program Title:

Agronomy/Crop Production

Statement of Issues:

Local agricultural producers will need to adapt in order to remain competitive in the future. This issue was identified as a key program issue in the statewide stakeholder listing sessions. "Explore various livestock and crop marketing options."

Performance Goals:

Over 30% of Utah farmers will change a practice based on information provided through Extension.

Key Program Components:

Seminars, workshops, tours, personal contacts, media contact, and publications.

Internal and External Linkages:

Partnerships with other counties, states, businesses, state and federal agencies, soil conservation districts, and commodity associations.

Target Audiences:

Farmers, ranchers, landowners, agricultural supply vendors, and government agencies servicing producers.

Evaluation Framework:

Survey producers to determine changes in crop yields as a result of variety selection and management practices.

Output Indicators:

5% of Utah growers will estimate that Extension information increased their income by $1,000 or more.

Outcome Indicators:

Average crop yield will increase by 2 - 5% for an aggregate economic impact of $7,225,000 annually.

Program Duration:

Long term (5 years or more)

Allocated Resources:

FTE = 1.51

1.51 x $150,000 = $226,500

Education and Outreach Programs:

Current ongoing activities include tours, field days, demonstration plots and seminars to assist the agricultural community with many aspects of crop improvement and agronomy related issues identified by stakeholders.

Point of Contact:

Ralph Whitesides

Professor, Plants, Soils, and Biometeorology

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Logan, UT 84322-4900

Phone: (435) 797-2259

E-mail: ralphw@ext.usu.edu

Executive Summary

Program Title:

Horticulture - Commercial Fruit and Vegetable Production

Statement of Issues:

Some areas of Utah are suited for fruit and vegetable production and should be developed. This issue was identified as a key program issue in the statewide stakeholder listing sessions "Develop alternative crops and enhance existing crops."

Performance Goals:

Increase statewide fruit production by 5% annually. Establish a centralized farmers market.

Key Program Components:

Workshops, seminars, tours, personal contacts, and field demonstration/research trials.

Internal and External Linkages:

Work with state horticulture and fruit groups, other states, county agents, specialists, and Department of Agriculture.

Target Audiences:

Commercial fruit and vegetable growers, greenhouse producers, and part-time producers (homeowners).

Evaluation Framework:

Pre and post tests, surveys, and economic analysis of alternative crop production.

Output Indicators:

Growers using a farmers market or produce stand will get 10% more customers.

Outcome Indicators:

Onion production will increase by 5%, and more local fruit production will increase available agricultural jobs.

Program Duration:

Long term (5 years or more)

Allocated Resources:

FTE = 2.80

2.80 x $150,000 = $420,000

Education and Outreach Programs:

Current ongoing activities include tours, field days, demonstration plots and seminars to assist the commercial fruit and vegetable community with many aspects of crop improvement, marketing, variety selection, cultural practices and related issues identified by stakeholders.

Point of Contact:

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Executive Summary

Program Title:

Livestock

Statement of Issues:

The majority of livestock receipts come from cow-calf operations, dairies, and sheep, but the future is grim because of economic considerations. This issue was identified as a key program issue in the statewide stakeholder listing sessions.

1. "Expand marketing options for farmers"
2. "Explore various livestock and crop marketing options"

Performance Goals:

50% of livestock producers will market through a pool and receive more than open market value.

Key Program Components:

Seminars, workshops, tours, mailing lists, publications, foreign involvement, record keeping, and waste management programs.

Internal and External Linkages:

Collaboration with veterinarians, commodity groups, other agents, specialists, and state, local, and federal agencies.

Target Audiences:

Dairy, swine, wool, sheep, cattle producers, pasture owners, and forage producers.

Evaluation Framework:

Surveys, net return from pool marketing compared to open market, change in profitability.

Output Indicators:

Approximately 42 additional livestock producers will use the Internet to gain information on livestock operations.

Outcome Indicators:

Profitability of farms and ranches will improve by at least 5%.

Program Duration:

Long term (5 years or more)

Allocated Resources:

FTE = 2.49

2.49 x $150,000 = $373,500

Education and Outreach Programs:

Current ongoing activities include tours, field days, demonstration plots and seminars to assist the livestock and dairy community with many aspects of worldwide marketing, feed practices, profitability, calf and lamb pools, maintaining records and other cultural practices and related issues identified by stakeholders.

Point of Contact:

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Utah State University Extension

CSREES

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Goal 2

To ensure an adequate food and fiber supply and food safety through improved science-based detection, surveillance, prevention, and education.

- Safe and Secure Food and Fiber System

CSREES - USU Extension POW - October 1, 1999 - September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Program Support FTE x $150k/year
Safe and Secure Food and Fiber System	Long Term Five Year Planning Period. Food Safety Manager Training - immediate duration	This program responds to public concerns about pesticide and drug residues in food and improper food handling and preparation in food service establishments and in the home. Educational programs will assist producers and consumers in wise management of resources and reduction of waste.	Goal 2	Charlotte P. Brennan, USU, Nutrition and Food Sciences, Phone 797-2116	CES units in Nevada, New Mexico, Arizona, Colorado and Wyoming. Multiple Utah Counties. Native American Tribes	3.49 FTE	$532,500 annually-all sources

Certification Signature of Collaborating Unit

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Date 7-9-99

Executive Summary

Program Title:

A Safe and Secure Food and Fiber System

Statement of Issues:

Food producers, food service establishments, and consumers all play a role in the safety of food. Educational efforts on causes of foodborne illness must be made on all levels to insure the health of Utahns and visitors. This issue was identified as a key program issue in the statewide stakeholder listing sessions "Provide information to public on food safety."

Performance Goals:

The Food Safety program in Utah responds to public concerns about pesticide and drug residues in food and improper food handling and preparation in food service establishments and in the home. Educational programs will assist producers and consumers in wise management of resources and reduction of waste.

Key Program Components:

There will be an ongoing interaction with consumers on safe food processing, storage and preparation. Professional food handlers in restaurants and institutions will offer the necessary training and certification to become Certified Food Safety Managers. Training programs in beef quality assurance, pesticide applications, and reduction of use of chemicals through Integrated Pest Management (IPM) will be conducted.

Internal and External Linkages:

Internal: County educators and specialists in Food Safety, Dairy & Beef Quality Assurance, EFNEP, pesticide application, IPM, and volunteers.

External: Utah agencies (Agriculture, Public Health, Education), restaurant, agricultural, food production and homemaker associations, schools, senior citizen centers, and religious organizations. FDA/USDA's Fight Bac programs.

Target Audiences:

Everyone in the state is vulnerable to foodborne illness. Training of food handlers, food producers, and consumers including youth, elderly and the vulnerable are especially important.

Evaluation Framework:

When appropriate evaluation will be by passing certification exams. Pre- and post-tests, surveys and general compliance data will also be used.

Output Indicators:

Output will be measured by the number of direct and indirect contracts made by Extension personnel and percent of clients that meet individual program goals.

Outcome Indicators:

Utahns will have a reasonably priced, safe food supply from field to table.

Program Duration:

The production of a Food Safety Manager Training Program is immediate. All other programs are ongoing.

Allocated Resources:

3.49 FTE

3.49 x $150,000 = $523,500

Other Specialists:

C. Bagley

D. Zobel

G. Lauritzen

K. Saunders

D. Alstron

Education and Outreach Programs:

Current ongoing activities include tours, youth training programs in food handling, food preservation, food storage and home food safety training videos, food service manager courses, independent training modules, seminars and other activities to meet related issues identified by stakeholders.

Point of Contact:

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Utah State University Extension

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Goal 3

Through research and education in nutrition and development of more nutritious foods, enable people to make health-promoting choices.

- Nutrition and Health

CSREES - USU Extension POW - October 1, 1999 - September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Program Support FTE x $150k/year
Nutrition and Health	Long Term Five Year Planning Period	Optimum nutritional status is a critical factor in the health and well being of all people but especially important for high risk groups such as infants, pregnant women, teenagers, elderly and low income. This program will improve the quality of diet through improved eating behaviors and increased nutritional knowledge.	Goal 3	Georgia Lauritzen, USU, Nutrition and Food Sciences, phone 797-3464	State agencies and multi county areas within the state of Utah. Native American Tribes	3.9 FTE	$585,000 annually-all sources

Certification Signature of Collaborating Unit

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Date 7-9-99

Executive Summary

Program Title:

Nutrition and Health

Statement of Issues:

All of the regional stakeholder meetings held in Utah identified food and nutrition education as a priority.

Performance Goals:

Two general goals are established: l) to improve eating behaviors and 2) increase nutrition knowledge.

Key Program Components:

Traditional Extension base programs in food and nutrition include a wide range of activities and presentations for very diverse audiences based on dietary guidance as given in Dietary Guidelines for Americans.

Internal and External Linkages:

All programming in food and nutrition will be coordinated with other existing agency programs of a similar nature and audience.

Target Audiences:

Nutrition and health activities are conducted for the benefit of all people in the state with special considerations for nutritionally at-risk populations.

Evaluation Framework:

All nutrition education will be evaluated by a variety of methods depending on appropriateness of the activity.

Output Indicators:

Indicators are based on consequences of eating behavior improvement and increase in nutrition knowledge.

Outcome Indicators:

Health improvements which reduce health care costs.

Program Duration:

Varies with specific activity but most will be ongoing programs on a long-term basis.

Allocated Resources:

3.9 FTE

3.9 x $150,000 = $585,000

Education and Outreach Programs:

Current ongoing activities include training programs on diet, exercise and health, small and large group seminars on lifestyle changes, healthy food selection, basic cooking skills, nutrition for pregnancy, infants and children. Workshops on family food shopping, food storage and emergency preparedness and other activities to meet related issues identified by stakeholders are being held.

Point of Contact:

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Utah State University Extension

CSREES

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Goal 4

Enhance the quality of the environment through better understanding of and building on agriculture's and forestry's complex links with soil, water, air, and biotic resources.

- Rural and Community Forestry Extension
- Sustainable Livestock Production: Animal Feeding Operations and Environmental Quality
- Rangeland Resources Extension
- Noxious Weed Control

CSREES - USU Extension POW - October 1, 1999 - September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Federal Support FTE x $150k/year
Rural and Community Forestry Extension	Long Term Five Year Planning Period	This program will improve private forest management, enhance sustainable processing and use of forest products, improve the health and quality of urban/community forests, reduce fire hazards, increase the health and functionality of windbreaks and increase adult and youth awareness of forestry issues.	Goal 4	Mike Kuhns, USU, Department of Resources, Phone 797-4056	Numerous federal and state agencies. Multiple Utah Counties	3.0 FTE	$450,000 annually-all sources
Sustainable Livestock Production: Animal Feeding Operations and Environmental Quality	Long Term Five Year Planning Period	Five counties in Utah and several collaborative neighboring state counties will assist animal feeding operations in responding to the new USEPA regulations regarding manure management to protect environmental quality. Confined livestock production enterprises can negatively impact natural resources and environmental quality, through a series of training programs regulatory standards will be delineated with livestock producers.	Goal 4	USU County Agents Dean Miner, Gary Anderson, Scott Williams, Mark Nelson and Don Huber and Rich Koenig, USU Extension Soil Specialist, Phone 435 797-2278	CES Units in Colorado, New Mexico, and Idaho and Utah Department of Environmental Quality, Division on Water Quality. Utah Counties: Sanpete, Rich, Beaver, Cache, Uintah, Lincoln	2.0 FTE	$230,000 annually-all sources Other Support: $69,400
Rangeland Resources Extension	Long Term Five Year Planning Period	Pressure on rangeland owners and users in forcing efficiency and sustainable pasture, rangeland and watershed management require that Extension take an active role in leadership and education to increase environmental and economic sustainability or rangeland and pasture use.	Goal 4	Roger E, Banner, USU, Department of Rangeland Resources, Phone 435 797-2472	CES units in Arizona, Nevada, Wyoming and Montana. Other Higher Education Institutions: University of Arizona	1 FTE	$136,000 annually-all sources Other Support: $14,000
Noxious Weed Control	Long Term Five Year Planning Period	Noxious weeds reduce agriculture productivity and threaten natural ecosystems in the West. This program will help private and public land managers stop the spread and reduce the existing acreage of noxious weeds in Utah	Goal 4	Steve Dewey, USU , Plants Soils and Biometeorology, Phone 435 797-2256	Utah agencies i.e., transportation, wildlife BLM, Park Service, SCS, Forest Service. Multiple Utah Counties	1.75 FTE	$262,500 annually-all sources

Certification Signature of Collaborating Unit

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Executive Summary

Program Title:

Rural and Community Forestry Extension

Statement of Issues:

Utah's urban and community forests are very important from both human and environmental standpoints. This issue was identified as a key program issue in the statewide stakeholder listing sessions.

1. "Continue and expand technical programs for production, agriculture, homeowners, gardeners, etc."
2. "Preserving farmland and open spaces"
3. "Develop more technically-related short courses"
4. "Expand multiple use of natural resources"

Performance Goals:

This program will improve private forest management, enhance sustainable processing and use of forest products, improve the health and quality of urban/community forests, reduce fire hazards, increase the health and functionality of windbreaks, and increase adult and youth awareness of forestry issues.

Key Program Components:

The program will consist of a combination of forest landowner, products, and urban/community, wildland-urban, and windbreak education programs.

Internal and External Linkages:

The program will involve local community, state, and federal agency personnel, as well as County Agents and other Extension Specialists.

Target Audiences:

The program will involve local community, state, and federal agency personnel, as well as County Agents and other Extension Specialists.

Evaluation Framework:

The program will be evaluated according to the number of participants, and by the participants for quality, effectiveness, and impact through written surveys.

Output Indicators:

Successful completion of this program will improve forest management decision making by a diverse audience of landowners, public land managers, communities, and youth.

Outcome Indicators:

Newsletters, fact sheets, educational events/programs, web sites, videos, multimedia, mass media contacts, personal contacts, demonstration sites, applied research projects.

Program Duration:

This is a long term program (1999-2004).

Allocated Resources:

3.0 FTE

3.0 x $150,000 = $450,000

Education and Outreach Programs:

Current ongoing activities include demonstration plantings, seminars to assist the urban foresters and farmers with wild-land-urban forest interface, windbreaks and agro-forestry and forestry education. And other related issues identified by stakeholders.

Point of Contact:

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Executive Summary

Program Title:

Sustainable livestock production: animal feeding operations and environmental quality.

Statement of Issues:

Confined livestock production enterprises can negatively impact natural resources and environmental quality. This issue was identified as a key program issue in the statewide stakeholder listing sessions "Investigate the best methods of waste control and disposal."

Performance Goals:

This program will assist animal feeding operations in responding to new USEPA regulations regarding manure management to protect environmental quality in Utah.

Key Program Components:

Through workshops, bulletins, fact sheets, popular press articles, demonstration projects, and tours, livestock producers and state and federal agency personnel will become trained in sustainable manure management techniques to preserve environmental quality.

Internal and External Linkages:

The program will involve cooperation among many state and federal agency personnel, as well as County Agents and other Extension Specialists.

Target Audiences:

The target audience is livestock producers and state and federal agency personnel responsible for assisting these producers.

Evaluation Framework:

The program will be evaluated by written evaluations, changes in water quality in impacted watersheds, monitoring of livestock production changes, and the number of individuals participating in the program.

Output Indicators:

Numbers of farms meeting compliance standards for manure; increased water quality and decreased erosion on upland range sites.

Outcome Indicators:

Ultimately, this program will improve water quality in watersheds impacted by animal feeding operations throughout Utah.

Program Duration:

This is a long term program (1999-2004).

Allocated Resources:

2 FTE

2 x $150,000 - $69,400 = $230,600

Education and Outreach Programs:

Current ongoing activities include field trips, seminars, and workshops to assist ranchers, farmers and feedlot managers with nutrient management practices, waste management, soil and manure sampling techniques and environmental education programs on water quality in the public schools. Other related issues identified by stakeholders included pasture management with intensive grazing and identifying CAFO and AFO classifications.

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Executive Summary

Program Title:

Rangeland Resources Extension

Statement of Issues:

Pressure on rangeland owners and users is forcing efficiency and sustainable pasture, rangeland, and watersheds management. This issue was identified as a key program issue in the statewide stakeholder listing sessions.

1. "Expand study of intensively managed pastures"
2. "Provide information related to water use, conservation, and reuse"

Performance Goals:

Focus on leadership and education to increase environmental and economic sustainability of rangeland and pasture use.

Key Program Components:

Based on collaboration and partnerships with organizations and people to present educational programs. Links research and extension and is interdisciplinary, multi-institutional, and multi-state.

Internal and External Linkages:

UAES and the NRCS along with the regional WIRE program of SARE and close cooperation with Arizona and Nevada CES.

Target Audiences:

Private landowners, public rangeland managers and rangeland users are the targeted audiences.

Evaluation Framework:

Evaluated as an educational program providing leadership, service, encouragement, motivation and information. Functional programs that promote economic and environmental sustainability of rangeland use and management.

Output Indicators:

Leadership provided to produce a functioning Utah GLCI coalition that provides landowner leadership in grazing lands conservation in Utah. An active Coordinated Resource Management Program in Utah with success stories to share. An on-going WIRE program with increasing participation and graduates that have formalized ranch management plans. Educational materials on plant-herbivore interactions and other topics that stimulate understanding and interest in more intensive management of grazing animals and land.

Outcome Indicators:

Results will be a substantial contribution toward achievement of greater harmony between agriculture and the environment.

Program Duration:

This is a long term program, expected to grow in breadth and detail.

Allocated Resources:

1 FTE

1 x $150,000 - $14,000 = $136,000

Other Support:

RLEP $14,000

Education and Outreach Programs:

Current ongoing activities include statewide conferences, field trips and demonstrations, short courses, and workshops to assist agriculturists, agency managers and rangeland users in making improved decisions on public policies related to public and private rangelands. Other related issues identified by stakeholders included programs to increase economic and environmental sustainability of rangeland and pasture management for farmers and ranchers.

Point of Contact:

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Executive Summary

Program Title:

Noxious Weed Control

Statement of Issues:

Noxious weeds reduce agricultural productivity and threaten natural ecosystems in the West. This issue was identified as a key program issue in the statewide stakeholder listing sessions.

1. "Develop better methods of weed control and management"
2. "Expand use of partnerships to accomplish mutual purposes"

Performance Goals:

Help private and public land managers stop the spread and reduce the existing acreage of noxious weeds in Utah.

Key Program Components:

Provide clientele with information on weed impact, spread, identification, mapping and effective management through seminars, publications, and field demonstrations.

Internal and External Linkages:

County, state, and federal entities having weed management responsibilities or interests.

Target Audiences:

Farmers, ranchers, public land users, state and federal land-managing agencies, and the general public.

Evaluation Framework:

Pre- and post-training evaluations of audience skill levels. Changes in weed infestation acreages.

Output Indicators:

Numbers of seminars, tours, publications, demonstrations, and contacts.

Outcome Indicators:

Skills and knowledge increased in 1000 persons. Weeds detected and controlled in counties. Farm profitability increased by 5 percent.

Program Duration:

1999 - 2004

Allocated Resources:

1.75 FTE

1.75 x $150,000 = $262,500

Education and Outreach Programs:

Current ongoing activities include statewide efforts to share information about the location and control of noxious weed infestations. Bulletins and public informational articles have been released to make the public more aware of noxious weed control. Workshops on integrated weed management are being held throughout the state to introduce stakeholders with management practices other than herbicide applications.

Point of Contact:

Steve Dewey

Professor, Plants, soils, and Biometeorology

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Utah State University Extension

CSREES

Plan of Work

October 1, 1999 – September 30, 2004

Goal 5

Empower people and communities, through research-based information and education, to address the economic and social challenges facing our youth, families and communities.

