

**NEW MEXICO STATE UNIVERSITY  
COLLEGE OF AGRICULTURE AND HOME ECONOMICS  
PLAN OF WORK UPDATE**

**New Mexico Agricultural Experiment Station  
and  
New Mexico Cooperative Extension Service**

**For the Period Covering  
October 1, 2004 – September 30, 2006**

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LeRoy A. Daugherty  
Associate Dean and Associate Director  
Agricultural Experiment Station

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Paul H. Gutierrez  
Associate Dean and Associate Director  
Cooperative Extension Service

**Submitted April 1, 2004**

## **Mission of the College of Agriculture and Home Economics**

The College of Agriculture and Home Economics at New Mexico State University is the land grant college that provides comprehensive programs to New Mexicans in agriculture, home economics, natural resources, and hospitality and tourism industries. These programs are delivered through statewide, integrated efforts in teaching, research, and Extension.

### **Agricultural Experiment Station**

The Agricultural Experiment Station is the research arm of the College. The Agricultural Experiment Station interacts with all academic and Extension departments of the College by supporting the fundamental and applied research programs of the College faculty and graduate students. The Agricultural Experiment Station also cooperates with other research units at NMSU and with various state and federal agencies to provide opportunities for research that will benefit New Mexico's citizens.

The Agricultural Experiment Station is made up of scientists on the main campus and at agricultural science centers and research centers throughout New Mexico. The off-campus centers support fundamental and applied research under New Mexico's varied environmental conditions to meet the agricultural and natural resource management needs of communities in every part of the state.

### **Cooperative Extension**

The mission of the Cooperative Extension Service is to help people use research-based knowledge to improve the quality of their lives. The Cooperative Extension Service performs the organized service function of the land-grant institution by providing the state-and community-based outreach and educational activities of the College. The Cooperative Extension Service is a partnership between federal, state, county and local community governments; each partner contributes financial support to Extension programs. All Cooperative Extension Service personnel, including county agents and state specialists, are faculty and staff of NMSU.

Some Cooperative Extension Service faculty hold joint appointments in the Agricultural Experiment Station and Academic Programs, strengthening cooperation and collaboration among the units. All college faculty, including state and county faculty, work closely together to bring research-based information to the people of New Mexico in communities where they live and work.

### **Plan of Work**

This plan of work update is a statement of the College of Agriculture and Home Economics' intended research and Extension activities for the next two years, as required by the Agricultural Research, Extension, and Education Reform Act of 1998 (AREERA). This plan is based on the College's current strategic plan.

## Points of Contact

Correspondence regarding this plan should be directed to:

### *For Research:*

Dr. LeRoy Daugherty  
Associate Dean and Associate Director  
New Mexico Agricultural Experiment Station  
New Mexico State University  
Box 30003, MSC 3BF  
Las Cruces, NM 88003  
Voice: 505/646-3125  
Fax: 505/646-2816  
e-mail: [lbaugher@nmsu.edu](mailto:lbaugher@nmsu.edu)

Dr. Steven J. Loring, plan coordinator  
Voice: 505/646-1464  
e-mail: [sloring@nmsu.edu](mailto:sloring@nmsu.edu)

### *For Extension:*

Dr. Paul H. Gutierrez  
Associate Dean and Associate Director  
New Mexico Cooperative Extension Service  
New Mexico State University  
Box 30003, MSC 3AE  
Las Cruces, NM 88003  
Voice: 505/646-3015  
Fax: 505/646-5975  
e-mail: [pgutierrez@nmsu.edu](mailto:pgutierrez@nmsu.edu)

Dr. Wendy V. Hamilton, plan coordinator  
Voice: 505/646-5284  
e-mail: [whamilto@nmsu.edu](mailto:whamilto@nmsu.edu)

## Adoptions by Reference

1. We adopt by reference the national Coordinated Multi-State Research Framework for fulfillment of our obligations to the ARRERA's multi-state, multi-disciplinary, and integrated activities (see <http://www.agnr.umd.edu/users/NERA/workshop/RPAFramework.html>). Accomplishment reporting on research multi-state, multi-disciplinary, and integrated activities for the Agricultural Experiment Station will be through the annual Western Region impact statements and the results reported through AD-421 CRIS forms. Financial statements on Agricultural Experiment Station expenditures will come directly from the Agricultural Experiment Station as AD-419 CRIS forms.
2. We adopt by reference New Mexico State University's procedures for reporting Civil Rights compliance and Equal Employment Opportunity requirements.

## **ADDRESSING AGRICULTURAL ISSUES IN NEW MEXICO**

Short-, intermediate-, and long-term agricultural issues can be defined in various ways: application, process, and research. For the purposes of this plan of work, the New Mexico Agricultural Experiment Station defines short term to mean one year or less; intermediate term to mean one to five years; and long term to mean longer than five years. The New Mexico Cooperative Extension Service defines short term to mean one year or less; intermediate term to mean one to three years; and long term to mean four to five years.

