2008 New Mexico State University Combined Research and Extension Plan of Work

I. Plan Overview

1. Brief Summary about Plan Of Work

New Mexico State University College of Agriculture and Home Economics (CAHE) research, academic, and Extension activities fall into three broad strategic themes, which consist of our planned programs for this Plan of Work. Each planned program is comparable to a CSREES portfolio, with associated Knowledge Areas (KAs). The three college strategic themes are: Agriculture and Natural Resources; Community and Economic Development; and Human Capital. Each strategic theme has administrative support and civil rights functions associated with it.

CAHE uses the Academy of Sciences definition of agriculture: the service of producing, distributing, marketing, and consuming food and fiber. This incorporates use, conservation, development, and management of air, land, and water resources. The Agriculture and Natural Resources strategic theme, then, includes the following planned programs: Sustainable Management of Natural Resources; Animal Production; Plant Production; Plant and Animal Protection; and Food Safety and Technology.
The Sustainable Management of Natural Resources planned program contains the KAs covering Soil, Plant, Water, Nutrient Relationships; Management of Saline and Sodic Soils and Salinity; Management of Range Resources; Management and Sustainability of Forest Resources; Urban Forestry; Aquatic and Terrestrial Wildlife; Conservation of Biological Diversity; Waste Disposal, Recycling, and Reuse; Drainage and Irrigation Systems and Facilities; and Natural Resource and Environmental Economics.
The Animal Production planned program contains the KAs dealing with animal genetics and genomics, nutrition, reproduction, physiology, stresses, and management systems.

The Plant Production planned program deals with genetics, genomics, stresses, efficiencies, and management systems of plants.

The Plant and Animal Protection planned program includes the KAs that deal with pests and pathogens of plants and animals, weeds, biological control and integrated pest management systems, and animal welfare/protection.
The Food Safety and Technology planned program incorporates the KAs dealing with new and improved food products and processing techniques, quality maintenance, and protection from pathogens.
The Community and Economic Development strategic theme contains the Agricultural Markets, Trade, and Economic/Business Development planned program. This covers marketing, community development, and economic policy.

CAHE's Human Capital strategic theme contains two planned programs: Health and Wellbeing; and 4-H and Youth Development. The Health and Wellbeing planned program covers nutrition and nutrition education, healthy lifestyles, family resource management, family development, and how social changes affect individuals. The 4-H and Youth Development planned program incorporates all remaining programs involved with youth development.

Estimated Number of Professional FTEs/SYs total in the State.

Year	Extension		Research	
	1862	1890	1862	1890
2008	38.5	0.0	52.6	0.0
2009	38.5	0.0	52.6	0.0
2010	38.5	0.0	52.6	0.0
2011	38.5	0.0	52.6	0.0
2012	38.5	0.0	52.6	0.0

II. Merit Review Process

1. The Merit Review Process that will be Employed during the 5-Year POW Cycle

- Internal University Panel
- External Non-University Panel

2. Brief Explanation

We will use internal faculty review and external advisory group review of our planned programs.

III. Evaluation of Multis & Joint Activities

1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?

Stakeholders are partners in the identification of critical issues and planning of programs. Stakeholder meetings are held throughout the state to gain their input.

2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?

Stakeholder meetings are representative of the diversity for each of the counties or regions affected. Issues affecting the needs of the under-served and under-represented are an integral component of the program planning process.

3. How will the planned programs describe the expected outcomes and impacts?

Outcomes and impacts will be based on the specific educational objectives or research questions. Response will be unique to each program.

4. How will the planned programs result in improved program effectiveness and/or efficiency?

The goal of our research and Extension efforts is to provide solutions to issues which have economic, social and/or environmental outcomes and impacts to the people of New Mexico. The effectiveness and efficiency of our programs is rated according to stakeholder feedback.

IV. Stakeholder Input

1. Actions taken to seek stakeholder input that encourages their participation

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of the general public
- Survey specifically with non-traditional groups

Brief explanation.

New Mexico State University uses a variety of methods to inform and collect feedback from our stakeholders. We continually evaluate their effectiveness and consider new ways to communicate with our stakeholders.