- Families and Youth at Risk
- Business Retention and Expansion
- Economic Development Planning
- Youth and 4-H

CSREES - USU Extension POW - October 1, 1999 - September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Program Support FTE x $150k/year
Families and Youth at Risk	Long Term Five Year Planning Period	There has been a significant increase in all categories of criminal activity in Utah. Utah's Youth & Families with Promise Program will address intervention with at-risk youth and their families.	Goal 5	Leona Hawks USU Family Life Phone 435 797-1529	CES Unit includes Washington. Juvenile Justice, USU, 4-H Youth Development, Advisory Board. Utah Counties: Cache, Carbon, Iron, Salt Lake, Sanpete, Weber. Other Higher Education Institutions	5 FTE	$582,800 ann. all sources Other Support: $167,200
Business Retention and Expansion	Long Term Five Year Planning Period	Rural Utah is economically disadvantaged in competing for new business & industry. Extension will assist in retraining & expanding existing firms.	Goal 5	David L. Rogers USU Sociology, Social Work, and Anthropology Phone: (435) 797-1255	CES Units in Colrado, New Mexico, Idaho, Oregon, & Montana. Utah counties: Piute, Wayne, San Juan,	1 FTE	$150,000 annually all sources
Economic Development Planning	Long Term Five Year Planning Period	Rural West has limited employment opportunities, changing employment base to service industries & lower incomes. Economic information & technial assistance for strategic planning and goal setting will be available to 3 communities per year.	Goal 5	David L. Rogers USU Sociology, Social Work Anthropology Phone 435 797-1225	CES Units in Nevada New Mexico, Oregon Montana, & Washington Multiple Utah Counties	.5 FTE	$75,000 annually all sources
Youth and 4-H	Long Term Five Year Planning Period	Give youth opportunities to become involved with the community, prepare them for adult responsibilities and future employment. Train more youth volunteers. Get youth involved in livestock, dairy, poultry, and horse projects.	Goal 5	John Paul Murphy USU Youth Development, phone 435 797-2199; Becky Mitchell, 4-H, phone 435 797-2202; Ross Jacobson, Youth, phone 435 797-3761	National, State, County, and Volunteer 4-H staff. Multiple Utah Counties.	9.5 FTE	$1,425,000 annually all sources

Certification Signature of Collaborating Unit

Robert L Gilliland

Robert L. Gilliland
Vice President and Dean
University Extension
Utah State University
Logan, Utah 84322-4900
Date 7-9-99

Executive Summary

Program Title:

Families and Youth at Risk - UT

Statement of Issues:

There has been a significant increase in delinquency-related problems involving youth in both urban and rural areas. This issue was identified as a key program issue in the statewide stakeholder listing sessions.

1. "Encourage increased participation by volunteers"
2. "Identify the important relationships between work and family"
3. "Determine ways of enhancing quality of life and improving family life"
4. "Assist in development of community networks"

Performance Goals:

80% of identified at-risk youth will increase in social and academic skills, and decrease in problem behaviors.

Key Program Components:

Mentors work with youth ages 8-14 and their families referred from schools and courts.

Internal and External Linkages:

An advisory board in each county links to local schools, the Juvenile Court, and other agencies.

Target Audiences:

At-risk youth, ages 8-14, who have behavioral and academic problems in the school, or a first offense with the Juvenile Court.

Evaluation Framework:

Pre- and post-test surveys of all youth and parents, interviews with teachers and mentors.

Output Indicators:

200 youth and referral families. 300 mentors and grand-mentors recruited and trained. Mentors will have 20,000 contact hours with identified youth and families.

Outcome Indicators:

Youth will show a decrease in problem behaviors, and an increase in productive and responsible behaviors.

Program Duration:

This program is intended to be an ongoing, long-term program.

Allocated Resources:

5 FTE

5 x $150,000 – $167,200 = $582,800

Education and Outreach Programs:

Current ongoing activities include statewide efforts to recruit Utah's Youth and Families with Promise Program volunteers to work with youth at risk in improving social and academic skills and creating linkages with 4-H and other positive role model programs. College age students and grandparent volunteers have been trained in mentoring activities with these at risk youth.

Point of Contact:

Leona Hawks

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Executive Summary

Program Title:

Business Retention and Expansion

Statement of Issues:

Programs are directed toward improving and enhancing local economies by identifying current business system entities, changes needed to improve conditions for business growth and expansion. This issue was identified as a key program issue in the statewide stakeholder listing sessions.

1. "Assist in the development of growth management strategies for rural communities."
2. "Identify value added industries that are compatible with communities."

Performance Goal:

Each year three (3) communities will develop and adopt strategies for business retention and expansion.

Key Program Components:

Local extension staff will assist communities in organizing local steering committees, in preparing visitation surveys, in collecting information from existing business firms, and analyzing and reporting survey results to community and business leaders.

Internal and External Linkages:

Extension specialists will work with Agricultural Experiment Station staff on collecting information used in developing business plans.

Target Audiences:

Local government officials, business and community leaders, and relevant units of state government are targeted.

Evaluation Framework:

Information will be collected from business owners and managers both during the visitation and after the visitation period. Information will be collected from local government officials and from business leaders

Output Indicators:

Number of communities that adopt retention and expansion strategies.

Outcome Indicators:

Fifteen communities will adopt business expansion and retention programs.

Program Duration:

Long term-5 years.

Education and Outreach Programs:

Current ongoing activities include statewide surveys and interagency activities with the Utah Economic Development staff to identify and assist communities and businesses in maintaining and improving their competitive business positions.

Allocated Resources:

1 FTE

1 x $150,000 = $150,000

Other Program Linkages:

Business retention and expansion programs have been conducted in three counties over the last few years.

Point of Contact:

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0730 Old Main Hill

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Phone: (435) 797-1255

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Executive Summary

Program Title:

Economic Development Planning

Statement of Issues:

Members of the regional focus groups reported several concerns linked to economic development including: limited employment opportunities, changing employment base to service industries and lower incomes. This issue was identified as a key program issue in the statewide stakeholder listing sessions.

1. "Provide broader training opportunities for alternative employment possibilities"
2. "Educate local officials and population regarding growth issues"

Performance Goal:

Provide economic information and technical assistance for strategic planning and goal setting to three communities/year.

Key Program Components:

A team made up of economic development partners will approach community and business leaders to determine interests in working with the partnership.

Internal and External Linkages:

Linkages are being formed across state lines with other research and extension staff.

Target Audience:

Customers for this activity are primarily local community and business leaders.

Evaluation Framework:

Customers will be surveyed to determine the adequacy of the materials presented.

Output Indicators:

Self reports of participating communities about receiving information and technical information.

Outcome Indicators:

Fifteen communities will be able to set economic development goals and improve their competitive economic position.

Program Duration:

Long Term - 5 years

Allocated Resources:

.5 FTE

.5 x $150,000 = $75,000

Education and Outreach Programs:

Current ongoing activities include partnership development with statewide extension staff, cities and towns and state economic development professionals who are identifying communities with the greatest need for economic development and expansion.

Other Program Linkages:

The economic development planning and assistance programs continue in response to demands by county economic development professionals.

Point of Contact:

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Executive Summary

Program Title:

4-H Youth Development

Statement of Issues:

Give youth opportunities to become involved with the community, prepare youth for adult responsibilities and future employment. Train more youth volunteers. Get youth involved in livestock, dairy, poultry, and horse projects. This issue was identified as a key program issue in the statewide stakeholder listing sessions.

1. "Develop more community-based leadership programs for youth"
2. "Educate the population as to what agriculture is and does"
3. "Create and expand agricultural curriculum in public schools"
4. "Set up youth mentoring programs"

Performance Goals:

Get youth involved in their communities, increase youth volunteerism, prepare youth for employable futures, increase participation in livestock, dairy, poultry, and horse projects.

Key Program Components:

Increase opportunities for youth through workshops, camps, conferences, retreats, contests, training, and councils.

Internal and External Linkages:

National, State, County, and volunteer 4-H staff.

Target Audiences:

All youth of 4-H age in Utah with an interest in enrolling in 4-H or participating in Extension sponsored activities and all adults with an interest and expertise in youth development in work force preparation. Special efforts will be made to increase interest and enroll youth and adult leaders within diverse ethnic populations.

Evaluation Framework:

Data from the ES237 report each year will give the total number of volunteers. Continuing evaluation is part of each of the program components.

Utilize participant surveys, monitor livestock, dairy, and poultry performances, and the number of horse portfolio records.

Output Indicators:

Number of youth and adult/volunteers involved in community service projects.

Number of collaborative efforts with states in the Western Region.

Number of participants in the Guide Dog program.

Number of service learning projects completed.

Outcome Indicators:

Youth will be involved in projects and activities to teach workforce skills, citizenship, leadership and character education.

Program Duration:

Long-term

Allocated Resources:

9.5 FTE

9.5 x $150,000 = 1,425,000

Education and Outreach Programs:

Current ongoing activities include workshops, camps, and leadership retreats, state contests and volunteerism summits designed to teach youth workforce skills, citizenship, leadership and character education.

Point of Contact:

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Utah State University
Utah Agricultural Experiment Station

Plan of Work

CSREES - Utah Agricultural Experiment Station POW - October 1, 1999 - September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Units	FTE			Estimated Federal/Total Support:
						SY	PY	CY	
Plant and Animal Health and Safety	Long-term	Utilizing methods of ensuring plant and animal health and safety for foods and fibers is the major goal of this program.	Goal 2	Dr. H. Paul Rasmussen, Director	Various university departments, Cooperative Extension, commodity groups, farm organizations, individual producers, agribusiness firms, and state and federal government agencies	9.4	11.3	1.3	$759,661 / $2,000,902
Agricultural Product Enhancement	Long-term	Food and fiber product enhancement, including value-added activities, is the major goal of this program.	Goal 3	Dr. H. Paul Rasmussen, Director	Various university departments, Cooperative Extension, commodity groups, farm organizations, individual producers, agribusiness firms, and state and federal government agencies	11.3	21.0	4.0	$628,774 / $3,231,828
Pasture Development, Reclamation and Quality	Long-term	Agronomic and economic pasture mixtures, developed to enhance animal output, is the primary goal of this program.	Goal 4	Dr. H. Paul Rasmussen, Director	Various university departments, Cooperative Extension, commodity groups, farm organizations, agribusiness firms, and state and federal agencies.	1.9	3.2	0.0	$238,000 / $540,564
Human, Wildlife, and Domestic Livestock Interactions and Compatibility	Long-term	Environmentally sound systems of compatible human, wildlife, and domestic livestock interaction is the primary goal of this program.	Goal 4	Dr. H. Paul Rasmussen, Director	Various university departments, Cooperative Extension, commodity groups, farm organizations, individual producers, environmental groups, consumers, and state and federal agencies.	4.8	9.1	.9	$188,966 / $1,465,300
Family Training,	Short- and	The primary focus of this program is	Goal 5	Dr. H. Paul	Various university	3.5	10.5	.4	$55,966 /

Development, Assistance, and Sociology	Medium-term	the development of processes and/or technologies which improve family and community social structure.		Rasmussen, Director	departments, Cooperative Extension, consumers and family health experts, and state and federal agencies				$1,305,444

Grand Total: Federal Appropriation Accounts Only $1,650,054
All Appropriation Accounts $8,544,039

Shift in Funding Over Time By Program Area:

	Total Funding Level		Federal Appropriations Only	
Program Area	1994	1995	1994	1999
1	$1,791,059	$2,000,902	$ 575,504	$ 759,661
2	1,186,256	3,231,828	470,762	628,774
3	148,100	540,565	0	17,561
4	411,263	1,465,300	119,337	188,091
5	288,335	1,305,444	54,416	55,966
Total	$3,825,014	$8,544,039	$1,220,019	$1,650,054

Underserved Populations Identified:

Hispanics
Blacks
Asians
Elderly
American Indians
Women
Home Gardeners
Urban Residents

Utah State University
Utah Agricultural Experiment Station

CSREES

Plan of Work

October 1, 1999 – September 30, 2004

Goal 1

Through research and education, empower the agricultural system with knowledge that will improve competitiveness in domestic production, processing, and marketing.

The Utah Agricultural Experiment Station has a large number of projects in this goal area and we will continue to maintain those individual projects but the research effort is very diverse. Thus, we cannot identify a clear "program" for this POW. The specific projects do address various issues related to production, processing and marketing. A full list of UAES projects are provided in Addendum 3.

Utah State University
Utah Agricultural Experiment Station

CSREES

Plan of Work

October 1, 1999 – September 30, 2004

Goal 2

To ensure an adequate food and fiber supply and food safety through improved science-based detection, surveillance, prevention, and education.

- Plant and Animal Health and Safety

Executive Summary

Program Title:

Plant and Animal Health and Safety

Statement of Issues:

Plant and animal health and safety will have to be protected and enhanced in the future in order to provide a safe and secure food system for the U.S. and world food and fiber consumers. This issue was identified as one critical to Utah in the stakeholder input sessions.

Performance Goals:

Improved methods of ensuring plant and animal health and safety will be developed for Utah's leading agricultural enterprises including beef cattle, dairy cattle, sheep, alfalfa hay, grains, and food and horticultural crops.

Key Program Components:

Research projects will focus on:

- Disease Identification
- Disease Control
- Safety Assurance

Internal/External Linkages:

Internal

Scientists from the departments of Animal, Dairy, and Veterinary Science Department, Plants, Soils, and Biometeorology Department, and Biology Department will examine plant and animal health and safety issues from a multi-disciplinary perspective. Scientists from the Utah Cooperative Extension Service will also participate in activities related to this program area as noted below.

External

- Public and private partnerships will be developed and maintained to better carry out this program. Outside private entities will include various commodity groups (wheat growers, cattlemen, etc), farm organizations (Utah Farm Bureau, Farmers Union, etc.), individual producers, and agribusiness firms involved in the development and maintenance of plant and animal health and safety.

- Public-Public partnerships will include the Utah Department of Agriculture and Food and Utah Department of Natural Resources, the USDA'S Agricultural Research Service Forage and Range Research Laboratory, the Poisonous Plant Laboratory, the Bee Biology Laboratory, and Animal and Plant Health Inspection Service, plus other federal agencies affiliated with the USDA and the USDI with interest in plant and animal health and safety.

Target Audiences:

Farmers, ranchers, agribusiness firms, other public agencies, scientists, and consumers.

Evaluation Framework:

Specific plant and animal health and safety advancements will be identified and enumerated relying on annual experiment station reports in the CRIS system. Also included will be listing of publications–peer reviewed and otherwise–and the identification of patents or processes contributing to the fulfillment of this goal area.

Output Indicator(s):

Plant and animal health and safety identifiers and indicators will be developed

Methods of improved health and safety control will be developed and tested

Outcome Indicators:

10 percent of Utah's producers of agricultural crops and livestock commodities will adopt new or improved cost effective health and safety protocols and technologies over the next 5 years as they are developed by Utah State in University in partnership with state and federal agencies and private companies.

Program Duration:

Long-term

Program Projects:

P.I.	Proj #- Exp Date	Brief Project Description
Cockett, N.	(099-03)	Develop high resolution comparative genome maps aligned across species with focus on those tissues of economic importance.
Holyoak, R	(102-02)	Determine if scrapie (fatal virus disease of sheep) is transmitted by parents through embryo and/or uterus and at which point the embryos are at risk of exposure and infection.

Deer, H.	(103-03)	Clear pest control agents for minor uses.
Bunch, T.	(123-99)	Refine methods of short- and long-term embryo maintenance.
Coulombe, R.	(126-02)	Isolate toxic compounds in Utah plants and study their mode of action.
Healey, M.	(133-99)	Develop integrated method of parasite control for improved livestock production.
Cockett, N.	(153-03)	Develop diagnostic probe for the spider lamb syndrome gene in Suffolk sheep.
Cockett, N.	(164-00)	Develop high resolution comparative genome maps aligned across species with focus on those tissues of economic importance.
Jackson, M. K.	(165-02)	Show that there are differences between superinfecting ecotropic virus titers when these viruses infect cells after another ecotropic virus has already attached to the cell.
White, K.	(166-00)	Evaluate the effects of growth factors and cultural conditions on establishment and maintenance of ES receptor sites for enhanced animal fertilization.
Cockett, N.	(170-03)	Develop high resolution comparative genome maps for sheep.
Hall, J.	(415-02)	Identify toxic plants and their respective toxins, and study their toxic effects.
Deer, H.	(444-99)	Coordinate the collection, evaluation and dissemination of information on the benefits and risks of pesticide use
Coulombe, R.	(445-00)	Determine whether those antioxidants that increase GSTs will protect against the immunotoxic and pathologic effects of AFB1.
Coulombe, R.A.	(459-99)	Continue to isolate toxic compounds in Utah plants, and study their mode of action.
Cockett, N.	(460-01)	Development of a physical contig that contains ovine callipyge gene.
Hammon, D. S.	(462-01)	Determine the potential reproductive toxic effects cadmium and other heavy metals may have on agricultural animals.
Evans, T.	(524-02)	Evaluate natural enemy efficacy and study ecological/physiological basis for interactions; Evaluate the environmental impacts of biological control.
Alston, D.	(618-00)	Maintain integrated pest management and demonstration orchard at the USU Kaysville Experiment Farm
Kropp, B.	(624-00)	Gain a better understanding of the biology of Puccina thlaspeos which has potential for use as a biological control agent against the introduced weed, dyer's woad.
Alston, D.	(626-01)	Assess the biology and life history of plum curculio in northern Utah.

	Evans, J.	(743-00)	Develop and/or integrate cultural, biological, and chemical control of weeds in field crops.
	Campbell, W.	(760-02)	Compare relative growth rate (RGR), net assimilation rate (NAR), and leaf area ratio (LAR) effects of NaCl stress on the ability of CA**
	Provenza, F.	(914-00)	Determine if adsorbents increase ingestion by sheep of plants containing feeding-deterrent compounds.
	Gese, E.M.	(956-00)	Quantify the effect of coyote sterilization on domestic lamb loss to coyote predation.

Multi Activities:

Multi-State Activities -

Region	Proj #- Exp Date	Scientist	Title
WCC	077-99	Dewey, S.	Biology and Control of Winter Annual Grass Weeds in Winter Wheat
	NRSP-03	Cockett, N.E.	National Animal Genome Research Program
	NRSP4-03	Deer, H.M.	A National Agricultural Program to Clear Pest Control Agents for Minor Uses
W	171-99	Bunch, T.D.	Germ Cell and Embryo Development and Manipulation for Improvement of Livestock
W	102-99	Healey, M.C.	Integrated Methods of Parasite Control for Improved Livestock Production
NC	185-99	Dhiman, T.R.	Metabolic Relations in Supply of Nutrients for Lactating Cows

Multi-Disciplinary Activities -

Scientists from Animal, Dairy, and Veterinary Science Department, Plants, Soils, and Biometeorology Department, and Biology Department (representing both the Utah Agricultural Experiment Station and the Utah Cooperative Extension Service) will examine plant and animal health and safety issues from a multidisciplinary perspective.

Multi-Institutional Activities -

Multi-state activities are also multi-institutional activities, though the breadth of involvement varies by project. In addition to those institutions in other states, the Utah Agricultural Experiment Station is cooperating with Brigham Young University and Snow College in the area of animal health and safety.

Cooperating Agricultural Experiment Station and Cooperative Extension Scientists:

Faculty with UAES Appointments

Alston, D.
Bunch, T.
Campbell, W.
Cockett, N.
Coulombe, R.A.
Deer, H.
Dewey, S.
Dhiman, T.R.
Evans, J.
Evans, T.
Gese, E.M.
Hall, J.
Hammon, D. S.
Healey, M.
Holyoak, R
Jackson, M. K.
Kropp, B.
Provenza, F.
White, K.

Faculty with CES Appointments

Alston, D.
Bagley, C.
Buckner, R.
Deer, H.
Dewey, S.
Evans, T.
Harrison, J.
Hatch, T.
Thomson, S.

Utah State University
Utah Agricultural Experiment Station

CSREES

Plan of Work

October 1, 1999 – September 30, 2004

Goal 3

Through research and education in nutrition and development of more nutritious foods, enable people to make health-promoting choices.

- Agricultural Product Enhancement

Executive Summary

Program Title:

Agricultural Product Enhancement

Program Duration:

Long-term

Statement of Issues:

In order to remain relevant and economically viable, agriculture must continue food and fiber product development and enhancement. Not only will a continued investment in agriculture provide a more safe food and fiber system, it will also serve to improve access to a more affordable and culturally relevant food and fiber. This issue was identified as critical in the stakeholder input sessions.

Performance Goals:

Expansion or enhancement of value added agricultural products

Key Program Components:

Research activities will focus on developing value-added or improved productive efficiencies for :

livestock and poultry (particularly beef cattle, sheep, and turkeys)

dairy products

food and feed grains

fruits and vegetables

Internal/External Linkages:

Internal

Scientists from the departments of Animal, Dairy, and Veterinary Science Department, Plants, Soils, and Biometeorology Department, Range Resources Department, and Nutrition and Food Sciences Department will examine potential for agricultural product enhancement and/or improved productive efficiencies. Scientists from the Utah Cooperative Extension Service will also participate in activities related to this program area as noted below.