An agricultural issue might be a short-term phenomenon, but the projected time until a solution can be ready for application might be decades. An agricultural issue might involve a process that will take decades to fully understand, but the applications might be short-term in nature.

### **Stakeholder Input to the College of Agriculture and Home Economics**

This is a continuing section with no changes from the original 1999 Plan of Work,

#### ***New Mexico Agricultural Experiment Station***

This is a continuing section with no changes from the original 1999 Plan of Work,

#### ***New Mexico Cooperative Extension Service***

This is a continuing section with no changes from the original 1999 Plan of Work,

## **RESEARCH AND EXTENSION PROGRAMS**

Note: Program goals are equivalent to outcome indicators in this plan.

### ***Research***

All Hatch proposals are peer-reviewed internally by committees approved by the Director or Associate Director of the New Mexico Agricultural Experiment Station. If the Director deems it necessary, reviewers are recruited from outside the College of Agriculture and Home Economics. After revision based on review, the proposal is reviewed and approved by the department head, then reviewed and approved by the Director or Associate Director of the Agricultural Experiment Station before submission to USDA CSREES for their review and approval. Hatch multistate (regional) projects are reviewed by the various participating members of the project, then reviewed by the regional Agricultural Experiment Station directors.

The New Mexico Agricultural Experiment Station has 62.51 research FTEs. In FY02, federal appropriated funds total \$1.655 million, while state appropriated funds total \$11.44 million. Total federal appropriated funds represent 8.4% of the Agricultural Experiment Station FY02 budget, excluding miscellaneous income; state appropriated funds account for 58.3% and grants and contracts account for 33.3% of the Agricultural Experiment Station budget.

## ***Extension***

The New Mexico Cooperative Extension Service has a lengthy process of merit evaluation for state and county major program plans. The process begins with stakeholders input at the county level. County advisory committees make formal recommendations for programs. These recommendations alert county faculty to localized program needs; recommendations are aggregated at the state level and examined for major trends and statewide program needs.

State faculty study these trends and statewide issues and draft program plans that address stakeholder issues. County faculty receive these drafts for review. County faculty meet together to decide which state major program plans address stakeholder needs in their county. They then write county major program plans that complement state plans.

State specialists, department heads, and the Director of the New Mexico Cooperative Extension Service review the combined county and state plans, further refine objectives, make evaluation and resource allocation decisions, and confirm that plans address the College of Agriculture and Home Economics' strategic goals.

Specialists and county faculty are assembled in program teams to carry out programs. The Office of Resource and Organizational Development works with county and state faculty to facilitate teamwork and design, implement evaluation schedules, and compile reports of accomplishment.

The New Mexico Cooperative Extension Service has 125.17 faculty FTEs. In FY02, federal appropriated funds total \$2.7 million, while state appropriated funds total \$9 million. Federal appropriated funds represent 13% of the total Cooperative Extension Service FY02 budget; state appropriations account for nearly 44%, county funding accounts for about 10%, and grants and contracts account for 32.5% of the FY02 budget.

## **AGRICULTURAL ECONOMIC ANALYSIS (CSREES Goals 1, 5)**

### **Agricultural Experiment Station** (12 Hatch projects)

*Short-term goals:* analysis of New Mexico's crop production and costs.

*Intermediate-term goals:* improved understanding of New Mexico's agricultural economy and business infrastructure relationships.

*Long-term goals:* agricultural profitability; economic and community development in New Mexico.

### **Cooperative Extension Service** (10 state plans of work)

*Short-term goals:* increased understanding of new technologies related to crop production practices and costs.

*Intermediate-term goals:* improved understanding of New Mexico's agricultural economy and business infrastructure.

*Long-term goals:* agricultural profitability, economic and community development in New Mexico.

## **ANIMAL IMPROVEMENT AND MANAGEMENT (CSREES Goal 1)**

**Agricultural Experiment Station** (18 Hatch projects)

*Short-term goals:* increased understanding of animal nutrition and reproductive physiology in beef cattle, dairy cattle, horses, and sheep.

*Intermediate-term goals:* increased beef cattle, dairy, sheep, and horse production, with improved health.

*Long-term goals:* technological innovation and technology transfer to enhance profitability of New Mexico agriculture while maintaining the natural resource base.

**Cooperative Extension Service** (3 state plans of work)

*Short-term goals:* increased the understanding of livestock production practices, alternative production techniques and improvement plans in beef, cattle, dairy cattle, horses, sheep and minor small species.

*Intermediate-term goals:* increased health and production of beef, cattle, dairy cattle, horses, sheep and minor small species.