2(A). A brief statement of the process that will be used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups

- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief explanation.

NMSU uses advisory commitees, focus groups, and knowledge by specialists and agents to identify stakeholders.

2(B). A brief statement of the process that will be used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey of the general public
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting with invited selected individuals from the general public

Brief explanation

{NO DATA ENTERED}

3. A statement of how the input will be considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

Brief explanation.

{NO DATA ENTERED}

V. Planned Program Table of Content

V(A). Planned Program (Summary)

1. Name of the Planned Program

4-H and Youth Development

2. Brief summary about Planned Program

This program area includes research, teaching, and Extension outreach dealing with youth development, both in 4-H and classroom settings.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 806 100% Youth Development

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

1. Situation and priorities

Work in this area includes programs and activities that promote positive youth development, including 4-H. These activities extend knowledge to youth and convey a sense of belonging, teach life skills, and provide opportunities for mastery, competence, and independence. This work also includes a focus on the social and emotional development of program participants. Over 22% of New Mexico's population is age 15-19 (NM Kids Count Data Book 2005). Current 4-H Programming reaches 20% of youth under 18 in New Mexico. The New Mexico 4-H Youth Development Program is committed to delivering research based educational curriculum and related learning experiences for youth in club, school enrichment, and special interest. Work in this area includes 4-H and other youth programs and activities that promote positive youth development. These educational activities facilitate the development of life skills, citizenship and leadership, fostering a sense of belonging and independence, providing opportunities for mastery, and creating a spirit of generosity.

2. Scope of the Program

- In-State Extension
- In-State Research

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

1. Assumptions made for the Program

People will be motivated to learn/change.
Funding will be secure throughout planned program.
Research results will lead to improved curricula and programs.
Youth learn best in groups.

2. Ultimate goal(s) of this Program

The New Mexico 4-H Youth Development Program strives to ensure that every youth involved will have the opportunity to participate in 4-H experiences that strengthen a young person's sense of belonging, generosity, independence and mastery.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	5.5	0.0	0.3	0.0
2009	5.5	0.0	0.3	0.0
2010	5.5	0.0	0.3	0.0
2011	5.5	0.0	0.3	0.0
2012	5.5	0.0	0.3	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Research procedures and technology • Papers, citations, patents • Train students • Dissemination of research results • Educational workshops • Conferences • Commercialization of techniques and products

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Newsletters

3. Description of targeted audience

Youth ages 5 to 19 are targeted to learn life, leadership and citizenship skills through: Project Work, Special Interest Groups, School Enrichment, Competitive Events, Fairs, Clinics, Workshops, Record Books, Camps, Community Service, Public Speaking, Elected/Appointed Offices, etc.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :** 0 **2012 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(H). State Defined Outputs

1. Output Target

- The specific output measures will vary according to the specific project being monitored. The development of research procedures and technology, training of students, publishing research papers, and disseminating research results via educational workshops, conferences, and Extension media are important outputs for the various projects falling under this planned program. Numbers of students involved in 4-H programs also will be outputs.

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

V(I). State Defined Outcome

1. Outcome Target

# of Research publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :1 **2009 :** 1 **2010 :** 1 **2011 :**1 **2012 :** 1

3. Associated Knowledge Area(s)

- 806 - Youth Development

1. Outcome Target

# of Extension publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :2 **2009 :** 2 **2010 :** 2 **2011 :**2 **2012 :** 2

3. Associated Knowledge Area(s)

- 806 - Youth Development

1. Outcome Target

% volunteers trained

2. Outcome Type : Change in Action Outcome Measure

2008 :30 **2009 :** 40 **2010 :** 50 **2011 :**60 **2012 :** 70

3. Associated Knowledge Area(s)

- 806 - Youth Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Description

The projects conducted under this planned program are affected by economic conditions and changes in governmental policies and priorities.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Description

Evaluations studies will be conducted before, after, and during the projects. Comparisons will include non-participating groups and locations.