External

- Public and private partnerships will be developed and maintained to better carry out this program. Outside private entities will include various commodity groups (wheat growers, cattlemen, etc), farm organizations (Utah Farm Bureau, Farmers Union, etc.), individual producers, and agribusiness firms involved in the development and maintenance of plant and animal health and safety.
- Public-Public partnerships will include the Utah Department of Agriculture and Food, the Utah Department of Natural Resources, the USDA's Agricultural Research Service Forage and Range Research Laboratory, Poisonous Plant Laboratory, and the Bee Biology Laboratory, plus other federal agencies affiliated with the USDA with interest in agricultural product enhancement.

Target Audiences:

Farmers, ranchers, value-added agribusiness, public agencies, scientists, and consumers.

Evaluation Framework:

Specific agricultural product enhancements and/or methods of improved productive efficiencies will be identified for meat (i.e., beef, sheep, and turkeys), dairy products, and feed and food grains relying on data from the CRIS system. Also included will be listing of publications–peer reviewed and otherwise–and the identification of patents or processes contributing to the fulfillment of this goal area.

Output Indicators:

Development of new or enhanced agricultural products over the next 5 years

Outcome/Impact Indicator(s):

7 new or more efficiently produced food and fiber products that meet demands of the market will be developed over the next 5 years.

Program Projects:

P.I.	Proj #- Exp Date	Brief Project Description
Buckner, R.	(114-02)	Evaluate and compare the genetic progress of five commercially available strains of turkeys.

Wiedmeier, R.	(157-00)	Examine one environmental factor that may affect utilization of low-quality forages – calfhood exposure to low-quality forages
Olson, K.	(179-03)	Increase the profitability of grazing livestock production through improved forage conversion efficiency to desired livestock responses.
Mendenhall, V.	(195-00)	Develop low-fat meat products for the red meat industry.
Savello, P.	(213-01)	Investigate and measure changes in milk proteins as a result of VHT and UHT processing;
Carpenter, C.	(217-99)	Investigate whether tenderness of callipyge meat can be improved.
McMahon, D.	(222-03)	Identify changes in structure of casein that occur as a consequence of processing.
Broadbent, J.	(223-02)	Identify enzymes responsible for the production of diacetyl in Cheddar cheese and to characterize their influence on the production of cheese flavor compounds.
Cornforth, D. P.	(241-01)	Determine the extent of inhibition of lipid oxidation in a lipig microsome model system by various dairy proteins.
Weimer, B.C.	(244-03)	Investigate the use and application of biotechnology in food processing to develop and stronger food processing market for consumption in and out of Utah.
Hole, David	(328-03)	Develop of dryland winter and irrigated wheat varieties that possess resistance to major diseases and pests in Utah while maintaining excellent milling and baking properties and high yield abilities.
Carman, J.	(337-02)	Determine if characteristics *apomixis* (i.e., hybrids cloning themselves) can be introduced into commercial agricultural crops.
Drost, D.	(344-01)	Evaluate the delivery and timing of water applications to onions and find ways to improve water use efficiency.
Dhiman, T.R.	(417-02)	Quantitatively evaluate chemical and physical properties of protein and energy sources which determine the availability of nutrients critical to milk protein secretion in lactating dairy cows (corn barley substitution).
Dhiman, T.R.	(423-02)	Characterize the effects of modified milk fats on physical, chemical, manufacturing, and sensory properties of dairy products.
Rasmussen, V.	(431-99)	Investigate sustainable cropping systems (rotations) for the unique dry, cold climate of the Intermountain West.
Zobell, D.	(451-03)	Evaluate the effect of various production practices on subsequent performance and economic returns through retained ownership of calves.
Frame, D.	(461-01)	Determine growout temperature that yields optimal feed conversion for turkeys.

Albrechtsen, R	(735-03)	Breed and test improved varieties of barley, spring wheat, and oats.
Provenza, F.	(913-99)	Ascertain how a food's physical and chemical traits interact to affect preference by domestic livestock.
Caldwell, M.	(920-01)	Determine the influence of solar spectral balance on the UV-B responses of plants.

Multi Activities:

Multi-State Activities -

Region	Proj #- Exp Date	Scientist	Title
NCR	101-01	Bugbee, B.G.	Controlled Environmental Techniques and Use
W	130-03	Seeley, S.D.	Freeze Damage and Protection of Horticultural Species
NC	140-02	Anderson, J.L.	Rootstock and Interstem Effects on Pome and Stone Fruit Trees
WCC	058-04	Kjelgren, R.	Production, Transition Handling, and Reestablishment of Perennial Nursery Stocks
WCC	081-00	Hole, D.J.	Systems to Improve End-Use of Small Grains
WCC	091-99	MacAdam, J.W.	Improving Stress Resistance of Forages in the Western U.S.
W	122-02	Coulombe, R.A.	Improved Food Safety Through Discovery and Control of Natural and Induced Toxicants and Antitoxicants
W	181-99	Dhiman, T.R.	Modifying Milk Fat Composition for Improved Milk Quality and Consumer Acceptance
WCC	001-00	Cockett, N.E.	Beef Cattle Breeding Research in the Western Region
WCC	039-00	Cockett, N.E.	Coordination of Sheep and Goat Research and Education Program for Western States
WCC	059-00	Buckner, R.E.	Poultry Production, Processing, and Water Quality
WCC	092-99	Wiedmeier, R.D.	Beef Cattle Energetics

Multi-Disciplinary Activities -

Scientists representing both the Utah Agricultural Experiment Station and Utah Cooperative Extension Service from the departments of Animal, Dairy, and Veterinary Science Department, Plants, Soils, and Biometeorology Department, Range Resources Department, and Nutrition and Food Sciences Department will examine potential for agricultural product enhancement and/or improved productive efficiencies.

Multi-Institutional Activities -

Multi-state activities are also multi-institutional activities, though the breadth of involvement varies by project. Brigham Young University and Snow College are also participating in the development of enhanced agricultural products.

Cooperating Agricultural Experiment Station and Cooperative Extension Scientists:

Faculty with UAES Appointments	Faculty with CES Appointments
Albrechtsen, R.	Anderson, G.
Anderson, J.L.	Bagley, V.
Broadbent, J.	Banks, S.
Buckner, R.	Banner, R.
Bugbee, B.G.	Bitner, W.
Caldwell, M.	Bunderson, B.
Carman, J.	Burrell, C.
Carpenter, C.	Chapman, K.
Cockett, N.E.	Drost, D.
Cornforth, D. P.	Hatch, T.
Coulombe, R.A.	Hendricks, H.
Dhiman, T.R.	Kotuby-Amacher, J.
Drost, D.	McMahon, D.
Frame, D.	Mendenhall, V.
Hole, David	Rasmussen, A.
MacAdam, J.W.	Sagers, L.
McMahon, D.	
Mendenhall, V.	
Olson, K.	
Provenza, F.	
Rasmussen, V.	
Savello, P.	
Seeley, S.D.	
Weimer, B.C.	
Wiedmeier, R.	
Zobell, D.	

Utah State University
Utah Agricultural Experiment Station

CSREES

Plan of Work

October 1, 1999 – September 30, 2004

Goal 4

Enhance the quality of the environment through better understanding of and building on agriculture's and forestry's complex links with soil, water, air, and biotic resources.

- Pasture Development, Reclamation and Quality
- Human, Wildlife, and Domestic Livestock Interactions and Compatibility

Executive Summary

Program Title:

Pasture Development, Reclamation and Quality

Program Duration:

Long-term

Statement of Issue(s):

Livestock and livestock-related crop production comprises the largest single agricultural sector in Utah. There are vast areas of public and private range and pasture land utilization in Utah. With access to public lands becoming more difficult and costly, interest in intensive use of irrigated and nonirrigated pastures was identified by stakeholder's as a important concern.

Performance Goal(s):

Improved conditions for existing pastures

Expanded use of intensively managed irrigated pastures where economically justifiable

Key Program Component(s):

Research activities will focus on

Soil-plant interactions

Livestock-plant interactions

Benefits and costs associated with intensively managed irrigated pastures for beef, dairy, sheep, and pleasure horses

Internal/External Linkages:

Internal

Scientists from the departments of Animal, Dairy, and Veterinary Science Department, Economics Department, Plants, Soils, and Biometeorology Department, and Biological and Irrigation Engineering Department will identify various factors influencing physical and economic viability of intensive pasture management utilizing a multidisciplinary approach. Scientists from the Utah Cooperative Extension Service will also participate in activities related to this program area as noted below.

External

Public and private partnerships will be developed and maintained to better carry out this program. Outside private entities will include various commodity groups (wheat growers, cattlemen, etc), farm organizations (Utah Farm Bureau, Farmers Union, etc.), individual producers, and agribusiness firms involved in development and use of pasture-related inputs.

Public-Public partnerships will include the Utah Department of Agriculture and Food and Utah Department of Natural Resources, USDA's Agricultural Research Service Forage and Range Research Laboratory, Poisonous Plant Laboratory, Forest Service, and the USDI's Bureau of Land Management, plus other federal agencies affiliated with the USDA and the USDI interested in irrigated and nonirrigated intensively managed pastures.

Target Audience(s):

Primarily farmers and ranchers involved in livestock production, but scientists will also benefit from the availability of this information.

Evaluation Framework:

Factors influencing pasture and animal productivity will be identified relative to their effect on physical and economically viability of intensively managed pasture use.

Output Indicator(s):

Identification of optimal plant composition in irrigated pasture

Doubling of existing average irrigated pasture yields over next 5 years

Outcome Indicator(s):

A 5-10% increase in acreage of intensively managed pasture for enterprises which show profit potential for the adoption of such production processes

Improved relative profitability of adopting livestock-based farming and ranching enterprises

Program Projects:

P.I.	Proj #- Exp Date	Brief Project Description
Godfrey, E.B.	(008-02)	Estimate the productivity of grazing lands that are currently being used by livestock operators that are not being intensively grazed.
Olsen, K.	(173-99)	Evaluate livestock production and vegetation ecological status responses to three grazing systems: rest-rotation, deferred-rotation, and season-long grazing, and determine effect of livestock presence on elk distribution patterns.
MacAdam, J.	(331-04)	Determine of the seasonal distribution of dry matter production and forage nutritive value of grass and legume species adapted to intensive rotational grazing.
Whitesides, R.	(336-99)	Develop a comprehensive guide for the management and use of irrigated pastures.
Boman, R.	(418-03)	Demonstrate efficacy of intensive pasture rotation management for dairy heifers.
Hill, R.	(797-00)	Identify response of perennial forages to weather conditions and varying irrigation amounts and fertility will be studied in experimental plots and farm fields.

Multi Activities:

Multi-State Activities

Region	Proj #- Exp Date	Scientest	Title
NE	132-99	MacAdam, J.W.	Environmental and Economic Impacts of Nutrient Management in Dairy Forage Systems

Multi-Disciplinary Activities

Scientists representing both the Utah Agricultural Experiment Station and Utah Cooperative Extension Service from the departments of Animal, Dairy, and Veterinary Science Department, Economics Department, Plants, Soils, and Biometeorology Department, and Biological and Irrigation Engineering Department, in cooperation with scientists from the USDA Forage and Range Laboratory, will identify various factors influencing physical and economic viability of intensive pasture management utilizing a multidisciplinary approach.

Multi-Institutional Activities

Multi-state activities are also multi-institutional activities, though the breadth of involvement varies by project. Specific multi-institutional activities includes ongoing research into pasture and grazing land utilization in cooperation with Southern Utah University.

Cooperating Agricultural Experiment Station and Cooperative Extension Scientists:

Faculty with UAES Appointments	Faculty with CES Appointments
Godfrey, E.B.	Boman, R.
Olsen, K.	Dewey, S.
MacAdam, J.	Godfrey, E.B.
Whitesides, R.	Hill, R.
Boman, R.	Snyder, D.
Hill, R.	Whitesides, R.
Coppick, L.	Zobell, D.

Executive Summary

Program Title:

Human, Wildlife and Domestic Livestock Interactions and Compatibility

Program Duration:

Long-term

Statement of Issue(s):

Humans, wildlife, and domestic livestock all interact to varying degrees. The nature of these interactions is vital to sustainability of these separate, yet connected, groups. With the increase in attention to and consideration of the environment, it is critical that the interactions be mutually beneficial, or at the very least, not harm one another. Research into the nature and extent of interactions is very important to continued existence of each. A determination of the relationship(s) between humans, wildlife, and domestic livestock was identified as a major issue during various stakeholder input sessions.

Performance Goal(s):

Ability and extent to which humans, wildlife, and domestic livestock can successfully coexist, identifying those specific areas in which conflicts occur, and developing methodologies that can be used to mitigate these conflicts.

Key Program Component(s):

Research will focus on:

Identification of areas of conflicts in human, wildlife, and domestic livestock interactions

Development of strategies to mitigate existing or potential conflicts

Implementation of strategies to mitigate existing or potential conflicts

Internal/External Linkages:

Internal

Scientists from the departments of Animal, Dairy, and Veterinary Science Department, Chemistry and Biochemistry Department, Range Resources Department, Forest Resources Department, Plants, Soils, and Biometeorology Department, Economics Department, Biological and Irrigation Engineering Department, Fisheries and Wildlife Department, Biology, and Agricultural Systems, Technology, and Education Department will examine the issue of human, wildlife, and domestic livestock interactions and

compatability to identify existing or potential areas of conflict. Scientists from the Utah Cooperative Extension Service will also participate in activities related to this program area as noted below.

External

Public and private partnerships will be developed and maintained to better carry out this program. Outside private entities will include various commodity groups (wheat growers, cattlemen, etc), farm organizations (Utah Farm Bureau, Farmers Union, etc.), individual producers, environmental groups, and consumers interested in human, wildlife, and domestic livestock interactions.

Public-Public partnerships will include the Utah Department of Agriculture and Food, Utah Department of Natural Resources, Utah Department of Environmental Quality, USDA's Agricultural Research Service Forage and Range Research Laboratory, Poisonous Plant Laboratory, the Bee Biology Laboratory, the USDI's Bureau of Land Management and FWS, and the USDA's Forest Service, plus other federal agencies affiliated with the USDA, USDI, and the Environmental Protection Agency.

Target Audience(s):

Farmers and ranchers, general public, environmental organizations, scientists, and local, state, and federal government agencies.

Evaluation Framework:

Specific areas of human, wildlife, and domestic livestock interaction will be identified and strategies designed to mitigate or eliminate areas of conflict will be identified and implemented. Also included will be listing of publications–peer reviewed and otherwise–contributing to the fulfillment of this goal area.

Output Indicator(s):

Instances of human, wildlife, and domestic livestock conflicts will be reduced.

Application or use of mitigating strategies will be increased

Outcome/Impact Indicator(s):

A reduction in the human, wildlife and domestic livestock conflicts as reflected in progress in issues related to this goal area (i.e., multiple-use, wilderness, land use, etc.)

Program Projects:

P.I.	Proj #-Exp Date	Brief Project Description
Lyon, K. S.	(010-03)	Identify the feedback effects of global warming upon forest carbon flux.
Norton, J. M.	(275-99)	Develop a set of molecular tools for the quantification of ammonia oxidizing bacteria based on a database of sequences which encode a key enzyme, ammonia monooxygenase (AMO).
Norton, J.M.	(323-99)	Determine the interactions of microbial nitrogen transformations with nitrogen uptake and fixation by alfalfa and the effect of supplemental nitrogen from animal wastes on these interactions.
MacAdam, J.	(332-99)	Characterize nutrient flows through the crop, forage conservation, feeding, animal, and manure components of the dairy production system.
Koenig, R.	(338-02)	Evaluate the effects of biosolids applied at agronomic rates, and at a sub-agronomic rate in combination with inorganic fertilizer, on forage yield, mineral content, and feed quality
Vagnoni, D.B.	(416-00)	Reduce the excess urinary N excretion by lactating dairy cows attributable to intensive agricultural practices (excess nutrient loading).
Dhiman, D.R.	(449-01)	Develop feeding and feed processing methods to optimize protein and energy utilization in dairy cows with minimum environmental impact.
Evans, E. W.	(550-99)E	valuate the environmental impacts of biological control.
Romesburg, H.C.	(704-00)	Develop principles for giving ecosystem management (EM) decision makers a truer picture of the public's diverse values.
Lilieholm, R. J.	(709-03)	Assess the current status of open space, development pressures, and protection efforts in Utah and the Intermountain region
Blahna, D.	(726-01)	Investigate the role of social science in ecosystem management (EM) decision making.
Conover, M.	(828-00)	Determine the potential of using either tall fescue plants infected with the fungus, Acremonium coenophialum, or perennial ryegrass infected with the fungus, A. loliae, as a means of reducing agricultural problems caused by avian and small mammalian herbivores:
Messmer, T.	(832-99)	Determine the effects of differential hunting regimes and accidental mortality on herd composition.
Rasmussen, V.	(881-99)	Administer the USDA/CSRS National Projects for SARE and ACE as designated by the National SARE Operations Committee and to

		oversee biologically, chemically, physically and socially-based projects that advance the objectives of SARE.
West, N.	(905-04)	Develop an affordable regional remote sensing-based approach to rangeland monitoring that requires less than 2 (wet and dry season) LANDSAT images per year.
Call, C.A.	(910-01)	Evaluate the potential of using cattle as seed dispersal agents to revegitate and improve degraded rangelands in the Intermountain West.
Rasmussen, A.	(911-00)	Develop an integrated monitoring program which will help land managers determine if they are meeting grazing, wildlife and recreation management objectives on a particular area.
Dobrowolski, J.	(912-00)	Establish a long-term, watershed scale research site for applied and basic research into the dynamics of a Great Basin pinyon-juniper ecosystem.
Beard, R.	(941-02)	Identify probable causes of nitrate contamination in the Sanpete County area of Utah, formalize management strategies to address water quality problems, and improve the public's understanding of best management practices.

Multi Activities:

Multi-State Activities

Region	Proj #-Exp Date	Scientest	Title
NRSP3-02		Jensen, D.T.	National Atmospheric Deposition Program
W	188-99	Or, D.	Improved Characterization and Quantification of Flow and Transport Processes in Soils
NRSP	8-00	Jensen, D.T.	Climate Research and Services for State of Utah
W	184-01	Dudley, L.M.	Biodiversity and Management of Salts and Trace Elements in Arid Zone Soils, Sediments, and Water
WCC	067-00	Rasmussen, V.P.	SARE program in the Western Region
WCC	093-04	Boettinger, J.L.	Western Regional Soil Survey and Inventory
WCC	102-01	Jensen, D.T.	Climate Data and Analyses for Applications in Agriculture and Natural Resources
WCC	103-01	Kotuby-Amacher, J.	Soil, Water, and Plant Analysis for Improved Nutrition Management and Water Quality
W	185-02	Evans, T.	Biological Control in Pest Management System of Plants
WCC	095-99	Schmidt, R.H.	Vertebrate Pests of Agriculture, Forestry, and Public Lands
W	187-9	Baker, F.A.	Interactions Among Bark Beetles, Pathogens, and Conifers in North American Forests

SRIEG	70-99	Batabyal, A.A.	Economics and Management of Risk in Agriculture and Natural Resources
W	192-01	Godfrey, E.G.	Rural Communities and Public Lands in the West: Impacts and Alternatives
W	133-02	Keith, J.E.	Benefits and Costs of Resource Policies Affecting Public and Private Land
NE	162-02	Keith, J.E.	Rural Economic Development in New Competitive Environment
WCC	055-01	Godfrey	Rangeland Resource Economics and Policy
WCC	021-99	Dobrowolski, J.P.	Revegetation and Stabilization of Deteriorated and Altered Lands
WCC	040-01	West, N.	Rangeland Ecological Research and Assessment
W	045-00	Aust, S.D.	Environmental Transformation, Exposure, and Effects of Pesticide Residues

Multi-Disciplinary Activities

Scientists representing both the Utah Agricultural Experiment Station and Utah Cooperative Extension Service from Animal, Dairy, and Veterinary Science Department, Range Resources Department, Forest Resources Department, Plants, Soils, and Biometeorology Department, Economics Department, Biological and Irrigation Engineering Department, Fisheries and Wildlife Department, Biology, and Agricultural Systems, Technology, and Education Department will examine the issue of human, wildlife, and domestic livestock interactions and compatability to identify existing or potential areas of conflict from an interdisciplinary perspective.