*Long-term goals:* technological innovation and technology transfer to enhance profitability of New Mexico agriculture while maintaining the natural resource base and expanding programs on environmental issues and natural resource management.

**CHILD DEVELOPMENT AND FAMILY LIFE PROGRAMS (CSREES Goal 5)**

**Agricultural Experiment Station** (3 Hatch projects)

*Short-term goals:* improved understanding of family and interpersonal dynamics.

*Intermediate-term goals:* improved recommendations for parenting and family relationships.

*Long-term goals:* improved quality of life for the people of New Mexico.

**Cooperative Extension Service** (2 state plans of work)

*Short-term goals:* increased understanding of child development and parenting skills.

*Intermediate-term goals:* improved quality of child care services and respite care.

*Long-term goals:* enhanced quality of life for the people of New Mexico.

**CLOTHING/FASHION MERCHANDISING (CSREES Goal 5)**

**Agricultural Experiment Station** (1 Hatch project)

*Short-term goals:* improved understanding of textiles marketing and social implications of dress.

*Intermediate-term goals:* improved recommendations about fashion merchandising.

*Long-term goals:* increased economic development in New Mexico.

**CONSUMER EDUCATION (CSREES Goal 5)**

**Cooperative Extension Service** (1 state plan of work)

*Short-term goals:* increased understanding of consumer and financial management skills, the importance of debt reduction, financial planning for retirement, and consumer decision making related to indoor air quality.

*Intermediate-term goals:* improved consumer decision making and financial planning skills.

*Long-term goals:* improved quality of life for the people of New Mexico.

## **ECONOMIC PROFITABILITY (CSREES Goals 1, 5)**

### **Cooperative Extension Service (1 state plan of work)**

*Short-term goals:* increased understanding of financial statements and the economics of the global marketplace.

*Intermediate-term goals:* improved financial management techniques by clientele.

*Long-term goals:* increased support for economic and community development.

## **FOOD TECHNOLOGY AND SAFETY (CSREES Goal 2)**

### **Cooperative Extension Service (1 state plan of work)**

*Short-term goals:* increased understanding of product development, processing methods, safe food handling practices, nutrition labeling and marketing strategies.

*Intermediate-term goals:* increased number of accurate New Mexico food product labels.

*Long-term goals:* improved quality of life for the people of New Mexico.

## **HOSPITALITY AND TOURISM INDUSTRIES DEVELOPMENT AND IMPACT (CSREES Goal 5)**

### **Agricultural Experiment Station (4 Hatch projects)**

*Short-term goals:* improved understanding of the impact of tourism on the economy and natural resources of New Mexico.

*Intermediate-term goals:* improved understanding of the hospitality and tourism industries in New Mexico.

*Long-term goals:* economic and community development in New Mexico.

### **Cooperative Extension Service (1 state plan of work)**

*Short-term goals:* increased understanding by county tourism councils of project planning, implementing and evaluating.

*Intermediate-term goals:* increased agricultural, cultural, and heritage tourism opportunities.

*Long-term goals:* improved quality of life for the people of New Mexico.

## **HUMAN NUTRITION (CSREES Goals 2, 3)**

### **Agricultural Experiment Station (3 Hatch projects)**

*Short-term goals:* increased understanding of human physiology and nutrition.

*Intermediate-term goals:* improved recommendations regarding nutrition.

*Long-term goals:* improved quality of life for the people of New Mexico.

### **Cooperative Extension Service (5 state plans of work)**

*Short-term goals:* increased understanding by limited resource audiences of meal planning, food resource management, and healthy lifestyle alternatives.

*Intermediate-term goals:* adoption of healthy nutrition practices.

*Long-term goals:* improved quality of life for the people of New Mexico.

## **INTEGRATED PEST MANAGEMENT (CSREES Goals 1, 4)**

### **Agricultural Experiment Station (6 Hatch projects)**

*Short-term goals:* increased understanding of predator-prey interactions among nematodes, insects, and other arthropods.

*Intermediate-term goals:* profitable crop production with reduced use of pesticides and increased reliance on biological controls.

*Long-term goal:* technological innovation and technology transfer to enhance profitability of New Mexico agriculture while maintaining the natural resource base; environmental issues and natural resource management.

### **Cooperative Extension Service (2 state plans of work)**

*Short-term goals:* increased understanding of the principles of pest management and control options.

*Intermediate-term goals:* profitable crop production, reduced home and garden problems and increased reliance on biological controls.

*Long-term goals:* technological innovation and technology transfer to enhance profitability of New Mexico agriculture while maintaining the natural resource base and expanding programs on environmental issues and natural resource management.

## **LEADERSHIP (CSREES Goal 5)**

### **Agricultural Experiment Station (1 Hatch project)**

*Short-term goals:* investigate problems related to agricultural and natural resources/environmental education.