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals

Description

Data collection methods include the methods noted above.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Agricultural Markets, Trade, and Economic/Business Development

2. Brief summary about Planned Program

Work in this area includes economic choices farmers and ranchers make to access and allocate resources for the production of commodities, services, and products; these resources help farmers and ranchers to minimize production risk and optimize farm income. Work in this area also includes management and administrative techniques applied to farming, agricultural business, and other businesses and enterprises to enhance planning, decision making, and resource use. These techniques help businesses make effective financial decisions, stay in the marketplace over the long term, and increase profitability. Other work focuses on activities that foster understanding of markets, productivity, agricultural competitiveness, and interregional trade, and give insight to the role and function of markets and their regulation primarily from the macroeconomic (industry) perspective. In addition, work in this area concerns the distribution of products, goods, and services, the practices of buying and selling, and the development and improvement of markets primarily from the microeconomic (firm) perspective.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 511 5% New and Improved Non-Food Products and Processes
- 601 25% Economics of Agricultural Production and Farm Management
- 602 20% Business Management, Finance, and Taxation
- 603 10% Market Economics
- 604 10% Marketing and Distribution Practices
- 606 5% International Trade and Development
- 608 10% Community Resource Planning and Development
- 609 5% Economic Theory and Methods
- 610 5% Domestic Policy Analysis
- 611 5% Foreign Policy and Programs

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

1. Situation and priorities

New Mexico's future is increasingly tied to regional environments and a global economy. Clearly defined regional and internation perspectives are essential for the programs of the College. The University's traditional programs can be enriched by regional and international components and thereby better achieve their full potential. International activities enhance global understanding by incorporating international dimensions into the ongoing instruction, research, and extension efforts of the College.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension
- Multistate Extension
- Multistate Integrated Research and Extension
- Multistate Research

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

1. Assumptions made for the Program

People, industry, and government agencies will be motivated to learn/change.
Funding will be secure throughout planned program.
Research results will lead to improved policies and analyses.

2. Ultimate goal(s) of this Program

Increased, sustainable economic and community development.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	4.9	0.0	7.0	0.0
2009	4.9	0.0	7.0	0.0
2010	4.9	0.0	7.0	0.0
2011	4.9	0.0	7.0	0.0
2012	4.9	0.0	7.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Research procedures and technology • Papers, citations, patents • Train students • Dissemination of research results • Educational workshops • Conferences • Commercialization of techniques and products

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Education Class • Workshop • One-on-One Intervention	• Newsletters • Web sites

3. Description of targeted audience

The target audiences include agricultural producers, business owners, and policy makers.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(H). State Defined Outputs

1. Output Target

- The specific output measures will vary according to the specific project being monitored. The development of research procedures and technology, training of students, publishing research papers, and disseminating research results via educational workshops, conferences, and Extension media are important outputs for the various projects falling under this planned program.

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

V(I). State Defined Outcome

1. Outcome Target

# of research publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :2 **2009 :** 2 **2010 :** 2 **2011 :**2 **2012 :** 2

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 604 - Marketing and Distribution Practices
- 606 - International Trade and Development
- 608 - Community Resource Planning and Development
- 609 - Economic Theory and Methods

- 610 - Domestic Policy Analysis
- 611 - Foreign Policy and Programs

1. Outcome Target

# of Extension publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 2	**2009 :** 2	**2010 :** 2	**2011 :** 2	**2012 :** 2

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 608 - Community Resource Planning and Development

1. Outcome Target

% of people adopting NMSU policy, economic, or business development recommendations

2. Outcome Type : Change in Action Outcome Measure

2008 : 50	**2009 :** 70	**2010 :** 80	**2011 :** 90	**2012 :** 90

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices
- 608 - Community Resource Planning and Development

1. Outcome Target

Economic development increased

2. Outcome Type : Change in Condition Outcome Measure

2008 : 0	**2009 :** 0	**2010 :** 0	**2011 :** 0	**2012 :** 0

3. Associated Knowledge Area(s)

- 511 - New and Improved Non-Food Products and Processes
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 604 - Marketing and Distribution Practices
- 606 - International Trade and Development
- 608 - Community Resource Planning and Development
- 609 - Economic Theory and Methods
- 610 - Domestic Policy Analysis

- 611 - Foreign Policy and Programs

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The projects conducted under this planned program are affected by density independent factors (e.g., weather), population changes, economic conditions, and changes in governmental policies and priorities.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Description

Evaluations studies will be conducted before, after, and during the projects. Comparisons will include non-participating groups and locations.