Multi-Institutional Activities

Multi-state activities are also multi-institutional activities, though the breadth of involvement varies by project.

Cooperating Agricultural Experiment Station and Cooperative Extension Scientists:

Faculty with UAES Appointments	Faculty with CES Appointments
Aust, S.D.	Beard, R.
Baker, F.A.	Blahna, D.
Batabyal, A.A.	Godfrey, E.B.
Beard, R.	Koenig, R.
Blahna, D.	Messmer, T.

Boettinger, J.L.

Call, C.A.

Conover, M.

Dhiman, D.R.

Dobrowolski, J.

Dudley, L.M.

Evans, E. W.

Evans, T.

Godfrey, E.G.

Jensen, D.T.

Keith, J.E.

Koenig, R.

Kotuby-Amacher, J.

Kuhns, M.

Lilieholm, R. J.

Lyon, K. S.

MacAdam, J.

Messmer, T.

Norton, J. M.

Or, D.

Rasmussen, V.

Rasmussen, A.

Romesburg, H.C.

Schmidt, R.H.

Vagnoni, D.B.

West, N.

Utah State University
Utah Agricultural Experiment Station

CSREES

Plan of Work

October 1, 1999 – September 30, 2004

Goal 5

Empower people and communities, through research-based information and education, to address the economic and social challenges facing our youth, families and communities.

- Family Training, Development, Assistance, and Sociology

Executive Summary

Program Title:

Family Training, Development, Assistance, and Sociology

Program Duration:

Short- and Medium-term

Statement of Issue(s):

Issues related to families and social structure continue to cause problems. One of the areas of common concern identified throughout the state through the stakeholder meetings was that of family stability. Concerns ranged from training to crime prevention to the disintegration of the traditional family unit to financial management.

Performance Goal(s):

Reduction in social ills associated with family training, development, assistance and sociology.

Key Program Component(s):

Research projects will focus on:

Problem identification

Potential solution identification

Testing of potential solutions to determine those which would best meet social and economic needs

Internal/External Linkages:

Internal

Scientists from the departments of Sociology, Social Work, and Anthropology Department, Family and Human Development, Human Environments Department, and Economics Department will identify the issues impacting family training, development, assistance, and rural sociology. Scientists from the Utah Cooperative Extension Service will also participate in activities related to this program area as noted below as will those from various academic units associated with Utah State University. Effective fall of 1998, the Western Rural Development Center has been housed at Utah State University and, thus, is considered an internal linkage, even though work accomplished under the

Western Rural Development Center will include numerous other local, state, and federal agencies.

External

Public and private partnerships will be developed and maintained to better carry out this program. Outside private entities will include various family special interest groups and business firms.

Public-Public partnerships will include state and federal agencies with interest in families and related social problems. In addition, the Western Rural Development Center, housed at Utah State University, will involve scientists from a number of external educational entities and agencies.

Target Audience(s):

General population of the State of Utah, with particular emphasis given to low income, Native American, and migrant worker families. Also, local, state, and federal government agencies and entities responsible for or involved with family issues. Other scientists should also benefit from the research being conducted through the Utah Agricultural Experiment Station.

Evaluation Framework:

Specific strategies for dealing with family issues and problems will be identified, and applicability tests for relevant family situations will be conducted to determine strategy efficacy for Utah family situations.

Output Indicator(s):

Improvement or reduction in rates of decline in statistics related to the family unit (i.e., reduced divorce rates, instances of delinquency, improved financial management, etc.) will be achieved.

Outcome Indicator(s):

The social health of Utah's families will be improved as reflected in improvements in family-related statistics related to the various geographic areas of training and implementation.

Program Projects:

P.I.	Proj #- Exp Date	Brief Project Description
Munger, R.	(214-01)	Identify and determine various factors influencing susceptibility to hip fractures and fracture healing.
Gustafson, D.	(221-00)	Determine whether: 1) mutations and/or polymorphisms in the androgen receptor gene are associated with anthropometric variables; 2) mutations and/or polymorphisms in the androgen receptor gene are associated with altered blood androgen-to- estrogen ratios; and 3) habitually high intakes of fruits and vegetables are associated with higher blood androgen-to-estrogen sex hormone ratios and more densely methylated androgen receptor DNA.
Gustafson, D.	(225-99)	Investigate associations among androgen receptor genotype, anthropometric variables, blood sex hormone levels, and dietary intake in healthy older human adults. Investigating interrelationships among genes and environment may provide clues regarding disease etiology and prevention.
Krannich, R.	(839-03)	Assess overall patterns of rural sustenance organization and population characteristics of nonmetropolitan places in Utah and adjacent counties of surrounding states, and then allocate those places into discrete typological groupings based on their economic structures and demographic make-up.
Toney, M.	(843-01)	Articulate the macro- and micro- level interconnections between population and socioeconomic dynamics and outcomes, specifically with regard to labor force underutilization, poverty, and health adversity across geographical and temporal space as well as the life course.
Krannich, R.	(844-01)	Identify areas of northern Utah that are experiencing high levels of urban encroachment into agricultural areas, and to determine the extent to which those areas have exhibited accelerated conversion of farm lands to other land uses
Kiger, G.	(869-00)	Determine how family factors (e.g., time, support control) enhance or impede work performance and well being.
Austin, A.	(885-00)	Evaluate the effects of group meetings and provider-trainer home visits on quality child care as measured by the FDCRS, the CIS and provider professionalism, measured by the PSS.

Arbuthnot, J.	(985-04)	Identify and measure the divergence and complementarity of family and business management behavior in families who own and manage businesses.
Miller, B.	(971-00)	Provide additional rigorous scientific evidence about how adoption is related to psychological and behavior problems of children and adolescents in the United States.
Jones, R	(972-02)	Document relations between demographic and psychosocial characteristics and variables related successful employment
McFadden, J.	(988-99)	Determine if current rural residents who derive a majority of their income from farming and who have an interest in retiring are regularly investing for retirement and when and where they plan to retire.

Multi Activities:

Multi-State Activities

Region	Proj #- Exp Date	Scientest	Title
WCC	084-01	Toney, M.B.	Community Institutional Change and Migration in Rural America
NC	223-03	Austin, A	Rural Low-Income Families: Tracking Well-being in Relation to Welfare Reform
W	167-00	Kiger, G.	Family and Work Linkages
NE	16704	Arbuthnot, J.	Family Business Viability in Economically vulnerable Communities
NC	217-99	Hawks, L.	Role of Housing in Rural Community Vitality
WCC	023-99	Arbuthnot, J.	Textiles and Apparel Research Coordination

Multi-Disciplinary Activities

Scientists representing both the Utah Agricultural Experiment Station and Utah Cooperative Extension Service from the departments of Sociology, Social Work, and Anthropology Department, Family and Human Development, Human Environments Department, and Economics Department will identify the issues impacting family training, development, assistance, and rural sociology. Effective fall of 1998, the Western Rural Development Center (Western Rural Development Center), which provides a broad multi-disciplinary research base, has been housed at Utah State University.

Multi-Institutional Activities

Multi-state activities are also multi-institutional activities, though the breadth of involvement varies by project.

Cooperating Agricultural Experiment Station and Cooperative Extension Scientists:

Faculty with UAES Appointments	Faculty with CES Appointments
Austin, A.	Albertson, M.
Arbuthnot, J.	Alder, J.
Gustafson, D.	Bunnell, J.
Hawks, L.	Christensen, N.
Jones, R	Daniels, C.
Kiger, G.	Evans, K.
Krannich, R.	Greenwood, H.
McFadden, J.	Harris, J.
Miller, B.	Hawks, L.
Munger, R.	Henderson, A.
Toney, M.	Hendricks, D.
	Hermansen, J.
	Holmgren, L.
	Hopkin, M.
	Hunsaker, T.
	Jenson, G.
	Kiger, G.
	Kingsford, S.
	Lauritzen, G.
	Lee, T.
	McFadden, J.
	Memmott, M.
	Miller, B.
	Parkinson, A.

Proctor, D.

Rogers, D.

Ross, J.

Scott, P.

Sellers, J.

Sherry, Lee

Sorenson, A.

Williams, C.

Section III

Program Review Process

Merit Review Process – Extension Plan

The cooperative extension service merit review process will involve a review by the University of Wyoming, University of Arizona and the University of New Mexico Extension Services. These institutions will review the program components suggested in each program area utilizing extension faculty qualified as specialists with significant program experience in the area being reviewed. In turn Utah State University Cooperative Extension Service will review the program plan of work from these three institutions.

The Scientific Peer Review Process – Agricultural Experiment Station Plan

The scientific peer-review process within the agricultural experiment station involves two steps. The first step includes a review by two scientists requested by the principal investigator (PI). These two scientists provide written comments regarding the proposal and return them to the PI for evaluation and use as appropriate. Prior to submission, the PI's Department Head also reviews the proposal. Once the proposal reaches the station, two additional scientific peer reviews are obtained, either from other on-campus faculty (if the expertise exists) or off-campus faculty (if on-campus expertise does not exist). The review returned to the Experiment Station is forwarded to the PI with comments from the associate director as to any recommended changes that need to be made.

Section IV

Multistate Activities Extension and Agricultural Experiment Station

Extension Collaborators

Utah State University Cooperative Extension Service has POW programmatic ties with nearly every western state. Proposed collaboration with the CES units in the states of Idaho, Oregon, Montana, Arizona, New Mexico, Nevada, Wyoming, Montana and Colorado have been highlighted on the CSREES – USU Extension POW spreadsheets appended to this section of the POW. Each of these proposed collaborating state CES units have been contacted and provided a certification of collaboration signature document from USU extension specifying the programs in which collaborative relationships exist. Collaborative efforts with the Agricultural Experiment Station have been specified in the section of this plan entitled *Integrated Research and Extension Activities*. These plans detail the multidisciplinary activities of research and extension by staff performing the activity. Interaction with other educational institutions is listed below. Collaboration with these units in solving agriculturally related issues raised by our stakeholders are delineated in each program description included in this plan. When possible individual county extension units have been encouraged to collaborate on solving like issues and problems where common interest exists between county units. Collaboration is proposed with numerous federal and state agencies, which provide support to the proposed Utah POW. The following list, designated by goal area, represents federal agencies, state agencies, private agencies and association collaborators participating in public partnership with USU extension.

Goal 1

Utah Farm Bureau
Utah Farmer's Union
Bureau of Land Management
Utah Cattlemen's Association
Utah Department of Agriculture and Food
Utah Nursery and Landscape Association
Utah County Weed Boards
Utah State Horticulture and Fruit Groups
Utah Wool Growers Association
Utah Dairy Producers Association
Utah State Veterinary Association
Rocky Mountain Dairy Herd Improvement Association
Utah Department of Agriculture
Environmental Protection Agency
United States department of Agriculture

Goal 2

Utah Food Safety
HACCP Education Coalition

Utah Restaurant Association
Utah Cattlemen's Association
National Cattlemen's Beef Association
Utah Farm Bureau
Utah Farmer's Union
Utah Veterinary Medical Association
Utah Crop Protection Association
Utah Environmental Health Association
Utah State Office of Education's Child Care Resource and Referral
Utah Work Force Services
United States Department of Agriculture
Food and Drug Administration
Utah Department of Agriculture
Utah Department of Health
County Health Departments
County Advisory Councils
Utah State local elementary and secondary public schools
Utah Senior citizen's organizations
Religious organizations
Homemaker clubs of Utah

Goal 3

United States Department of Agriculture
Department of Health and Human Services
Utah Nutrition Council
Food Stamp Program
Women, Infants and Children Program
Head Start
Senior centers of Utah
Native American Tribes of Utah

Goal 4

Utah Division of Wildlife Resources Nature
Business and Community Enrichment Programs
Utah Division of Water Quality
Utah Farm Bureau
Utah Community Forest Council
TreeUtah
United States Department of Agriculture - Forest Service State and Private Forestry
Utah Association of Conservation Districts
Farm Services Agency
National Resources Conservation Services
Environmental Protection Agency
County Soil Conservation Districts

Utah Department of Environmental Quality
Division of Water Quality
Western Integrated Ranch/Farm Education Program
Sustainable Agriculture Research and Education
Environmental Quality Incentive Program
Utah Farm Bureau Federation
Utah Cattlemen's Association
Utah Wool Growers Association
Utah Division of Wildlife Resources
Utah Association of Conservation Districts
Utah Section, Society for Range Management
Utah Department of Agriculture
Utah Farmer's Union
Utah Dairyman's Association
Natural Resources Conservation Service
Bureau of Land Management
United States Forest Service
The Nature Conservancy
Utah School and Institutional Trust Lands Administration
Utah Grazing Lands Conservation Initiative Coalition
Utah Weed Control Association
Soil Conservation Service
National Park Service
Department of Defense
Tribal Organizations of Utah
Utah Department of Transportation

Goal 5

Utah's Youth and Families with Promise Program
Local school districts of Utah
Utah Juvenile Court and Youth Corrections
Utah Health Department
Utah Division of Child and Family Services
Western States Agricultural Experiment Stations
Utah State Board of Education Office
Utah State 4-H Ambassadors and District Ambassadors
National 4-H Council
Western Region State 4-H Programs
State 4-H Teen Specialist Association
National Search Institute

University Collaborators include:

University of Wyoming
New Mexico State University

Colorado State University
University of Idaho
Idaho State University
University of Arizona
University of Nevada
Montana State University
Oregon State University
Snow College
College of Eastern Utah
Southern Utah State University
Dixie College
Utah Valley State College
Brigham Young University
University of Utah
Weber State University

Agricultural Experiment Station Collaborators

Multistate, multidisciplinary, multi-institutional activities associated with the Utah Agricultural Experiment Station is delineated in the program narrative listed under the section *Planned Programs and Research Activities.*

Extension Baseline 1997 Formula Fund Expenditures on Multistate Programs

A review of the multistate programs conducted by extension in the FY 97 is currently being reviewed to determine the baseline value of Smith-Lever 3 (b) (1) and (c) funds utilized in these multistate programs. In a subsequent revision of this five year plan the FY 97 baseline value of Smith-Lever 3 (b) (1) and (c) funded state programs will be applied by using two times the value derived until a total of 25% of these formula funds are expended in support of multistate programs.

At the time of submission of this five year plan of work, directives for accounting for these multi-state Smith-Lever 3 (b) (1) and (c) funds had not been officially released by CSREES to state partners.

Agricultural Experiment Station 1997 Hatch Formula Fund Expenditures on Multistate Programs

Total federal appropriations for FY99 were $1,949,658, with $677,228 (or approximately 35 percent) devoted to multi-state projects and programs.

USU Extension POW- Multistate Collaborators - October 1, 1999 - September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)
Agronomy/Crop Production	Long Term Five Year Planning Period	Crop varieties common throughout the region such as alfalfa, corn silage, grass hay, pasture, cereal grains cut for hay, barley, wheat, oats and grain corn will be field tested under regional environments. Improved practices and better yields is the major goal of the program.	Goal 1	Ralph Whitesides USU, Plants, Soils and Biometeorology Phone 435 797-2259	CES Units In Idaho, Arizona, New Mexico, Wyoming, Colorado, Nevada. Multiple Utah Counties.
Horticulture - Commercial Fruit and Vegetable Production	Long Term Five Year Planning Period	An expansion of the fruit and vegetable production capabilities of Utah will be implemented in this program. Concentration will be on developing increased commercial production of onions, sweet corn, melons and pumpkins.	Goal 1	Ralph Whitesides USU, Plants, Soils and Biometeorology Phone 435 797-2259	CES Units In Arizona, Nevada and California. Multiple Utah Counties. Higher Education Institutions: Brigham Young University
Livestock	Long Term Five Year Planning Period	The majority of of livestock receipts come from cow-calf operations, dairies and sheep but the future is grim because of economic considerations. This program will explore alternative marketing and production improvement strategies with dairy, swine, sheep, cattle producers, pasture owners and forage producers.	Goal 1	Ralph Whitesides USU, Plants, Soils and Biometeorology Phone 435 797-2259	CES Units In Idaho, Arizona, New Mexico, Wyoming, Colorado, Nevada. Multiple Utah Counties.

Certification Signature of Collaborating Unit

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Logan, Utah 84322-4900
Date 7-9-99

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Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)
Safe and Secure Food and Fiber System	Long Term Five Year Planning Period. Food Safety Manager Training - immediate duration	This program responds to public concerns about pesticide and drug residues in food and improper food handling and preparation in food service establishments and in the home. Educational programs will assist producers and consumers in wise management of resources and reduction of waste.	Goal 2	Charlotte P. Brennan, USU, Nutrition and Food Sciences, Phone 797-2116	CES units in Nevada, New Mexico, Arizona, Colorado and Wyoming. Multiple Utah Counties. Native American Tribes

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Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)
Nutrition and Health	Long Term Five Year Planning Period	Optimum nutritional status is a critical factor in the health and well being of all people but especially important for high risk groups such as infants, pregnant women, teenagers, elderly and low income. This program will improve the quality of diet through improved eating behaviors and increased nutritional knowledge.	Goal 3	Georgia Lauritzen, USU, Nutrition and Food Sciences, phone 797-3464	State agencies and multi county areas within the state of Utah. Native American Tribes

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Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)
Rural and Community Forestry Extension	Long Term Five Year Planning Period	This program will improve private forest management, enhance sustainable processing and use of forest products, improve the health and quality of urban/community forests, reduce fire hazards, increase the health and functionality of windbreaks and increase adult and youth awareness of forestry issues.	Goal 4	Mike Kuhns, USU, Department of Resources, Phone 797-4056	Numerous federal and state agencies. Multiple Utah Counties
Sustainable Livestock Production: Animal Feeding Operations and Environmental Quality	Long Term Five Year Planning Period	Five counties in Utah and several collaborative neighboring state counties will assist animal feeding operations in responding to the new USEPA regulations regarding manure management to protect environmental quality. Confined livestock production enterprises can negatively impact natural resources and environmental quality, through a series of training programs regulatory standards will be delineated with livestock producers.	Goal 4	USU County Agents Dean Miner, Gary Anderson, Scott Williams, Mark Nelson and Don Huber and Rich Koenig, USU Extension Soil Specialist, Phone 435 797-2278	CES Units in Colorado, New Mexico, and Idaho and Utah Department of Environmental Quality, Division on Water Quality. Utah Counties: Sanpete, Rich, Beaver, Cache, Uintah, Lincoln
Rangeland Resources Extension	Long Term Five Year Planning Period	Pressure on rangeland owners and users in forcing efficiency and sustainable pasture, rangeland and watershed management require that Extension take an active role in leadership and education to increase environmental and economic sustainability or rangeland and pasture use.	Goal 4	Roger E, Banner, USU, Department of Rangeland Resources, Phone 435 797-2472	CES units in Arizona, Nevada, Wyoming and Montana. Other Higher Education Institutions: University of Arizona
Noxious Weed Control	Long Term Five Year Planning Period	Noxious weeds reduce agriculture productivity and threaten natural ecosystems in the West. This program will help private and public land managers stop the spread and reduce the existing acreage of noxious weeds in Utah	Goal 4	Steve Dewey, USU , Plants Soils and Biometeorology, Phone 435 797-2256	Utah agencies i.e., transportation, wildlife, BLM, Park Service, SCS, Forest Service. Multiple Utah Counties

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Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)
Families and Youth at Risk	Long Term Five Year Planning Period	There has been a significant increase in all categories of criminal activity in Utah. Utah's Youth & Families with Promise Program will address intervention with at-risk youth and their families.	Goal 5	Leona Hawks USU Family Life Phone 435 797-1529	CES Unit includes Washington. Juvenile Justice, USU, 4-H Youth Development, Advisory Board. Utah Counties: Cache, Carbon, Iron, Salt Lake, Sanpete, Weber. Other Higher Education Institutions
Business Retention and Expansion	Long Term Five Year Planning Period	Rural Utah is economically disadvantaged in competing for new business & industry. Extension will assist in retraining & expanding existing firms.	Goal 5	David L. Rogers USU Sociology, Social Work, and Anthropology Phone: (435) 797-1255	CES Units in Colorado, New Mexico, Idaho, Oregon, & Montana. Utah counties: Piute, Wayne, San Juan, Sanpete, & Grand
Economic Development Planning	Long Term Five Year Planning Period	Rural West has limited employment opportunities, changing employment base to service industries & lower incomes. Economic information & technial assistance for strategic planning and goal setting will be available to 3 communities per year.	Goal 5	David L. Rogers USU Sociology, Social Work Anthropology Phone 435 797-1225	CES Units in Nevada New Mexico, Oregon Montana, & Washington Multiple Utah Counties
Youth and 4-H	Long Term Five Year Planning Period	Give youth opportunities to become involved with the community, prepare them for adult responsibilities and future employment. Train more youth volunteers. Get youth involved in livestock, dairy, poultry, and horse projects.	Goal 5	John Paul Murphy USU Youth Development, phone 435 797-2199; Becky Mitchell, 4-H, phone 435 797-2202; Ross Jacobson, Youth, phone 435 797-3761	National, State, County, and Volunteer 4-H staff. Multiple Utah Counties.