*Intermediate-term goals:* improved critical thinking skills of agriculture students and consumers.

*Long-term goals:* improved quality of life for the people of New Mexico.

### **Cooperative Extension Service (2 state plans of work)**

*Short-term goals:* increased knowledge by newly elected county officials on duties and responsibilities.

*Intermediate-term goals:* well-trained elected county officials.

*Long-term goals:* enhanced quality of life for the people of New Mexico.

## **PLANT IMPROVEMENT AND MANAGEMENT (CSREES Goal 1, 4)**

### **Agricultural Experiment Station (16 Hatch projects)**

*Short-term goals:* increased understanding of plant physiology; improved resistance to diseases and pests; development of improved trees for reforestation projects; tree varieties with increased marketability.

*Intermediate-term goals:* development of plant varieties with increased production, disease and pest resistance, and improved water-use efficiency.

*Long-term goals:* technological innovation and technology transfer to enhance profitability of New Mexico agriculture while maintaining the natural resource base; environmental issues and natural resource management.



**Cooperative Extension Service** (2 state plans of work)

*Short-term goals:* increased understanding of noxious weeds prevention, new crop varieties, crop production practices and emerging sustainable agriculture issues, fertility management, insect and plant disease control, seasonal crop problems, product marketing, orchard management practices, plant disorder diagnosis, plant pathogen and abiotic effects, environmental influences on plant disease development, integrated pest management, water conservation and best management landscaping practices.

*Intermediate-term goals:* improved water use and conservation and increased crop and landscape management.

*Long-term goals:* technological innovation and technology transfer to enhance profitability of New Mexico agriculture while maintaining the natural resource base.

**RANGE MANAGEMENT (CSREES Goals 1, 4)**

**Agricultural Experiment Station** (4 Hatch projects)

*Short-term goals:* increased understanding of noxious weed ecology.

*Intermediate-term goals:* increased understanding of ecosystem ecology functions of semi-arid rangelands.

*Long-term goals:* technological innovation and technology transfer to enhance profitability of New Mexico agriculture while maintaining the natural resource base; environmental issues and natural resource management.

**Cooperative Extension Service** (2 state plans of work)

*Short-term goals:* increased understanding of range management monitoring strategies.

*Intermediate-term goals:* rancher initiated monitoring systems.

*Long-term goals:* expanded programs on environmental issues and natural resources management.

**SOIL FORMATION, FERTILITY, AND CONSERVATION (CSREES Goals 1, 4)**

**Agricultural Experiment Station** (3 Hatch projects)

*Short-term goals:* increased understanding of interactions between climate and soil formation; microbiological processes that affect soil fertility.

*Intermediate-term goals:* improved understanding of processes affecting soil fertility and conservation.

*Long-term goals:* technological innovation and technology transfer to enhance profitability of New Mexico agriculture while maintaining the natural resource base; environmental issues and natural resource management.

## **VOLUNTEER AND YOUTH DEVELOPMENT (CSREES Goal 5)**

### **Cooperative Extension Service (5 state plans of work)**

*Short-term goals:* increased understanding of volunteer recruitment, volunteer job satisfaction and leadership opportunities.

*Intermediate-term goals:* increased volunteer and minority youth participation and youth leadership involvement.

*Long-term goals:* improved quality of life for the people of New Mexico.

## **WATER MANAGEMENT (CSREES Goals 1, 4)**

### **Agricultural Experiment Station (3 Hatch projects)**

*Short-term goals:* improved understanding of water interactions in semi-arid areas.

*Intermediate-term goals:* improved water use and conservation.

*Long-term goals:* technological innovation and technology transfer to enhance profitability of New Mexico agriculture while maintaining the natural resource base; environmental issues and natural resource management.

## **WILDLIFE AND NATURAL RESOURCES MANAGEMENT (CSREES Goal 4)**

### **Agricultural Experiment Station (4 Hatch projects)**

*Short-term goals:* increased understanding of wildlife-domestic animal interactions on rangeland; gap analysis of habitat usage.

*Intermediate-term goals:* improved recommendations regarding wildlife habitat use.

*Long-term goals:* improved understanding of environmental issues and natural resource management.

### **Cooperative Extension Service (3 state plans of work)**

*Short-term goals:* increased understanding of vertebrate pest control methods.

*Intermediate-term goals:* new methods introduced to control wildlife damage.

*Long-term goals:* expanded programs on environmental issues and natural resources management.

## **New Mexico Agricultural Experiment Station New Mexico Multistate (Regional) Hatch Research Projects**

This is a continuing section with no changes from the original 1999 Plan of Work,

## **New Mexico Cooperative Extension Service Multi-State Programming**

This is a continuing section with no significant changes from the original 1999 Plan of Work,