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals

Description

Data collection methods include the methods noted above.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Animal Production

2. Brief summary about Planned Program

Research and Extension outreach in this program area encompass the range of animal/genetics/genomics, reproduction, nutrition, physiology, health, and management activities, which should lead to improved animal varieties and management techniques for New Mexico producers.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 301 20% Reproductive Performance of Animals
- 302 20% Nutrient Utilization in Animals
- 303 10% Genetic Improvement of Animals
- 304 10% Animal Genome
- 305 10% Animal Physiological Processes
- 306 10% Environmental Stress in Animals
- 307 20% Animal Management Systems

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

1. Situation and priorities

Livestock production in New Mexico is only marginally profitable. Livestock producers and rural economies recognize the impact of livestock production on the state's economy. In 2004, livestock and livestock products accounted for 75 percent of all New Mexico farm and ranch receipts and totaled over 1.6 billion dollars. Beef cattle and calves (one million head) and sheep (160,000 head) are major farm and ranch livestock contributors to the economy. A stocker-yearling grazing cattle industry of approximately 300,000 head exists primarily in the northeastern quarter of the state. There were an estimated 150,000 cattle fed for slaughter in the state in 2004. Based on data generated from 52 cow-calf operations in New Mexico evaluated through the Standardized Performance Analysis (SPA) program over the last 10 years, the average return on investment for cow-calf enterprises is only 1.8%. Sheep production in New Mexico, and other sectors of the beef industry have been only marginally profitable during this time period as well. If the profitability of cattle and sheep production in New Mexico does not improve, the long-term sustainability of ranching in the state is jeopardized. The state dairy industry averaged 326,000 milk cows during 2004. Milk production set an all-time high of 6.7 billion pounds, with cash receipts from marketing and gross prouducer income surpassing the $1 billion mark for the first time. Milk was ranked as the state's number one cash commodity for the third year in a row.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension
- Multistate Extension
- Multistate Integrated Research and Extension
- Multistate Research

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

1. Assumptions made for the Program

People will be motivated to learn/change.

Funding will be secure throughout planned program.
Research results will lead to improved animal health and production methods.

2. Ultimate goal(s) of this Program

Profitable and sustainable cattle, dairy, and sheep enterprises.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	3.0	0.0	6.6	0.0
2009	3.0	0.0	6.6	0.0
2010	3.0	0.0	6.6	0.0
2011	3.0	0.0	6.6	0.0
2012	3.0	0.0	6.6	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research procedures and technology
Papers, citations, patents
Train students
Dissemination of research results
Educational workshops
Conferences
Commercialization of techniques and products

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	**Indirect Methods**
• Education Class • Workshop • One-on-One Intervention • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

The target audience includes: ranchers, feedlot operators, and dairy producers.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(H). State Defined Outputs

1. Output Target

- The specific output measures will vary according to the specific project being monitored. The development of research procedures and technology, training of students, publishing research papers, and disseminating research results via educational workshops, conferences, and Extension media are important outputs for the various projects falling under this planned program.

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

V(I). State Defined Outcome

1. Outcome Target

# of trained professionals

2. Outcome Type : Change in Action Outcome Measure

2008 :2 **2009 :** 2 **2010 :** 2 **2011 :**2 **2012 :** 2

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems

1. Outcome Target

# of improved animal varieties

2. Outcome Type : Change in Action Outcome Measure

2008 : 0	**2009 :** 1	**2010 :** 1	**2011 :** 1	**2012 :** 1

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals

1. Outcome Target

# of research publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 5	**2009 :** 5	**2010 :** 5	**2011 :** 5	**2012 :** 5