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Section V

Integrated Research and Extension Activities

Utah State University Extension and the Agricultural Experiment Station have had a long history of collaborative efforts in solving the problems of Utah's agricultural community. The integration of extension scientists with agricultural experiment station scientist's has created team's which resolve issues identified by Utah stakeholders. A listing of these cooperative teams is delineated in the Agricultural Experiment Station program narrative under Section II *Planned Programs and Research Activities.*

Additional integration and coordination of activities takes place as each organization periodically reviews stakeholder needs in each of the CSREES goal areas. Listed below is a table of identified stakeholder needs for each of the CSREES goal areas delineated by regions in the state in which extension and the agricultural experiment station will cooperate in delivering programs and providing research to critical issues over this plan of work period.

Geographic Region	Stakeholder Requested Projects and Programs in Regional Areas of Utah CSREES Goal Areas				
	1	2	3	4	5
Ogden	UAES, CES	UAES, CES	CES	UAES, CES	UAES, CES
Southeast (Green River)	UAES, CES	UAES, CES	CES	UAES	UAES, CES
Provo	UAES, CES			UAES, CES	CES
Uintah (Roosevelt)	UAES, CES	UAES		UAES	UAES, CES
Southwest (Cedar City)	CES			UAES, CES	UAES, CES
Northern (Logan)	UAES, CES	UAES		UAES	CES
South-central (Richfield)	UAES, CES	UAES, CES		CES	CES
Salt Lake	UAES, CES	UAES, CES		UAES, CES	UAES, CES
Utah State University	UAES, CES	UAES		UAES, CES	UAES, CES

UAES - Utah Agricultural Experiment Station CES - Utah Cooperative Extension Service

Goal 1: An Agricultural Production System that is Highly Competitive in the Global Economy

Goal 2: To Provide a Safe and Secure Food and Fiber System

Goal 3: To Achieve a Healthier, More Well-Nourished Population

Goal 4: To Achieve Greater Harmony Between Agriculture and the Environment

Goal 5: To Enhance Economic Opportunities and Quality-of-life Among Families and Communities

Utah State University Extension and the Agricultural Experiment Station

Plan of Work

Addendum

Addendum I

Cooperative Extension Regional Critical Issues

Location	Issue
Ogden	
	Extension
	Utilize more technology in information and education dissemination
	Provide training programs in food safety
Southeast (Green River)	
	Extension
	Serve as a clearinghouse (resource guide or directory) of available resources
	Provide more information on basic nutrition
Provo	
	Extension
	Provide more information on energy-efficient single family and single parent housing
	Develop and disseminate information related to natural landscaping
Uintah (Roosevelt)	
	Extension
	Assist in mapping of rural roads
	Provide better student advising for continued education programs
	Provide more specific educational programs off-campus
	Develop ways to provide additional financial aid
Southwest (Cedar City)	
	Extension
	Expand family nutrition programs
	Provide more safety training
	Provide an early warning system for adverse weather, pests, etc.
Northern (Logan)	
	Extension
	Create and expand agricultural curriculum in the public schools
	Provide broader training opportunities for alternative employment possibilities
	Provide training in farm retirement/financial planning/transfer of assets, etc.
	Provide more information regarding the political process
Southcentral (Richfield)	
	Extension
	Expand multiple-use of natural resources
	Continue supporting life skills
	Continue and expand farm support services, i.e., tractor testing, hay testing, etc.
	Provide soil and animal waste testing
Salt Lake City	
	Extension
	Add summer youth programs
	Provide local tests of plant varieties
	Set up youth mentoring program
	Enhance resource information capabilities

Utah State
University

Extension

Assist in development of growth management strategies for rural communities
Expand distance education opportunities
Provide unbiased information on tested practices

Addendum II

Issues Identified for the Utah Agricultural Experiment Station During Stakeholder Meetings

Location	UAES Research	Comments
Ogden		
determine how to enhance preservation of farmland	x	
produce most with available resources	x	
identify impacts of air quality on agricultural production		Not currently being done
conduct environmentally friendly production research	x	
conduct research into enhancing quality of life	x	
provide information on practical applications of research	x	
identify relationships between work and family	x	
use of water - recycling, conservation, etc.	x	
grain and forage production	x	In cooperation with ARS
more research on consumer oriented food quality and safety	x	
develop natural plants adapted to home use	x	
identify ways to increase fertility and production	x	
develop drought resistant short (lawn) grasses	x	In cooperation with ARS
develop simple information that consumers can use	x	
develop more fat free foods with taste	x	
continue and expand forage research	x	
continue and expand dairy research	x	
Investigate ways of preserving foods	x	
Green River		
develop alternative crops – production and marketing	x	
conduct research into water efficiency/conservation	x	
develop youth mentoring program in actual research projects		Not considered part of UAES research mandate
conduct research which will add value to those crops grown in southeast Utah	x	
expand research into intensive pasture grazing	x	
develop additional methods of weed control	x	
identify contributions of agriculture to overall economic health to local communities	x	
experiment with educational process – how people learn to adapt technologies		Not considered part of UAES research mandate
develop and/or identify crops suited to local environments	x	
develop and apply smaller scale technologies to agriculture	x	

limit experiment station plots to new crop varieties	x	
investigate way to handle waste in agricultural complex	x	
expand "'coal" product development	x	Not considered part of UAES research mandate
research into and broader advertising of available irrigation technologies		Not considered part of UAES research mandate
Provo		
identify creative ways to disseminate available information	x	
assess needs of local people to provide more localized research		Not considered part of UAES research mandate
enhance public awareness of research	x	
conduct research into water management/conservation actions	x	
conduct research into expanding marketing options for farmers	x	
provide improved access through Internet	x	
develop new methods to better utilize existing and new technology		Not currently being done
provide research into waste management	x	
avoid duplication and competing with industry	x	
conduct research into intensive gardening for both individual and family		Not considered part of UAES research mandate
conduct research into encouraging broader government involvement in helping citizens		Not currently being done
provide broader circulation of experiment station mandates versus extension's	x	Being done as appropriate
Roosevelt		
conduct research into water use, conservation, and treatment	x	
provide some small scale experiment station activities in the Uintah Basin	x	
develop better methods of weed control/management	x	
conduct research into nutrition and health	x	
conduct research into animal disease identification and control	x	
develop ways to enhance beef (and other meat) tenderness	x	
assist in mapping of roads through technology		Not considered part of UAES research mandate
conduct research into specialized agricultural crops	x	
conduct research on welfare-to-work impacts on volunteers and organizations		Not currently being done
conduct research into control of poisonous plants	x	In cooperation with ARS
identify ways of protecting property rights - impact from urban sprawl	x	
identify alternative landscaping methods and techniques	x	
conduct research into alternative methods of pesticide control	x	
Cedar City		
conduct research into ways to strengthen families	x	

conduct research into fact versus fiction of environmental education	x	
expand research into increased range cover, forage, pasture management	x	In cooperation with ARS
conduct research into alternative approaches of character development		Not currently being done
conduct research into water quality	x	
conduct research into alternative irrigation methods	x	
conduct research into methods of teaching/encouraging appropriate civil behavior		Not currently being done
identify additional means of marketing agricultural enterprises	x	
conduct research into pest management (IPM)	x	
develop and make available more site-specific weather information	x	
new energy resource development		Not considered part of UAES research mandate
investigate need versus use of pesticides	x	
conduct research into methods of increasing family self-reliance	x	
research into methods of correcting drug abuse		Not considered part of UAES research mandate
develop alternative methods of recycling	x	
develop methods of controlling noxious weeds	x	
identify means of creating jobs for youth		Not considered part of UAES research mandate
develop more water efficient plants	x	
develop means of making pesticides environmentally beneficial	x	
identify ways to teach younger generation		Not considered part of UAES research mandate
improve seed quality	x	
provide more information	x	
identify the costs and benefits of organic versus traditional farming	x	
conduct research into efficacy of home versus hospital births		Not considered part of UAES research mandate
identify alternative medicines		Not considered part of UAES research mandate
conduct research into means of preventing gangs		Not considered part of UAES research mandate
improve feed quality	x	
Logan		
expand research into agricultural marketing	x	
develop methods of ensuring that water and land is put into highest and best use	x	
identify the impacts of NAFTA on community	x	
identify sources of business and agricultural funding	x	
identify new industries to come into community to purchase products (value added)		Not currently being done
develop methods of effective financial planning, resource management, etc.	x	

develop research into methods of re-engineering lives and careers		Not currently being done
add youth program enhancements		Not considered part of UAES research mandate
conduct research on managing families – income, children, etc.	x	
conduct research into methods of enhancing career diversity--need for multiple careers		Not currently being done
expand research into the type(s) of diversified products which can be raised	x	
identify alternative enterprises or industries	x	
identify more efficient delivery systems for water - home, business, etc.	x	
conduct research into alternative methods of retirement planning	x	
develop system of farm income optimization to sustain families	x	
conduct research into the effect(s) of technology on employment and industry	x	
identify more effective methods of teaching tolerance		Not considered part of UAES research mandate
conduct research into intensive rotational grazing	x	In cooperation with ARS
identify ways in which to access knowledge of older persons		Not considered part of UAES research mandate
conduct research into more effective business startup techniques	x	
identify ways to lower production costs	x	
identify alternative energy sources		Not considered part of UAES research mandate
identify the impacts of adoption of technology		Not currently being done
conduct research into how special needs persons can better enter the workforce		Not considered part of UAES research mandate
identify ways to raise profit margins	x	
conduct research into impacts of keeping the population working past retirement age		Not considered part of UAES research mandate
conduct research into child health/genetics		Not considered part of UAES research mandate
Richfield		
conduct research on strengthening families	x	
investigate farmer-to-consumer marketing methods	x	
conduct research on water quantity/quality/conservation	x	
conduct research into pesticide use - human and environmental safety	x	
conduct research into controlling animal waste	x	
means of expanding forage production on private lands	x	
develop common ground with environmental groups	x	
develop additional short season crops	x	
investigate alternative methods of financing for continuing agricultural production	x	
examine the value of agriculture - research information	x	
provide training in family financing		Not considered part of UAES research mandate

more clearly identify the relationship between production control and prices	x	
conduct research with respect to water conservation – landscapes	x	
conduct research into genetic engineering (bloat free alfalfa)	x	
research into food storage	x	
expand public relations efforts		Not considered part of UAES research mandate
provide accurate information with respect to domestic livestock and their contributions	x	
identify value-added agricultural products	x	
develop new crop varieties	x	
identify methods of predator control	x	
identify methods of financing pesticide use		Not considered part of UAES research mandate
provide a comprehensive listing of resources available (soil tests, etc.)	x	
Salt Lake City		
help families to stay together and be strong	x	
improve parenting skills – teenagers, youth counseling		Not considered part of UAES research mandate
investigate ways to enhance exposure to nature resources, etc.	x	
increase exposure to agriculture (elementary level)	x	
more research into horticulture and urban landscaping	x	
conduct research into enhanced food quality	x	
methods of enhanced environmental education		Not considered part of UAES research mandate
conduct research into recycling/avoiding waste	x	
develop means of providing more affordable housing	x	
identify alternative water resources	x	
conduct research for increased variety of crops in local climates	x	
identify programs for at risk youth and families		Not considered part of UAES research mandate
expand more involvement in school education (agriculture curriculum development)		Not considered part of UAES research mandate
do more research work in wetlands in specific settings (nonpoint source pollution)	x	
identify ways of increasing program participation		Not considered part of UAES research mandate
conduct research into water quality	x	
conduct research into niche/specialized marketing opportunities	x	
add to community and economic development	x	
provide information on the role of the university's agricultural experiment station	x	
conduct research into methods of improving water efficiency - agriculture and others	x	
provide more information to public	x	

expand information dissemination	x	
investigate the potential of restoring wetlands/rivers	x	
conduct research into urban wildlife	x	
conduct and advertize research in support of homemakers		Not considered part of UAES research mandate
identify the monetary value of open space	x	
provide research into more yield per acre	x	
methods of communication - teenage and youth		Not considered part of UAES research mandate
conduct more local trials and other research	x	
provide additional individual/family gardening information and instruction		Not considered part of UAES research mandate
investigate ways to use desert lands to expand production	x	
Utah State University		
effects on communities and families for changes in future	x	
water conservation and allocation	x	
food safety	x	
optimize resource use in agriculture	x	
grant writing center (experiment station and extension)		Application for University as a whole
improve production on private lands	x	
family/social service program evaluation research		Not considered part of UAES research mandate
increased emphasis on pathogens	x	
alternative cropping systems/markets	x	
improved pest management systems	x	
water quality	x	
improved pasture production	x	
water management	x	
impact of pests on agriculture for Utah conditions	x	
increased emphasis in nontraditional agriculture -- turf, landscape, trees, etc.	x	
genetic manipulation	x	
impacts that regulations will have on business	x	As applied to agribusiness complex
movement of agriculture to more marginal lands	x	
innovative ways to preserve agricultural lands	x	
socially acceptable and water conserving turf	x	
markets, trade, etc.	x	
noxious weeds - impacts of invasive species	x	

Addendum III

Utah Agricultural Experiment Station
Active Projects, 1999

7/8/99

Utah Agricultural Experiment Station
Active Projects, 1999

Proj Type	Project	Regional No.	Title	Project Leader	Begin Date	Revise Date	Ending Date
R	NCA -013	NCA 13	Rural Sociology (administrative project)	RS Krannich	2/12/97	2/12/97	9/30/02
R	NCR -101	NCR 101	Controlled Environment Technology and Use	BG Bugbee	10/1/92	10/1/97	9/30/01
R	NE -177		Organizational and Structural Changes in the Dairy Industry	J MacAdam	10/1/98	10/1/98	9/30/01
R	SERAIEG31	SERAIEG31	Economics and Management of Risk in Ag and Natural Resources	AA Batabyal	1/1/96	10/1/99	9/30/04
H	UTA00007	W 192	Rural Communities and Public Lands in the West: Impacts and Alternatives	EB Godfrey	10/1/96	10/1/97	9/30/01
S	UTA00008		The Economics of Intensive Grazing on Private Lands in Utah	EB Godfrey		7/1/97	6/30/02
H	UTA00009		Strategic Decision Processes, Competition and Alternative Marketing Strategies	TF Glover	7/1/98	7/1/98	6/30/03
S	UTA00010		Global Warming, Forest Carbon Flux, and Timber Harvests	KS Lyon	7/1/98	7/1/98	6/30/03
S	UTA00011		Communication Networks and Decision Making Structures in Agricultural Organizations	L Hunnicutt	9/15/98	9/15/98	6/30/03
H	UTA00012		State-Federal Income Taxes: Stability and Effect on Economic Growth and Farm Saving	WC Lewis	7/1/99	7/1/99	6/30/04
S	UTA00023		Identifying Markets and Market Niches for Utah Agricultural Products	D Bailey	7/1/96	7/1/96	6/30/01
H	UTA00024		Atemporal and Intertemporal Use and Management of Natural Resources in the Intermountain West	AA Batabyal	7/1/96	7/1/96	6/30/00
S	UTA00025		Property Rights-Based Management of Natural Resources: Impacts on Industry	Q Weninger	7/1/96	7/1/96	6/30/01
S	UTA00026		Economics of Water Conservation for Municipal and Residential Irrigation	HH Fullerton	7/1/96	7/1/95	6/30/00

Fund: S=State; R=Regional; H=Hatch; A=Animal Health; M=McIntire-Stennis; P,C.G=Grant
x=will terminate; xx=terminated

Proj Type	Project	Regional No.	Title	Project Leader	Begin Date	Revise Date	Ending Date
S	UTA00034		Plant Disease Survey	SV Thomson	7/1/93	7/1/97	6/30/02
H	UTA00052	W 133	Benefits and Costs of Resource Policies Affecting Public and Private Land	JE Keith	10/1/92	10/1/97	9/30/02
H	UTA00074	NE 162	Rural Economic Development: Alternatives in the New Competitive Environment	JE Keith	10/1/92	10/1/97	9/30/02
S	UTA00075		Maintenance and Operation of Animal Science Farms and Facilities	P Galloway	4/10/72	7/1/90	6/30/10
H	UTA00085	W 177	Enhancing the Global Competitiveness of U.S. Red Meat	D Bailey	10/1/92	10/1/97	9/30/02
S	UTA00086		Rural and Urban Growth in Utah: Policy and Prospects	WC Lewis	7/1/94	7/1/94	6/30/99
S	UTA00091		Potential Impact of the North American Free Trade Agreement (NAFTA) on Utah Agr. and Employment	B Biswas	7/1/94	7/1/99	6/30/00
H	UTA00099	NRSP8	National Animal Genome Research Program	NE Muggli-Cockett	10/1/93	10/1/98	9/30/03
S	UTA00102		Modes and Mechanism of Transmission and Infection of Scrapie	GR Holyoak	3/27/79	7/1/97	6/30/02
H	UTA00103	NRSP4	A National Agricultural Program to Clear Pest Control Agents for Minor Uses	HM Deer	10/1/93	10/1/98	9/30/03
S	UTA00114		Improving Turkey Production Through Management, Nutrition and Environment	RE Buckner	7/1/82	7/1/97	6/30/02
H	UTA00123	W 171	Germ Cell and Embryo Development and Manipulation for Improvement of Livestock	TD Bunch	10/1/84	10/1/94	9/30/99
H	UTA00126		Mechanisms of Action of Agricultural Toxins and Antitoxins	RA Coulombe	10/1/84	7/14/92	6/30/02
H	UTA00133	W 102	Integrated Method of Parasite Control for Improved Livestock Production	MC Healey	10/1/88	10/1/94	9/30/99
S	UTA00135		Intermountain Herbarium	ME Barkworth	7/1/92	7/1/97	6/30/02
S	UTA00140		Veterinary Diagnostic Laboratory	RA Smart	7/1/90	7/1/99	6/30/10

Fund: S=State; R=Regional; H=Hatch; A=Animal Health; M=McIntire-Stennis; P,C.G=Grant
x=will terminate; xx=terminated

Proj Type	Project	Regional No.	Title	Project Leader	Begin Date	Revise Date	Ending Date
A	UTA00153		Characterization of the Gene Responsible for Spider Lamb Syndrome in Sheep	NE Cockett	10/1/88	7/1/98	6/30/03
H	UTA00157		Improving Ruminant Utilization of Low-Quality Forages via Genetic Animal Selection	RD Wiedmeier	7/1/90	9/1/95	6/30/00
S	UTA00162		Provo Branch Veterinary Diagnostic Laboratory	EJ Kelly	7/1/90	7/1/99	6/30/10
H	UTA00164		Identification of Genetic Markers Associated with Economically-Important Traits in Livestock	NE Muggli-Cockett	7/1/91	7/1/95	6/30/00
A	UTA00165		Expression of Endogenous Envelope Glycoproteins to Elicit Resistance to Exogenous Virus Infection	MK Jackson	7/1/91	7/1/99	6/30/02
H	UTA00166		In Vitro Production and Manipulation of Domestic Animal Embryos	KL White	7/1/92	7/1/95	6/30/00
H	UTA00170		Characterization of the Ovine Genome	NE Cockett	7/1/93	7/1/98	6/30/03
S	UTA00173		Evaluation of Vegetation and Animal Responses to Grazing Systems on Southern Utah Forested Range	KC Olson	10/1/92	7/1/98	6/30/99
H	UTA00179		Grazing Livestock Nutrition and Management to Improve Production Efficiency	KC Olson	7/1/93	7/15/98	6/30/03
S	UTA00180		Prevention of Aleutian Mink Disease by Induction of Oral Tolerance	MK Jackson	7/1/93	7/1/98	6/30/00
S	UTA00195		Center for Meat Processing Technology: Ultra-High Temperature, Low Fat and Added Value Processing	VT Mendenhall	7/1/91	7/1/99	6/30/00
H	UTA00203		Investigating the Unique Properties of Milk Proteins for Use as Affinity Adsorbants	M Walsh	7/1/96	7/1/99	6/30/00
S	UTA00209		Calcium and Phosphate Homeostasis: Factors Regulating Intestinal Transport	I Nemere	7/1/95	7/1/95	6/30/00
S	UTA00212		Milk Fractions in Human Health and Disease: Mineral Utilization	DG Hendricks	7/1/96	7/1/98	6/30/00