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 303 - Genetic Improvement of Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems

1. Outcome Target

# of methods, technology, and animal varieties adopted by public and private sectors

2. Outcome Type : Change in Action Outcome Measure

2008 : 2	**2009 :** 2	**2010 :** 2	**2011 :** 2	**2012 :** 2

3. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems

1. Outcome Target

Economic development increased

2. Outcome Type : Change in Condition Outcome Measure

2008 : 0	**2009 :** 0	**2010 :** 0	**2011 :** 0	**2012 :** 0

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems

1. Outcome Target

Successful animal agricultural enterprises

2. Outcome Type : Change in Condition Outcome Measure

2008 :0 **2009 :** 0 **2010 :** 0 **2011 :**0 **2012 :** 0

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Public Policy changes
- Competing Programatic Challenges
- Economy
- Competing Public priorities
- Government Regulations
- Natural Disasters (drought,weather extremes,etc.)
- Appropriations changes

Description

The projects conducted under this planned program are affected by density independent factors (e.g., weather), economic conditions, and changes in governmental policies and priorities.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention
- Before-After (before and after program)
- During (during program)

Description

Evaluations studies will be conducted before, after, and during the projects. Comparisons will include non-participating groups and locations.

2. Data Collection Methods

- Mail
- Journals
- Unstructured
- Observation
- Portfolio Reviews
- On-Site
- Tests
- Whole population

Description

Data collection methods incude the methods noted above.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food Safety and Technology

2. Brief summary about Planned Program

Work in this area focuses on development or improvement of methods, techniques, or processes to maintain or improve quality or functionality, stabilize or preserve foods, or prepare foods for further processing. Work in this area also includes understanding and minimizing food quality losses during preservation, storage, distribution, and marketing to enhance the quantity and quality of foods delivered to consumers, minimize food costs, and enhance profitability for food producers and marketers. In addition, this area includes work on pathogenic foodborne microorganisms and parasites in raw, minimally processed, or inadequately processed and preserved foods.

3. Program existence : Intermediate (One to five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 501 50% New and Improved Food Processing Technologies
- 502 5% New and Improved Food Products
- 503 25% Quality Maintenance in Storing and Marketing Food Products
- 712 20% Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

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

1. Situation and priorities

Research and education complement each other in the on-going efforts to control and reduce the introduction of pathogens into the food supply. While researchers are constantly seeking ways to reduce or eliminate contamination in the production and processing of food products, Extension personnel work with food handlers to ensure the safe delivery of food and food products from farm to consumer.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension
- Multistate Extension
- Multistate Integrated Research and Extension

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

1. Assumptions made for the Program

People and food industry will be motivated to learn/change.
Funding will be availabile from industry.
Research results will lead to improved food handling techniques, improved food safety, and an increase of value-added food products adopted and produced.

2. Ultimate goal(s) of this Program

Increased adoption of safe food handling and storage practices; reduced incidences of food-borne diseases in New Mexico; increased value-added for New Mexico food products.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	1.5	0.0	0.5	0.0
2009	1.5	0.0	0.5	0.0
2010	1.5	0.0	0.5	0.0
2011	1.5	0.0	0.5	0.0
2012	1.5	0.0	0.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Research procedures and technology
• Papers, citations, patents
• Train students
• Dissemination of research results
• Educational workshops
• Conferences
• Commercialization of techniques and products

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Education Class • Workshop • Demonstrations	• Newsletters • Web sites

3. Description of targeted audience

Target audience is food processors in Arizona, Colorado New Mexico, Texas, and Utah.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(H). State Defined Outputs

1. Output Target

- The specific output measures will vary according to the specific project being monitored. The development of research procedures and technology, training of students, publishing research papers, and disseminating research results via educational workshops, conferences, and Extension media are important outputs for the various projects falling under this planned program.

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

V(I). State Defined Outcome

1. Outcome Target

# of trained professionals

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :2 **2009 :** 2 **2010 :** 2 **2011 :**2 **2012 :** 2

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

# of research publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :1 **2009 :** 1 **2010 :** 1 **2011 :**1 **2012 :** 1

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

# of Extension publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
1	1	1	1	1

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

% of food processors using NMSU for their food product development

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
40	60	80	90	90

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

Economic development increased

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
0	0	0	0	0

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Public Policy changes
- Government Regulations

Description

The projects conducted under this planned program are affected by economic conditions and changes in governmental policies and priorities.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)

Description

Evaluations studies will be conducted before, after, and during the projects, including time series analysis.

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Portfolio Reviews
- Journals

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Health and Wellbeing

2. Brief summary about Planned Program

Work in this area encompasses two main themes: human health and nutrition, and family development. The human health and nutrition theme concerns fundamental knowledge about relationships of food eaten by people to their physical development, physical activity, and mental status, and to the maintenance of optimal health. Programs on nutrient requirements and function are concerned with the development and evaluation of education activities, strategies, and materials, and with the dissemination of related information for professionals, students, and the public. This area also is concerned with assessment of food intake and dietary patterns, the factors that influence food intake and dietary patterns, the interrelationships among these factors, and with the assessment of food and nutrient intake in relation to nutrient requirements, dietary guidance, and food plans. Additionally, this area is concerned with food insecurity, insufficiency, and hunger in the population; and this area concerns activities related to healthy lifestyles, including maintenance of social, emotional, and physical health. The family development theme include work that provides an understanding of how individuals and families obtain and use resources of time, money, and human capital to achieve their standard of living and overall quality of life. Work on family and human development provides an understanding of the social, cognitive, emotional, and physical development of individuals and families over the human lifespan. The focus is on family and life cycle studies. Work in this area also provides a better understanding of family systems, family performance, and well-being. Lastly, work in this area provides an understanding of the technological, demographic, and social changes occurring in society. Work also provides an understanding of the current and historic ways in which individuals, families, and communities cope with sociological and technological change, and includes activities that extend this knowledge to the population.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 702 5% Requirements and Function of Nutrients and Other Food Components
- 703 20% Nutrition Education and Behavior
- 704 20% Nutrition and Hunger in the Population
- 724 20% Healthy Lifestyle
- 801 20% Individual and Family Resource Management
- 802 10% Human Development and Family Well-Being
- 803 5% Sociological and Technological Change Affecting Individuals, Families and Communities

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

1. Situation and priorities

Economic opportunity and quality of life vary greatly for New Mexicans. New Mexico still suffers from some of the highest statistics nationally relative to families with children poverty levels, per capita retirement incomes, numbers of high school graduates, illiteracy, crime, unemployment in rural communities, teen-pregnancy, diabetes, and uninsured motorist among other unsatisfactory figures. Addressing the quality of life issues is a core piece in New Mexico Extension's educational efforts.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension
- Multistate Integrated Research and Extension
- Multistate Research

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

1. Assumptions made for the Program

People will be motivated to learn/change.
Funding will be secure throughout planned program.
Research results will lead to improved human nutrition and health, and better famly development/relationships.

2. Ultimate goal(s) of this Program

Healthy citizens of New Mexico.
Reduction of diabetes in New Mexico.
Improved child care by parents.
Improved family relationships.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	7.0	0.0	1.1	0.0
2009	7.0	0.0	1.1	0.0
2010	7.0	0.0	1.1	0.0
2011	7.0	0.0	1.1	0.0
2012	7.0	0.0	1.1	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Research procedures and technology • Papers, citations, patents • Train students • Dissemination of research results • Educational workshops • Conferences

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

The target audience includes: teenage mothers, low-income families, families suffering social stress, mal- or undernourished families, diabetics.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(H). State Defined Outputs

1. Output Target

- The specific output measures will vary according to the specific project being monitored. The development of research procedures and technology, training of students, publishing research papers, and disseminating research results via educational workshops, conferences, and Extension media are important outputs for the various projects falling under this planned program.