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Proj Type	Project	Regional No.	Title	Project Leader	Begin Date	Revise Date	Ending Date
H	UTA00213		Effects of Very-High Temperature (VHT) and Ultra-High Temperature (UHT) Processing on Milk Proteins	PA Savello	2/17/82	7/1/96	6/30/01
S	UTA00214		Nutrition and Risk of Osteoporotic Hip Fracture in Elderly Utah Residents	RG Munger		7/1/97	6/30/01
S	UTA00215			RJ Brown	7/1/96	7/1/99	6/30/09
S	UTA00217		Callipyge Sheep: Meat Tenderness, Muscle Histology and Composition, and In Vitro Muscle Growth	CE Carpenter	7/1/96	7/1/99	6/30/02
H	UTA00220	W 191	Factors Influencing the Intake of Calcium Rich Foods Among Adolescents	DR Gustafson	10/1/96	5/1/97	9/30/01
H	UTA00221		Relationship Between Androgen Receptor Genotype and Epidemiologic Factors	DR Gustafson	7/1/97	7/1/97	6/30/00
S	UTA00222		Influence of Processing on Structure and Function of Milk Proteins	DJ McMahon	7/1/98	7/1/98	6/30/03
H	UTA00223		Improvement of Low-Fat Cheese Through Characterization of Lactobacillus Enzymes	JR Broadbent	7/1/97	7/1/97	6/30/02
C	UTA00225		Relationship Between Androgen Receptor Genotype and Epidemiologic Factors	DR Gustafson	8/1/97	9/15/97	9/30/99
C	UTA00226		Evaluation of Electroheating Technology for UHT Processing of Milk	D McMahon	8/4/97	9/15/97	9/30/99
C	UTA00227		24, 25-Dihydroxyvitamin D3 and Intestinal Mineral Transport	I Nemere	7/13/98	9/1/98	8/31/01
S	UTA00229		Developing Methods to Add Value to Agricultural By-products	CL Hansen	7/1/98	7/1/98	6/30/03
S	UTA00235		Departmental Research Operations	AW Sorenson	7/1/94	7/1/95	6/30/00
H	UTA00241		Inhibition of Lipid Oxidation in Fresh and Cooked Meats	DP Cornforth	7/1/93	7/1/99	6/30/01
S	UTA00244		Use of Biotechnology and Fermentation Technology in Food Processing	BC Weimer	7/1/92	7/1/98	6/30/03

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S	UTA00249		Crop Improvement Through Seed Certification	SA Young	7/1/92	7/1/97	6/30/02
C	UTA00275		Molecular Analysis of Ammonia Oxidizer Communities in Contrasting Animal Waste Treatment Systems	J Norton	7/1/95	9/1/96	8/31/99
S	UTA00276		Plant Science Administrative Account	VP Rasmussen	7/1/87	7/1/87	6/30/09
S	UTA00278		Evaluation of Water, Radiation and Energy Balance Components in Semi-Arid and Arid Environments	E Malek	12/1/93	7/1/98	6/30/03
H	UTA00279	W 130	Freeze Damage and Protection of Horticultural Species	SD Seeley	10/1/93	10/1/99	9/30/03
S	UTA00281		Management of Snow Field Station	RE Buckner	7/1/93	7/1/99	6/30/10
S	UTA00282		Germplasm Enhancement and Breeding of Perennial Grasses and Legumes Adapted to Semiarid Regions	KH Asay	3/1/90	3/20/96	3/19/01
S	UTA00286		Controlled Environment Studies on Wheat Physiology and Production	BG Bugbee	7/1/91	7/1/96	6/30/01
S	UTA00287		Molecular and Physiological Techniques for Improving Semiarid Rangeland and Pasture Plants	NJ Chatterton	3/20/91	3/21/96	3/20/01
H	UTA00292	NC 140	Rootstock and Interstem Effects on Pome and Stone Fruit Trees	JL Anderson	10/1/93	10/1/97	9/30/02
H	UTA00314	W 106	Regional Research Coordination, Western Region	HP Rasmussen	10/3/63	7/1/84	9/30/99
M	UTA00315		Administrative Support for McIntire-Stennis Research	FE Busby	7/1/88	7/1/99	12/31/29
H	UTA00322	NRSP3	The National Atmospheric Deposition Program	DT Jensen	10/1/92	10/1/97	9/30/02
H	UTA00323		Microbial/Plant Nitrogen Interactions in Animal Waste Management	J Norton	7/1/93	7/1/99	6/30/04
H	UTA00324		Water and Solute Flow and Management as Related to Changes in Soil Physical Properties - Phase II	D Or	7/1/93	9/19/96	6/30/01
S	UTA00326		Genesis, Mineralogy, and Classification of Utah's Soil Resources	JL Boettinger	7/1/93	7/1/99	6/30/04

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Proj Type	Project	Regional No.	Title	Project Leader	Begin Date	Revise Date	Ending Date
	UTA00327		(Pasture Research)	RE Whitesides	7/1/99		
H	UTA00328		Improvement of Winter Wheat through Breeding	DJ Hole	7/1/92	7/1/98	6/30/03
H	UTA00329	W 188	Improved Characterization and Quantification of Flow and Transport Processes in Soils	D Or	10/1/94	10/1/94	9/30/99
H	UTA00330		Dynamics of Rhizosphere Chemistry: Influence on Sustainable Agriculture	PR Grossl	11/1/94	7/1/99	6/30/00
H	UTA00331		Management and Ecology of Irrigated Pastures in the Intermoutain West	JW MacAdam	7/1/95	7/1/99	6/30/04
H	UTA00332	NE 132	Environmental and Economic Impacts of Nutrient Management on Dairy Forage Systems	JW MacAdam	5/5/95	10/1/99	9/30/04
S	UTA00333		Spatial Variations and Scaling of Energy & Water Fluxes for Semiarid Rangeland Using Remote Sensing	LE Hipps	7/1/96	12/1/95	11/30/00
H	UTA00334		Analysis of Spatial and Temporal Variability of the Warm Season Land Surface Energy Budget	R Gillies	7/1/96	7/1/96	8/1/01
G	UTA00336		Pasture and Forage Research	RE Whitesides	10/1/96	10/1/99	9/30/00
H	UTA00337		Understanding and Synthesizing angiosperm apomicts	JG Carman	7/1/97	7/1/97	6/30/02
H	UTA00338		The Utilization of Municipal Sewage Sludge (Biosolids)for Irrigated Crop Production	RT Koenig	7/1/97	7/22/97	6/30/02
C	UTA00340		Post-Tillage Soil Structure and Pore Space Dynamics	D Or	8/13/97	9/15/97	9/30/99
G	UTA00342		Response of Canopy Photosynthesis to Turbulence Induced Light Fluctuations	LE Hipps	9/15/97	9/30/99	9/30/00
H	UTA00343		Evaporation and CO2 Fluxes of an Irrigated Crop Canopy	LE Hipps	7/1/98	7/1/98	6/30/02
H	UTA00344		Water Use and Growth of Selected Vegetables with Emphasis on Onion	D Drost	7/1/98	7/1/98	6/30/01
H	UTA00345		Reduction of Water Use in Turfgrass by Plant Improvement and Improved Management Strategies	PG Johnson	7/1/98	7/1/98	6/30/03

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Proj Type	Project	Regional No.	Title	Project Leader	Begin Date	Revise Date	Ending Date
C	UTA00347		Electromagnetic Characterization of Soil Electrochemical and Geometrical Factors Affecting Transport	LM Dudley	7/1/99	7/1/99	
H	UTA00390	W 045	Environmental Transformation, Exposure, and Effects of Pesticide Residues	SD Aust	10/1/89	10/1/95	9/30/00
S	UTA00391		Biotechnology Center	WH Scouten	4/1/91	4/1/91	9/30/09
S	UTA00400		In Vitro and In Vivo Antiviral Studies	RW Sidwell	7/1/94	7/1/99	6/30/04
S	UTA00401		USU Analytical Laboratories, Agriculture and Environmental Testing	J Kotuby-Amacher	7/1/92	7/1/97	6/30/02
S	UTA00409	NRSP8	Climate Research and Services for the State of Utah	DT Jensen	7/1/93	7/1/98	6/30/00
H	UTA00415		Toxic Effects of Minerals, Plants, and Interactions of Plants with Minerals in Livestock	JO Hall	7/1/97	7/1/97	6/30/02
H	UTA00416		Enhancing the Protein Efficiency of Dairy Cows Through Improved Ruminal N Metabolism	DB Vagnoni	7/1/97	7/1/97	6/30/00
H	UTA00417	NC 185	Metabolic Relationships in Supply of Nutrients for Lactating Cows	TR Dhiman	7/1/97	10/1/97	9/30/02
H	UTA00418		Management of Intensive Grazing on Irrigated Pastures for Dairy Cattle	R Boman	7/1/98	7/1/98	6/30/03
C	UTA00420		Prostacyclin Production by Uterine Arteries in Response to Lipopolysaccharide	K Vagnoni	7/1/97	9/15/97	9/30/99
S	UTA00421		The Management Style & Competence of Dairy Farmers as an Indicator of Profitability & Productivity	AJ Young	7/1/97	7/1/97	6/30/00
H	UTA00423	W 181	Modifying Milk Fat Composition for Improved Manufacturing Qualities and Consumer Acceptability	TR Dhiman	10/1/97	10/1/97	9/30/02
S	UTA00427		Utah State Botanical Garden Service Project	WA Varga	7/1/93	7/1/98	6/30/00
H	UTA00431		Sustainable Cropping Systems for Arid-Alpine Environments	VP Rasmussen	12/12/83	7/1/94	6/30/99

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H	UTA00434	W 184	Biogeochemistry and Management of Salts and Trace Elements in Arid-Zone Soils, Sediments and Waters	LM Dudley	10/1/91	10/1/96	9/30/01
H	UTA00442		Water Management in Woody Landscape Plants	R Kjelgren	7/1/92	7/1/97	6/30/02
G	UTA00444		Utah Participation, National Agricultural Pesticide Impact Assessment Program (NAPIAP)	HM Deer	12/31/96	10/1/98	12/31/99
C	UTA00445		Preventing Mycotoxin Disease in Poultry by Dietary Induction of Glutathione S-Transferases	RA Coulombe, Jr.	9/8/97	9/15/97	9/30/00
C	UTA00446		Farm and Landscape Water Allocation and Conservation at the Rural:Urban Interface	R Kjelgren	8/26/97	10/31/99	10/31/00
H	UTA00449		Feeding Strategies to Optimize Dairy Cow Performance with Minimum Environmental Impact	TR Dhiman		3/1/98	6/30/01
H	UTA00450	W 112	Reproductive Performance in Domestic Ruminants	K Vagnoni	1/9/98	1/10/98	9/30/01
S	UTA00451		The Utilization of Technologies to Improve Economic Returns Through Retained Ownership of Calves	DR ZoBell	7/1/98	7/1/98	6/30/03
C	UTA00459		Increasing Detoxification Enzymes in Poultry by Dietary Modification	RA Coulombe	10/1/98	9/30/99	9/30/00
C	UTA00460		Positional Cloning of the Ovine Callipyge Gene	NE Cockett	9/1/98	9/1/98	8/31/01
S	UTA00461		Improvement and Impact of Production and Management Practices in Utah Turkeys	DD Frame	7/1/99	7/1/99	6/30/01
S	UTA00462		Gamete and Embryo Toxic Effects of Cadmium in Cattle	DS Hammon	7/1/99	7/1/99	6/30/01
C	UTA00464		Bovine Oocyte Activation	KL White	9/1/99	9/1/99	8/31/01
S	UTA00467		Poisonous Plant Lab	LF James	1/1/91	10/1/97	9/30/02
S	UTA00469		Dairy Herd Operation		7/1/72	7/1/97	6/30/02
S	UTA00474		Housing of University Animals	RC Evans	7/1/95	7/1/95	6/30/00
S	UTA00475		Clinical Care of University Animals	GR Holyoak	7/1/75	7/1/95	6/30/00

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H	UTA00476	W 122	Improve Food Safety Through Discovery and Control of Natural and Induced Toxicants and Antitoxicants	RA Coulombe	10/1/92	10/1/97	9/30/02
S	UTA00477		Departmental Operations	MC Healey	6/30/91	7/1/99	6/30/10
H	UTA00481	NRSP001	Research Information Using the Current Research Information System (CRIS)	KS Jensen	10/1/95	10/1/97	9/30/02
H	UTA00482	NRSP1	General Administration of Federal Grant Fund Research	HP Rasmussen		7/1/94	6/30/99
S	UTA00494		Production of Foundation Seed Stocks	SA Young	7/1/92	7/1/97	6/30/02
H	UTA00513		Interactions Between Cereal Aphids on Crop and Non-Crop Hosts	FJ Messina	7/1/94	7/1/98	6/30/02
H	UTA00517		Mink Production Problems: Infertility and Natural vs Transgenic Resistance to Aleutian Disease	LC Ellis	7/1/92	7/1/98	6/30/99
S	UTA00522		Manual of North American Grasses: Illustrations and Supplies	ME Barkworth	10/1/92	7/1/99	6/30/00
H	UTA00524	W 185	Biological Control in Pest Management Systems of Plants	EW Evans	5/1/93	10/1/97	9/30/02
H	UTA00527		Organismal and Molecular Studies on Biocontrol of Soil Borne Pathogens	AJ Anderson	7/1/94	7/1/99	6/30/00
S	UTA00532		Insect Collection and Its Maintenance	C von Dohlen	7/1/94	7/1/99	6/30/00
H	UTA00533		Phosphoinositide Signaling During Plant Stress	DB Dewald	7/1/96	7/1/99	6/30/02
A	UTA00537		DNA-Mediated Immunization to Produce Heterotypic Protection Against Bluetongue Viruses in Sheep	JK Li	7/1/94	7/1/99	6/30/03
C	UTA00550		Biological Control of the Western Alfalfa Weevil: Influence of Honeydew	EW Evans	7/1/95	7/1/98	6/30/99
H	UTA00551		Planning Insecticide Resistance Management for IPM	WA Brindley	7/1/96	7/1/96	6/30/01
S	UTA00554		Biology and Development of Alternative Crop Pollinators	PF Torchio	1/1/91	2/25/96	2/24/01
S	UTA00557		Radiation Safety Committee (U-109)		7/1/76	7/1/93	6/30/09

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S	UTA00559		Departmental Operations	ED Brodie	7/1/90	7/1/95	6/30/00
H	UTA00573		Characterization and Evaluation of Four Biological Control Agents of Ascosphaera	NN Youssef	8/25/92	7/1/98	6/30/99
S	UTA00583		Nitrogen Fixation: Understanding Substrate Binding to Nitrogenase	LC Seefeldt	7/1/96	7/1/99	6/30/01
C	UTA00585		Structural Analysis of the Gene Products Involved in Femo-C ofactor Biosynthesis	JW Peters		11/1/98	10/31/00
S	UTA00603		Artemisinic Compounds, A New Class of Antimalaria Drugs	NN Youssef	7/1/92	7/1/95	6/30/98
H	UTA00607		Mechanisms of Action of Antifungal Syringomycin	JY Takemoto	7/1/93	7/1/99	6/30/03
S	UTA00618		Integrated Pest Management and Demonstration Fruit Orchard at the USU Kaysville Experiment Farm	DG Alston	7/1/94	7/1/99	6/30/00
H	UTA00622		Diversity of Bacterial Endosymbionts in Homopteran Insects (Hemiptera: Sternorrhyncha)	CD von Dohlen	7/1/97	7/1/97	6/30/00
S	UTA00623		Laboratory & Farm Service	WR Walker	7/1/84	11/6/68	6/30/09
H	UTA00624		Puccinia thlaspeos as a biocontrol agent for dyer's woad	BR Kropp	7/1/97	8/22/97	6/30/00
C	UTA00625		Plant Activated Oxygen - Does it Affect Pseudomonads	AJ Anderson	9/10/97	11/1/97	10/31/99
S	UTA00626		Plum Curculio Biology, Host Utilization, and Monitoring in Northern Utah	DG Alson	7/1/98	7/1/98	6/30/01
H	UTA00627		Factors Controlling Vegetation Structure in the Great Basin	JM Stark	7/1/98	7/1/98	6/30/02
H	UTA00628		Stomatal Responses to Humidity in Wheat	KE Mott	7/1/98	7/1/98	6/30/01
S	UTA00635		Statistical Consulting and Data Analysis	DV Sisson	7/1/92	7/1/97	6/30/02
S	UTA00686		Economics Research Institute	K Criddle	7/1/92	7/1/97	6/30/02

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M	UTA00700		Social Acceptability of Forest and Range Management in an Era of Changing Attitudes and Policies	MW Brunson	7/1/93	7/1/98	6/30/99
H	UTA00701	W 187	Interactions Among Bark Beetles, Pathogens, and Conifers in North American Forests	FA Baker	10/29/93	10/1/98	9/30/09
M	UTA00703		Nutrient Dynamics in Forests and Woodland	H Van Miegroet	7/1/94	7/1/99	6/30/00
M	UTA00704		Developing Select Principles of Management for Ecosystem Management	HC Romesburg	7/1/95	7/1/95	6/30/00
M	UTA00705		Social and Biological Aspects of Community Forests	MR Kuhns	7/1/96	7/1/96	6/30/01
C	UTA00706		Watershed Scale Variability or Inorganic Soil Nitrogen Dynamics in the Southern Appalachians	H Van Miegroet	6/17/97	10/1/97	9/30/00
S	UTA00709		The Economic Value of Open Space in the Intermountain West	RJ Lilieholm	7/1/98	7/1/98	6/30/03
M	UTA00710		Public Responses to Natural Resource Management Practices and Conditions	MW Brunson	7/1/99	7/1/99	6/30/04
M	UTA00712		Changing Values, Beliefs and Behavior of Public Natural Resource Agency Cultures and Their Employees	JJ Kennedy	7/1/92	7/1/98	6/30/02
M	UTA00713		Silviculture of Intermountain Subalpine Forests	JN Long	7/1/93	7/1/96	6/30/01
M	UTA00726		Social Equity and Ecosystem Management: Integrating Social Science in Resource Planning and Policy	DJ Blahna	1/14/92	7/1/96	6/30/01
M	UTA00727		Assessing the Impact of Forest Disease	FA Baker	7/1/91	7/1/95	6/30/00
M	UTA00729		The Ecology and Management of Disburbance in Intermountain Subalpine Spruce-Fir Forests	MJ Jenkins	7/1/91	7/1/96	6/30/01
M	UTA00730		Landscape Resource Modeling	DW Roberts	7/1/90	7/1/99	6/30/00
H	UTA00735		Breeding and Testing Improved Varieties of Barley, Spring Wheat, and Oats	RS Albrechtsen	7/1/92	7/1/98	6/30/03

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M	UTA00737		Integrating Human Dimensions into Forest Ecosystem Science and Management	J Endter-Wadda	7/1/95	5/5/98	6/30/01
S	UTA00743		Cultural, Biological and Chemical Control of Weeds in Field Crops	JO Evans	7/1/90	7/1/95	6/30/00
S	UTA00746		Cool Desert Range Ecology	MM Caldwell	7/1/93	7/1/98	6/30/03
S	UTA00756		Departmental Operations	JC Malechek	10/1/77	10/1/77	9/30/10
H	UTA00760		Ionic Homeostasis in Alfalfa Exhibiting Differential Salt Stress	WF Campbell	7/1/93	7/1/99	6/30/02
H	UTA00762	W 006	Plant Genetic Resource Conservation and Utilization	K Jensen	10/1/91	10/1/96	9/30/01
H	UTA00785		Improved Management Options for Cattle Ranches: Coping with Risk and Federal Rangeland Policy Change	JP Workman	7/1/94	7/1/99	6/30/00
	UTA00786		Geo-Referencing Work	C Neale		11/1/97	5/31/99
H	UTA00797		Water Use, Growth and Irrigation Management of Pasture Grass and Other Perennial Forages	RW Hill	7/1/95	7/1/95	6/30/00
H	UTA00810		Chemical Application Strategies for Surface Irrigation Systems	WR Walker	7/1/97	7/1/97	6/30/02
H	UTA00811		Adapting and Assessing Evapotranspiration Functions for Row Crops	CM Neale	7/1/97	7/1/97	6/30/02
S	UTA00828		A National Assessment of Wildlife Damage to American Agriculture	MR Conover	10/1/93	7/1/99	6/30/00
S	UTA00832		Migration Routes, Habitat Use, Wintering Areas, and Mortality of the Paunsaugunt Mule Deer Herd	TA Messmer	7/1/94	7/1/98	6/30/99
H	UTA00839		Social Change and Adaptation in Response to Shifting Sustenance Structures in Western Communities	RS Krannich	7/1/93	7/1/98	6/30/03
S	UTA00841		Interdependencies Among Community, Agriculture, and Social Change in Nonmetropolitan Utah	HR Geertsen	7/1/96	7/1/96	6/30/01

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S	UTA00843		Population Dynamics, Social Change and Outcomes: Spatial, Temporal, and Life Cycle Variations	MB Toney	7/1/96	7/1/96	6/30/01
S	UTA00844		Factors Influencing Willingness to Continue Family Farm Operations in Utah	RS Krannich	7/1/96	7/1/96	6/30/01
C	UTA00845		Environmental Protection, Economic Development, and Waste Disposal Gridlock	SL Albrecht	4/23/97	10/1/97	9/30/99
G	UTA00851		Western Regional Agriculture in Concert with the Environment (ACE) Program	VP Rasmussen	7/1/95	7/1/95	6/30/00
G	UTA00852		Western Regional Agriculture in Concert with the Environment (ACE) Program	VP Rasmussen	7/1/95	1/1/95	12/31/99
S	UTA00857		Department Operations	GS Straquadine	1/1/96	1/1/96	12/31/01
H	UTA00861		Waste Management for On-Farm Sustainability	BE Miller	7/1/94	7/1/99	6/30/00
G	UTA00862		Western Regional Sustainable Agriculture Research and Educatn (SARE) Program	VP Rasmussen	1/1/94	7/1/98	6/30/03
S	UTA00863		Composting of Livestock Carcasses	BE Miller	7/1/94	7/1/99	6/30/00
H	UTA00869	W 167	Family and Work Linkages	PJ Riley	10/30/89	10/1/95	9/30/00
P	UTA00881		National Sustainable Agriculture Research and Education (SARE)	VP Rasmussen	9/1/94	9/1/99	8/31/03
G	UTA00882		Western Regional Sustainable Agriculture Research and Education (SARE) Program	VP Rasmussen	8/1/95	1/1/95	12/31/99
S	UTA00885		Enhancement of Child Care Quality and Children's Cognitive and Behavioral Competencies	AM Austin	7/1/92	7/1/99	6/30/00
S	UTA00905		Development of New Approaches to Rangeland Monitoring and the Assessment of Condition and Trend	NE West	7/1/94	7/1/99	6/30/04
S	UTA00910		Seed Dispersal by Livestock: A Revegetation Application for Improving Degraded Rangelands	CA Call	7/1/94	7/1/97	6/30/01

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Proj Type	Project	Regional No.	Title	Project Leader	Begin Date	Revise Date	Ending Date
S	UTA00911		Development of Economical Rangeland Monitoring Systems	GA Rasmussen	5/1/94	7/1/98	4/30/00
M	UTA00912		Watershed-Scale Research in the Pinyon-Juniper Ecosystem	JP Dobrowolski	7/1/95	7/1/95	6/30/00
C	UTA00913		Effects of Plant Physical and Chemical Characteristics on Food Preferences of Herbivores	FD Provenza	9/18/97	9/15/97	6/30/99
S	UTA00914		Toxin Adsorbents to Increase Use of Plants by Herbivores	FD Provenza	7/1/95	7/1/95	6/30/00
G	UTA00916		Behavioral Bases for Varied Diets of Ruminants	FD Provenza	7/1/95	7/31/99	6/30/00
H	UTA00917		Effects of Woody Vegetation on Plant Recruitment in Utah Rangelands	EW Schupp	7/1/97	7/1/98	6/30/03
C	UTA00918		Competition from Native Grasses for Restoration of Cheatgrass-Infested Range	EW Schupp	8/22/97	9/15/97	9/30/99
H	UTA00919		Constraints for Adoption of Improved Mgmt. Systems for Range Livestock Production on Private Land	DL Coppock	7/1/98	7/1/98	6/30/03
C	UTA00920		Spectral Balance, Spectral Weighting Functions and the Ozone Reduction Problem	MM Caldwell	12/1/98	9/15/98	9/30/01
C	UTA00921		Nitrogen Immobilization for Restoration of Cheatgrass-Infested Range	EW Schupp	10/1/99	10/1/99	10/31/99
S	UTA00941		Land Use Strategies to Address Nitrate Contamination of Groundwater in the Sevier River Watershed	FR Beard	7/1/98	9/1/98	6/30/02
S	UTA00956		Coyote Sterilization as a Method of Reducing Depredations on Domestic Lambs	EM Gese	7/1/97	1/1/97	6/30/00
S	UTA00958		Effects of Wildlife and Livestock on Persistence of Native and Non-native Revegetated Rangeland	ME Ritchie	7/1/97	7/1/98	6/30/99
S	UTA00971		Adoption and Adolescent Well Being	BC Miller	7/1/97	7/1/97	6/30/00
H	UTA00972		Promoting Life Management Skills to Enhance Employment Among Family Support Service Recipients	RM Jones	7/1/97	7/1/97	6/30/02

Fund: S=State; R=Regional; H=Hatch; A=Animal Health; M=McIntire-Stennis; P,C.G=Grant
x=will terminate; xx=terminated

Proj Type	Project	Regional No.	Title	Project Leader	Begin Date	Revise Date	Ending Date
H	UTA00973	NC 223	Rural Low-Income Families: Tracking Their Well-Being and Functioning in the Context of Welfare Refor	AM Austin	10/1/98	10/1/98	9/30/03
H	UTA00985	NE 167	Family Business Viability in Economically Vulnerable Communities	J Arbuthnot	10/1/93	10/1/99	9/30/04
H	UTA00986	NC 217	The Role of Housing in Rural Community Vitality	L Hawks	3/22/95	3/22/95	9/30/99
S	UTA00987		Time Use in Utah Households	J McCullough	7/1/96	7/1/99	6/30/00
S	UTA00988		Economic Strengthening of Rural Farm Operators Through Retirement Planning	JR McFadden	7/1/97	7/1/98	6/30/99
S	UTA00989		A Follow-Up Study of Persons' Pre-Retirement Plans to Determine Retirement Decisions	JR McFadden	7/1/99	7/1/99	6/30/02
S	UTA00997		Agricultural Experiment Station Farm Operations	R Cartee		7/1/99	6/30/09
R	WCC -001	WCC-001	Beef Cattle Breeding Research in the Western Region	NE Muggli-Cockett	10/1/91	10/1/98	9/30/00
R	WCC -020	WCC-020	Virus and Virus-Like Diseases of Fruit Crops	SV Thomson	10/1/92	10/1/09	9/30/01
R	WCC -021	WCC-021	Revegetation and Stabilization of Deteriorated and Altered Lands	JP Dobrowolski	7/1/74	10/1/96	9/30/99
R	WCC -023	WCC-023	Textiles and Apparel Research Coordination	J Arbuthnot	10/1/93	10/1/96	9/30/99
R	WCC -037	WCC-037	Maximizing the Effectiveness of Bees as Pollinators of Agricultural Crops	J Knoblett	10/1/95	10/1/98	9/30/99
R	WCC -039	WCC-039	Coordination of Sheep and Goat Research and Education Programs for the Western States	NE Cockett	10/1/91	10/1/97	9/30/00
R	WCC -040	WCC-040	Rangeland Ecological Research and Assessment	NE West	10/1/79	10/1/98	9/30/01
R	WCC -055	WCC-055	Rangeland Resource Economics and Policy	EB Godfrey	10/1/92	10/1/98	9/30/01
R	WCC -058	WCC-058	Production, Transition Handling, and Reestablishment of Perennial Nursery Stock	R Kjelgren	10/1/93	10/1/98	9/30/04
R	WCC -059	WCC-059	Poultry Production, Processing and Water Quality	RE Buckner	10/1/93	10/1/97	9/30/00

Fund: S=State; R=Regional; H=Hatch; A=Animal Health; M=McIntire-Stennis; P,C.G=Grant
x=will terminate; xx=terminated

Proj Type	Project	Regional No.	Title	Project Leader	Begin Date	Revise Date	Ending Date
R	WCC -060	WCC-060	Science and Management of Pesticide Resistance	WA Brindley	10/1/91	10/1/98	9/30/01
R	WCC -066	WCC-066	Integrated Management of Russian Wheat Aphid and Other Cereal Aphids	FJ Messina	10/1/91	10/1/98	9/30/01
R	WCC -067	WCC-067	Coordination and Support for Sustainable Agriculture Research and Education in the Western Region	R Newhall	10/1/91	10/1/97	9/30/00
R	WCC -069	WCC-069	Coordination of IPM Research and Extension Programs for the Western United States	WA Brindley	10/1/93	10/1/99	9/30/01
R	WCC -077	WCC-077	Biology and Control of Winter Annual Grass Weeds in Winter Wheat	S Dewey	10/1/90	10/1/96	9/30/99
R	WCC -081	WCC-081	Systems to Improve End-Use of Small Grains	DJ Hole	10/1/91	10/1/97	9/30/00
R	WCC -084	WCC-084	Community, Institutional Change and Migration in Rural America	EH Berry	10/1/92	10/1/98	9/30/01
R	WCC -091	WCC-091	Improving Stress Resistance of Forages in the Western United States	JW MacAdam	10/1/93	10/1/96	9/30/99
R	WCC -092	WCC-092	Beef Cattle Energetics	RD Wiedmeier	3/9/93	10/1/99	9/30/04
R	WCC -093	WCC-093	Western Region Soil Survey and Inventory	JL Boettinger	3/9/93	10/1/99	9/30/04
R	WCC -094	WCC-094	Research and Administrative Coordination in Animal Sciences	RC Lamb	10/1/93	10/1/96	9/30/99
R	WCC -095	WCC-095	Vertebrate Pests of Agriculture, Forestry, and Public Lands	RH Schmidt	10/1/93	10/1/99	9/30/04
R	WCC -097	WCC-097	Research on Diseases of Cereals	BR Kropp	10/1/93	10/1/97	9/30/00
R	WCC -102	WCC-102	Climatic Data and Analyses for Applications in Agriculture and Natural Resources	DT Jensen	10/1/95	10/1/98	9/30/01
R	WCC -103	WCC-103	Soil, Water and Plant Analysis for Improved Nutrient Management and Water Quality	J Kotuby-Amacher	10/1/95	10/1/98	9/30/01
R	WCC -107	WCC-107	Adding Value to Western U.S. Agricultural Exports	VT Mendenhall	10/1/97	10/1/97	9/30/00

Fund: S=State; R=Regional; H=Hatch; A=Animal Health; M=McIntire-Stennis; P,C.G=Grant
x=will terminate; xx=terminated

Addendum IV

Cooperative Extension Smith-Lever 3(d) Funded POW

Utah State University Extension

Smith-Lever 3(D) Funded Programs

Plan of Work

October 1, 1999 – September 30, 2004

Goal 1

Through research and education, empower the agricultural system with knowledge that will improve competitiveness in domestic production, processing, and marketing.

- Sustainable Agriculture

USU Extension Smith-Lever Section 3(D) Funded Programs-October 1, 1999-September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Program Support FTE x $150k/year
Sustainable Agriculture	Intermediate Term Five Year Planning Period	Maintaining our producers on the land, and in an economical, environmental and sustainable fashion, to enhance the ability of all consumers to enjoy a heightened quality of sustainable life for ourselves, families, communities, now and in the future is the goa of this program. Training of agents and others in sustainable agricultural techniques, principles and current research will be the primary focus.	Goal 1	Robert Newhall USU, Plants, Soils and Biometeorology Phone 435 797-2183	CES Units In Wyoming, Nevada	4.0 FTE	$600,000 annually - all sources

Certification Signature of Collaborating Unit

Robert L. Gilliland

Robert L. Gilliland
Vice President and Dean
University Extension
Utah State University
Logan, Utah 84322-4900
Date 7-9-99

Executive Summary

Program Title:

Sustainable Agriculture

Statement of Issues:

The "bottom-line" for Utah State University Cooperative Extension Service's Plan of Work - Sustainable Agriculture is: Maintaining our producers, on the land, and in an economical, environmental, and sustainable fashion, to enhance the ability of all consumers (all of us) to enjoy a heightened quality of sustainable life for ourselves, families, communities, now and in the future.

Performance Goals:

Provide professional training to agricultural professionals

Key Program Components:

Use of the Western Regional Sustainable Agricultural Research & Educational Program: Professional Development Program Grants, SARE Research Grants, and Farmer/Rancher Grants.

Internal and External Linkages:

USU hosts the Western Regional SARE Program Staff, and assists in Extension efforts in all states and protectorates west of Montana, Wyoming, Colorado and New Mexico (this extends past the International Date Line to Islands in the Pacific)

Target Audiences:

Producers, Agricultural Professionals and Consumers.

Evaluation Framework:

Evaluations for quality, impact, acquisition of new knowledge & development of skills.

Output Indicators:

Over half of County Extension Agents and NRCS/FSA field staff trained annually.

Outcome Indicators:

All target audiences will be better acquainted with and conversant in sustainable agriculture techniques and methods.

Program Duration:

Short Term: 4 years (1999-2002)

Intermediate Term: 6 years (1999-2004)

Long Term: 9 years (1999-2007)

Allocated Resources:

4.0 FTE

4.0 x $150,0000 = $600,000

Point of Contact:

Robert Newhall

Research Associate, Plants, Soils, and Biometeorology

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Utah State University Extension

Smith-Lever 3(D) Funded Programs

Plan of Work

October 1, 1999 – September 30, 2004

Goal 2

To ensure an adequate food and fiber supply and food safety through improved science-based detection, surveillance, prevention, and education.

- Integrated Pest Management
- Utah Pesticide Impact Assessment Program

USU Extension Smith-Lever Section 3(D) Funded Programs-October 1, 1999-September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Program Support FTE x $150k/year
Integrated Pest Management	Long Term Five Year Planning Period	Commercial efforts with producers of fruit, small grains, forage crops and onions have been targeted for IPM. The development and evaluation of alternative IPM tools will be explored. Increased emphasis will be placed with homeowner IPM training.	Goal 2	Michael Reding, USU , Department of Biology, Phone 797-0776		3.5 FTE	$525,000 annually-all sources
Utah Pesticide Impact Assessment Program	Long Term Five Year Planning Period	The purpose of the State Pesticide Impact Assessment Program (PIAP) is to provide the most objective and accurate data available for defining and evaluating the benefits and risks of selected pesticides having critical agricultural and forestry uses. The program is designed to promote informed regulatory decisions concerning registered pesticides.	Goal 2	Howard Deer, USU, Center for Environmental Toxicology, Phone 797-1602	Coordination with numerous state and federal regulatory agencies. Western tri-states weed board and western states regiona IPM conference.	1.5FTE	$225,000 annually-all sources

Certification Signature of Collaborating Unit

Robert L. Gilliland

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Date 7-9-99

Executive Summary

Program Title:

Integrated Pest Management

Statement of Issues:

The economic production of agricultural crops is greatly influenced by numerous insects, mites, diseases, weeds and mammals. Home gardeners generally have little or no training in pest management and yet they use millions of dollars worth of 'over-the-counter' pesticides each year.

Performance Goals:

Educate and provide information to adopt IPM techniques and replace pesticides that are eliminated or restricted by the FQPA.

Key Program Components:

Conduct research to test new products needed to replace pesticides. Make IPM information available, and provide IPM recommendations to growers.

Internal and External Linkages:

Internal: Extension specialists coordinate state IPM activities with county agents.

External: Federal and state agencies such as USDA-ARS, Utah Department of Agriculture, and ASCS.

Target Audiences:

Commercial growers, county agents, private crop consultants, urban homeowners, and the media.

Evaluation Framework:

Evaluate the number of growers who adopt IPM tactics through personal contacts, county agents, and feedback from grower organizations.

Output Indicators:

Commercial agriculture producers and home gardeners will decrease the use of pesticides, and increase the use of IPM techniques. IPM information is more accessible.

Outcome Indicators:

Adoption of IPM techniques should reduce pesticide applications by at least one treatment per year.

Program Duration:

Long term.

Allocation of Resources:

3.5 FTE

3.5 x $150,000 = $525,000

Point of Contact:

Michael Reding

IPM Coordinator, Department of Biology

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Phone: (435) 797-0776

E-mail: miker@ext.usu.edu

EXECUTIVE SUMMARY

Program Title:

Utah Pesticide Impact Assessment Program (UPIAP)

Statement of Issues:

Pesticides are needed to maintain our way of life.

Performance Goals:

The performance goals of the UPIAP are to promote informed regulatory decisions concerning registered pesticides.

Key Program Components:

The UPIAP mission is to promote informed regulatory decisions regarding registered pesticides and pest management alternatives.

Internal and External Linkages:

The UPIAP has many internal and external linkages, both interstate and intrastate.

Target Audiences:

Stakeholders, customers, and/or consumers of the UPIAP outputs are many and varied.

Evaluation Framework:

The context in which the program will be evaluated when completed will be the numbers from output indicators.

Output Indicators:

Output indicators will support the state/federal partnership.

Outcome Indicators:

Outcome indicators will benefit U.S. agriculture.

Program Duration:

This is a long-term program.

Allocated Resources:

1.5 FTE

1.5 x $150,000 = $225,000

Point of Contact:

Howard Deer

Professor, Center for Environmental Toxicology

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Utah State University Extension

Smith-Lever 3(D) Funded Programs

Plan of Work

October 1, 1999 – September 30, 2004

Goal 3

Through research and education in nutrition and development of more nutritious foods, enable people to make health-promoting choices.

- Expanded Food and Nutrition Education Program

USU Extension Smith-Lever Section 3(D) Funded Programs-October 1, 1999-September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Program Support FTE x $150k/year
Expanded Food and Nutrition Education Program	Long Term Five Year Planning Period	EFNEP families will develop and acquire the knowledge, skills, attitudes and changed behaviors necessary for nutritionally sound diets and will contribute to their personal development. This program is specifically targeted to low income families with children.	Goal 3	Georgia Lauritzen, USU, Nutrition and Food Sciences, phone 797-3464		2.5 Prof FTE, 15 Para Prof FTE	$1,125,000 annually-all sources

Certification Signature of Collaborating Unit

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Date 7-9-99

Executive Summary

Program Title:

Expanded Food and Nutrition Education Program

Statement of Issues:

Adequate nutrition often eludes low-income families resulting in poor health and greater demands on health care and total family resources.

Performance Goals:

EFNEP families will acquire the knowledge, skills, attitudes and changed behavior necessary for nutritionally sound diets and will contribute to their personal development.

4-H EFNEP youth will acquire the knowledge, skills, attitudes and changed behavior necessary for nutritionally sound diets and will contribute to their personal development.

EFNEP state programs will increase interagency cooperation.

Key Program Components:

Paraprofessionals will be hired and trained to recruit, enroll and teach low income families a series of 8-12 lessons individually or in groups. The subject matter will include basic nutrition, shopping skills, money management, food preparation skills, food safety, and menu planning.

Internal and External Linkages:

Networking occurs with all agencies and organizations which are concerned with nutrition education.

Target audiences:

Low income families in Utah with young children.

Evaluation Framework:

The national reporting system for EFNEP will be used for evaluation.

Output Indicators:

Indicators built into the national Extension reporting system (ERS) will be used.

Outcome Indicators:

Improved nutritional status will reduce health care costs for low income families.

Program Duration:

Long term

Allocated Resources:

7.5 FTE - value

(2.5 FTE – professional, 15.0 FTE – paraprofessional)

7.5 x $150,000 = $1,125,000

Point of Contact:

Georgia Lauritzen

Associate Professor, Nutrition and Food Science

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Utah State University Extension

Smith-Lever 3(D) Funded Programs

Plan of Work

October 1, 1999 – September 30, 2004

Goal 4

Enhance the quality of the environment through better understanding of and building on agriculture's and forestry's complex links with soil, water, air, and biotic resources.

- Statewide Water Quality Education and Technical Support
- Non-Point Source Pollution: Improving Water Quality Through Irrigation Management
- Renewable Resources Extension Act

USU Extension Smith-Lever Section 3(D) Funded Programs-October 1, 1999-September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Program Support FTE x $150k/year
Statewide Water Quality Educational and Technical Support	Long Term Five Year Planning Period Farm *A* Syst program short term	The general public and political leaders of Utah consistently identify water resources and water quality as a high program priority. The goal of this program is to develop and deliver water quality education and outreach programs to diverse populations in Utah. Such programs as K-12 watershed education, volunteer stream monitoring programs and Farm*A* Syst program will be included.	Goal 4	Nancy Mesner, USU Water Quality Specialist, phone 797-2465 and Mike Allred, USU Water Quality, Phone 753-5279	Brigham Young University and University of Utah along with numerous federal and state agencies	2.5 FTE	$375,000 annually-all sources
Non-point Source Pollution: Improving Water Quality through Irrigation Management	Long Term Five Year Planning Period	Reducing salt load in the Colorado River is a nationa and regional goal. This program will control salt loading in the Colorado River by improving irrigation water management among farmers in eastern and east-central Utah. Tri-county collaborative project	Goal 4	Dennis Worwood, USU, Emery County Agent, Phone 435 381-2381 Boyd Kitchen, USU, Uintah County Agent, Phone 435 781-5452 Marlon Winder, USU, Carbon County Agent, Phone 435 636-3233	Irrigation companies in the counties, Farm Service Agency and other state agencies	.30 FTE	$45,000 annually-all sources
Renewable Resources Extension Act	Intermediate Term Planning Period	There is a public demand for renewable resources best management practices to maintain and sustain our natural resources on both private and public lands. Improvement of the long sustainability of our renewable natural resources and improved understanding of these resources by land owners, public land managers, and the general public is the goal of this program.	Goal 4	G Allen Rasmussen, USU, Rangeland Resources, Phone 435 797-2469	CES Units in Wyoming, and Arizona. Various state and federal agencies associated with land use and management	1 FTE	$150,000 annually-all sources

Certification Signature of Collaborating Unit

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Utah State University
Logan, Utah 84322-4900
Date 7-9-99

Executive Summary

Program Title :

Statewide water quality education and technical support

Statement of Issues:

Both the general public and political leaders of Utah consistently identify water resources and water quality as a high priority concern.

Performance Goals:

The goal of this program is to develop and deliver water quality education and outreach programs to the many diverse populations in Utah.

Key Program Components:

The program will consist of watershed education and outreach programs for K-12 students and adults, development of volunteer stream monitoring programs, assistance with animal feeding operation strategy development, Farm*A*Syst program development and implementation, and other outreach programs targeted to underserved populations.

Internal and External Linkages:

The program involves cooperation with many local, state, regional, and national partners, and County Agents and Extension Specialists within the Utah State University Cooperative Extension system.

Target Audiences:

The target audiences are farmers, ranchers, homeowners, K-12 students, and public officials.

Evaluation Framework:

Evaluation of the program will be made through numbers of participants, participant surveys, and the number of successful programs implemented.

Output Indicators:

Successful completion of this program will ultimately reduce water pollution and increase awareness of all residents of the importance of preserving water quality for future generations.

Outcome Indicators:

The reduction of water pollution and increased awareness of the importance of good water quality. Improved coordination of efforts within and between states.

Program Duration:

Development of volunteer monitoring curriculum and Farm*A&Syst materials for Utah are short term. All other program elements are long.

Allocated Resources:

2.5 FTE

2.5 x $150,000 = $375,000

Point of Contact:

Nancy Mesner

Water Quality Specialist

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Phone: (435) 797-2465

E-mail: nmesner@cc.usu.edu

Executive Summary

Program Title:

Non-point source pollution: improving water quality through irrigation management

Statement of Issues:

Reducing salt loading in the Colorado River is a national and regional goal. This program will control salt loading in the Colorado River by improving irrigation water management among farmers in eastern and east-central Utah.

Performance Goals:

Irrigation efficiency with the resultant reduction in salinity in water drawing into the Colorado River Basin.

Key Program Components:

The program will consist of newsletters, fact sheets, bulletins, workshops, field days, and site visits to educate farmers in efficient irrigation water and nutrient management.

Internal and External Linkages:

This program will involve cooperation among Uintah, Duschene, Carbon, and Emery counties, various state and federal government personnel, and other County Agents and Extension Specialists.

Target Audiences:

Farmers and ranchers in Emery, Carbon, and Uintah Counties, with special emphasis on those participating in Federally-funded irrigation projects.

Evaluation Framework:

Evaluations by workshop participants will be conducted, as well as monitoring of program participants in terms of changes implemented, crop yields obtained, changes in water use, and stream/river quality.

Output Indicators:

Numbers of farmers participating and changing irrigation practices.

Outcome Indicators:

This program will improve irrigation water management and increase crop yields while reducing salt loading in streams and the Colorado River.

Program Duration:

This is a long term program (1999-2004)

Allocated Resources:

0.3 FTE

0.3 x $150,000 = $45,000

Point of Contact:

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Emery County Extension Agent
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Boyd Kitchen
Uintah County Extension Agent
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Phone: (435) 781-5452
E-mail: boydk@ext.usu.edu

Marlon Winger
Carbon County Extension Agent
4100 Old Main Hill
Logan, UT 84322-4100
Phone: (435) 636-3233

Executive Summary

Program Title:

Renewable Resources Extension Act

Statement of Issues:

There is a public demand for renewable resources best management practices to maintain and sustain our natural resources on both private and public lands.

Performance Goals:

Improvement of the long term sustainability of our renewable natural resources and an improved understanding of these resources by land owners, public land managers, and the general public.

Key Program Components:

Education of public and private sector through workshops seminars and all forms of publications.

Internal and External Linkages:

Cooperative efforts with professional organizations and land management agencies to reach land owners and others involved with natural resource management.

Target Audiences:

County agents, landowners, land management agencies and other parties interested in natural resource management and sustainability.

Evaluation Framework:

Evaluation based on measurement of inputs to the system and result impacts.

Output Indicators:

Quantification of participants, publications, and measurable economic changes.

Outcome Indicators:

Changes in resource use, maintenance of environmental sustainability.

Program Duration:

Intermediate

Allocated Resources:

1 FTE

1 x $150,000 = $150,000

Point of Contact:

G. Allen Rasmussen

Rangeland Resources

5230 Old Main Hill

Logan, UT 84322-5230

Phone: (435) 797-2469

E-mail: allenr@ext.usu.edu

Utah State University Extension

Smith-Lever 3(D) Funded Programs

Plan of Work

October 1, 1999 – September 30, 2004

Goal 5

Empower people and communities, through research-based information and education, to address the economic and social challenges facing our youth, families and communities.

- Native American Programs

USU Extension Smith-Lever Section 3(D) Funded Programs-October 1, 1999-September 30, 2004

Program Title	Program Duration	Principle Program Goal	CSREES Goal Area	Unit Point of Contact	Collaborating Unit(s)	FTE	Required Program Support FTE x $150k/year
Native American Programs	Long Term with some short & medium range	Native American populations in Utah experiences higher than average rates of poverty, unemployment morbidity & mortality, & injury. A number of CES programs can address these concerns.	Goal 5	Steve Hawks Regional Department Head Phone 435 259-7432	CES Units in Nevada, New Mexico,Arizona, Navajo Nation	1.20 FTE	$180,000 annually-all sources

Certification Signature of Collaborating Unit

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Utah State University
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Date 7-9-99

Executive Summary

Program Title:

Native American Programs

Statement of Issues:

Native American populations within the state of Utah experience higher than average rates of poverty, unemployment, morbidity and mortality, and injury. There are a number of CES programs that can address these concerns.

Performance Goals:

Conduct ongoing community needs assessments, and then develop and implement key programs that target community priorities.

Key Program Components:

Educational programs will address needs in the areas of agriculture, family life, community development, youth leadership, and health and nutrition.

Internal and External Linkages:

CES programs for Native Americans will build partnerships and collaborate with other agencies and organizations that have similar goals and services.

Target Audiences:

The target audience includes Native American peoples living in the state of Utah, primarily Uintah, Tooele, and San Juan Counties.

Evaluation Framework:

Programs on the reservation will be evaluated using pre and post assessments, surveys, statistical summaries, and other appropriate methods to determine effectiveness and impact.

Output Indicators:

Outcome indicators for specific programs will be reflected by levels of participation, and by changes in knowledge and behavior.

Outcome Indicators:

The impact of the programs for Native Americans will be expressed in terms of enhanced agricultural output, youth achievement, enhanced quality of nutrition, and community development.

Program Duration:

Most programs being offered to Native Americans are long term, with some short and medium range programs that target specific issues.

Allocated Resources:

1.20 FTE

1.20 x $150,000 = $180,000

Point of Contact:

Steve Hawks
Regional Department Head
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Phone: (435) 259-7432
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Addendum V

Cooperative Extension Civil Rights POW

Utah State University Extension

Plan of Work

October 1, 1999 – September 30, 2004

Civil Rights

Executive Summary

Program Title:

Civil Rights

Statement of Issues:

Minorities, low-income, single parents and the elderly are typically the underserved in their communities by Extension and other USDA Agencies. Perhaps the most significant barrier in reaching our underserved audience has been our inability to effectively market Extension programs and a general mistrust of government.

Performance Goals:

Extension staff will be required to collaborate with other USDA Agencies, community organizations, minority serving agencies and multi-county groups to develop new and innovative outreach programs.

Key Program Components:

Gleaning and harvesting projects, community gardening projects, financial management, affordable housing, an increase in programming with Extension personnel in Wyoming, New Mexico, Colorado, Arizona, Nevada, and Idaho.

Internal and External Linkages:

University specialists and faculty, Extension agents, various government agencies.

Target Audiences:

All underserved clientele in the state of Utah.

Evaluation Framework:

Programs will be documented and reported addressing target audiences.

Output Indicators:

Contacts with low-income and minority clientele will increase, increased cultural awareness training, and the general population will become more familiar with Extension programs by non-traditional methods of advertising.

Program Duration:

1999-2004

Allocated Resources:

3.54 FTE

3.54 x $150,000 = $531,000

Point of Contact:

Marlene Berger

Civil Rights Coordinator

Utah State University

4900 Old Main Hill

Logan, UT 84322-4900

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Program Title: Civil Rights

Statement of Issues:

The population of the State of Utah is 2,083,238 according to the July 1 Economic Development Report of Demographics to the Governor. Of that number 133,360 are Hispanic, 17,543 are Black, 29,069 are American Indian and 50,863 are Asian/Pacific Islander. In addition, 180,029, or 8.7% are over the age of 65.

Minorities, low-income, single parents and the elderly are typically the underserved in their communities by Extension and other USDA Agencies. The major causes are primarily social/cultural and language barriers. An increase in economic development projects in the rural areas is bringing an influx of minorities, primarily Hispanic, into the smaller isolated areas of Utah, further compounding the problem of blending into the community structure, largely due to lack of social support, services and cultural/religious offerings.

Health care in border towns and extremely rural areas is a critical area of concern especially for the elderly or "non-commutable" populations.

Perhaps the most significant barrier in reaching our underserved audience has been our inability to effectively market Extension programs and a general mistrust of government and government agencies. The migrant population, predominantly Hispanic and the Native American programs have been particularly affected by fear, or mistrust of government.

Performance Goals:

1. Extension staff will be required to collaborate with other USDA Agencies, community organizations, and minority serving agencies and multi-county groups to develop new and innovative outreach programs to reach underserved clientele. The primary emphasis of programs will focus on "service" rather than standard program delivery. Programs to Native Americans in Utah, both Reservation and off-Reservation, will be on going for the duration of this plan and beyond. The four major programs will consist of nutrition education, gardening, literacy, youth development and workforce preparedness. Due to the varied and

unusual ownership of land on the Reservations (trust lands, leases and grants), the majority of those involved in agriculture do not own the land they farm, so technical assistance in irrigation, soils, crop varieties, etc. will be offered as requested by individual farmers.

Native American Reservations and Tribal Bands are scattered statewide from the Shoshoe Tribe in the north, the Navajo Nation in the south, Ute's on the east and Goshutes on the west, as well as off-Reservation Native Americans throughout the state. Contacts to determine priority needs of each individual group will be made and follow-up activities will take place whenever possible.

2. Farmers, ranchers and employers will be surveyed to identify the needs of minority workers in their employ to determine and address their needs. The fastest growing number of minorities in Utah are Hispanic and the agriculture industry employ large numbers of minority workers. The rural counties, Sanpete, Beaver, Iron and Box Elder counties seem to be experiencing the most rapid growth of minorities at this time due to new industry. Thus, while the location of new employers will change, our primary emphasis in surveying both employers and key employees will begin in those areas where larger numbers of minorities currently exist.
3. Programs will be taken to the locations where minorities, the elderly and other groups frequent, rather than expecting them to come to us. There are seven Tribal Chapters of the Navajo Nation in Utah as well as the other Reservations and Tribal Bands identified in performance goal number one, where programs will be delivered.

   Service to Hispanic groups will take place in the rural counties where the minorities reside. In addition, contacts and surveys will take place with Hispanic and other minority service agencies in the five urban counties along the Wasatch Front where employers of larger numbers of minorities can be identified.

   Extension programs will be taken to Senior Citizen Centers statewide addressing nutrition, diet and health, exercise, basic health care and activity programs, i.e. volunteerism, community service, etc.
4. Educational programs and materials will be provided in the Spanish language via translators, publications, fact sheets, etc., as budgets allow. Hispanic and bilingual staff and volunteers will be recruited to assist in all Extension programs, including 4-H.

5. Continued diversity/cultural training will be offered to provide a better understanding of other cultures and to provide strength in programming from a variety of sources. Two diversity forums are held on the USU campus where all faculty and staff are invited to attend. At least one session on diversity/Civil Rights will be offered at the Extension Annual Conference. Each county will offer diversity training to school-age youth and parents at least once a year, as well as cultural programs as requested by community organization, churches, schools, etc.
6. Increased emphasis will be placed on nutrition, diet and exercise, food safety and food storage to address better health, especially in the more rural areas, border towns and Indian Reservations, where health care is lacking.
7. Multi-state cooperative arrangements will be facilitated to provide services to better utilize the expertise of a variety of Extension workers and to ensure coverage to areas that are not restricted by state boundaries. Those states that share borders with Utah will be the obvious areas where multi-state cooperation will be necessary, especially where Indian Reservations cross-state boundaries; Arizona, New Mexico, Colorado, Wyoming, Idaho and Nevada. In addition, all western states involved in Native American programs (Southwest Indian Agriculture Association – SWIAA) will be utilized to share programs and expertise where possible. The Extension Indian Reservation Program is the national body of Extension professionals who meet to share expertise on an annual basis. These people from across the nation have made a commitment to serve the Native Americans, regardless of physical location. Service to Native Americans cannot be addressed according to state boundaries.
8. Each Extension staff member will be required to target and block time for personal home visits and other activities to reach underserved clientele. Extension faculty will spend approximately 3-5% of their time, on average, depending on subject matter specialty, specifically to address the needs of minorities. Home visits by agents will be conducted on a continual basis as minorities and underserved audiences are identified. The time and activity will be documented and recorded and will be evaluated as a part of their performance on a yearly basis.

Key Program Components:

1. New and innovative outreach (service) projects will be identified to include such projects as gleaning and harvesting projects to help address the problem of hunger in our state.

Information about the EFNEP and FNP programs will be provided to recipients of food at Food Banks and Pantries to give them information on the nutrition and health programs available through Extension in each county.

2. Community gardening activities will continue and increase utilizing master gardeners and volunteers to provide skills in home gardening, home horticulture, weed control, pest control, fertilization and water quality. A primary emphasis will be placed on gardening activities in areas where significant in-migration occurs, or where gardens have not been typical due to unusual soil and water conditions.
3. Extension programs will be held in conjunction with other agency/community programs in an effort to reach new clientele.
4. Financial management, affordable housing, and first-time homebuyers programs will expand more into the rural communities, especially those with a large influx of minority workers. Multi-county programs in urban areas and multi-state projects in border towns and on Indian Reservations will provide educational programs identified as necessary to benefit the residents. Basic farming skills and financial management will be a priority for Native Americans who now own land on the Reservations.
5. A stronger effort to collaborate with Tribal Chapters and Native Band leaders by Extension and other USDA Agency personnel to identify the specific research needs of the people will begin immediately.
6. There will be an increase in programming with Extension personnel in Wyoming, New Mexico, Colorado, Arizona, Nevada and Idaho to meet the common needs of the people in each state.
7. Increase advertising for Extension programs beyond traditional mass-media methods to include workplaces, grocery stores, gas stations, laundromats and churches to reach a broader range of clientele. Better utilize our satellite system to provide a wider variety of programs to rural areas.
8. Locate and provide bilingual staff and volunteers for face-to-face programs and to translate written materials for non-English speaking people.

Internal and External Linkages:

1. University specialists and faculty to provide latest research data.

Executive Summary

Program Title:

Native American Programs

Statement of Issues:

Native American populations within the state of Utah experience higher than average rates of poverty, unemployment, morbidity and mortality, and injury. There are a number of CES programs that can address these concerns.

Performance Goals:

Conduct ongoing community needs assessments, and then develop and implement key programs that target community priorities.

Key Program Components:

Educational programs will address needs in the areas of agriculture, family life, community development, youth leadership, and health and nutrition.

Internal and External Linkages:

CES programs for Native Americans will build partnerships and collaborate with other agencies and organizations that have similar goals and services.

Target Audiences:

The target audience includes Native American peoples living in the state of Utah, primarily Uintah, Tooele, and San Juan Counties.

Evaluation Framework:

Programs on the reservation will be evaluated using pre and post assessments, surveys, statistical summaries, and other appropriate methods to determine effectiveness and impact.

Output Indicators:

Outcome indicators for specific programs will be reflected by levels of participation, and by changes in knowledge and behavior.

Outcome Indicators:

The impact of the programs for Native Americans will be expressed in terms of enhanced agricultural output, youth achievement, enhanced quality of nutrition, and community development.

Program Duration:

Most programs being offered to Native Americans are long term, with some short and medium range programs that target specific issues.

Allocated Resources:

1.20 FTE

1.20 x $150,000 = $180,000

Point of Contact:

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Regional Department Head
5000 Old Main Hill
Logan, UT 84322-5000
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E-mail: steven@ext.usu.edu

Addendum V

Cooperative Extension Civil Rights POW

Utah State University Extension

Plan of Work

October 1, 1999 – September 30, 2004

Civil Rights

Executive Summary

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Civil Rights

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Internal and External Linkages:

1. University specialists and faculty to provide latest research data.

2. Multi-county and multi-state agents to reach border areas and benefit from diverse expertise of cross-county personnel.
3. Collaborate with USDA Farm Service Agency, Rural Development, and Natural Resource Conservation staff in each county. Work with local and state government agencies as well as community service organizations including Senior Citizen Centers, nursing homes, women's shelters, and food distribution centers.
4. Utilize school district personnel to address the needs of the youth population. Coordinate Ag in the Classroom activities with teachers and students to identify additional programming opportunities.
5. Continue close cooperation with the Extension Indian Reservation Program, the Intertribal Agriculture Councils, and Tribal Chapter leaders to meet the needs of our Native American population.
6. Focus on working with health care organizations and government agencies dealing with programs relative to nutrition and good health.

Target Audiences:

1. Low income and minority populations statewide.
2. Military Bases with transient populations.
3. Native American Tribes and Bands.
4. Enterprise zones and inner-city populations.
5. Women, single parents and Senior Citizens centers.
6. All underserved clientele in the State of Utah.

Evaluation Framework:

1. Programs will be documented and reported addressing target audiences.
2. Records will be kept of increased participation in youth and adult programs.
3. Program evaluations of collaborative multi-county, multi-state activities will be kept.
4. Increased enrollment figures for youth diverse youth in 4-H and other youth activities.
5. Documentation by Extension and sister USDA Agencies on program delivery.
6. Evaluation of program effectiveness by Tribal Chapter and Band leaders.

Allocated Resources:

3.54 FTE

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Point of Contact:

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