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

V(I). State Defined Outcome

1. Outcome Target

# of research papers

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :1 **2009 :** 1 **2010 :** 1 **2011 :**1 **2012 :** 1

3. Associated Knowledge Area(s)

- 702 - Requirements and Function of Nutrients and Other Food Components
- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 724 - Healthy Lifestyle
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities

1. Outcome Target

# of Extension publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
3	3	3	3	3

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 724 - Healthy Lifestyle
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being

1. Outcome Target

# of trained professionals

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
2	2	2	2	2

3. Associated Knowledge Area(s)

- 702 - Requirements and Function of Nutrients and Other Food Components
- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 724 - Healthy Lifestyle
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities

1. Outcome Target

% diabetics adopting NMSU recommendations regarding nutrition

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
50	60	70	80	85

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 724 - Healthy Lifestyle

1. Outcome Target

Improved nutrition among New Mexicans

2. Outcome Type : Change in Condition Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
0	0	0	0	0

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population

- 724 - Healthy Lifestyle

1. Outcome Target

decrease in child abuse

2. Outcome Type : Change in Condition Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
0	0	0	0	0

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities

1. Outcome Target

decrease in juvinile deliquency

2. Outcome Type : Change in Condition Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
0	0	0	0	0

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Description

The projects conducted under this planned program are affected by population changes, economic conditions, and changes in governmental policies and priorities.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Description

Evaluations studies will be conducted before, after, and during the projects. Comparisons will include non-participating groups and locations.

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals

Description

Data collection methods include the methods noted above.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Plant and Animal Protection

2. Brief summary about Planned Program

This program focuses on the health and protection of plants and animals in production agriculture.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 211 10% Insects, Mites, and Other Arthropods Affecting Plants
- 212 25% Pathogens and Nematodes Affecting Plants
- 213 20% Weeds Affecting Plants
- 215 5% Biological Control of Pests Affecting Plants
- 216 20% Integrated Pest Management Systems
- 312 5% External Parasites and Pests of Animals
- 315 15% Animal Welfare/Well-Being and Protection

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

1. Situation and priorities

Invasive species continue to threaten productivity and profitability for many New Mexico crops. Since 1990, the state has been invaded by Africanized honey bees, red imported fire ant, apple maggot, Japanese beetles, oak-pecan phylloxera, and weevils affecting cotton, pecan nuts and chile. Additional counties have been confirmed for European corn borer, pecan nut casebearer and silverleaf whitefly. Glassy winged sharpshooters, cactus moth, gypsy moth, exotic fruit flies and various grape pests are anticipated and are included in several cooperative annual surveys. Approximately 70 million acres in the state are devoted to livestock grazing; nearly 10 million acres of non-federal land are forested. Grasshoppers, white grubs and various forest pests (defoliating caterpillars and, most recently, bark beetles) are periodic pests in these rangeland or forested areas; in addition, invasive, exotic weeds (musk thistle, various knapweeds, yellow star thistle, camelthorn, etc.) are spreading and replacing native plants with less desirable, less palatable and even toxic species for grazing animals.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension
- Multistate Extension
- Multistate Integrated Research and Extension
- Multistate Research

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

1. Assumptions made for the Program

People and industry will be motivated to learn/change.
Funding will be secure throughout planned program.
Research results will lead to improved disease prevention techniques.

2. Ultimate goal(s) of this Program

Program specialist(s) and County Extension staff will regularly disseminate basic information on IPM, plant and animal pests, and diseases affecting New Mexico crops, producers, and consumers.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	1.8	0.0	11.2	0.0
2009	1.8	0.0	11.2	0.0
2010	1.8	0.0	11.2	0.0
2011	1.8	0.0	11.2	0.0
2012	1.8	0.0	11.2	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Research procedures and technology • Papers, citations, patents • Train students • Dissemination of research results • Educational workshops • Conferences • Commercialization of techniques and products

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Education Class • Workshop • One-on-One Intervention • Demonstrations	• Newsletters • Web sites

3. Description of targeted audience

Attention will be given to commodity organizations in or serving New Mexico producers as well as pesticide applicators, Master Gardeners and garden clubs, youth (4H, Future Farmers of America and other groups and conferences) and the general public.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :** 0 **2012 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(H). State Defined Outputs

1. Output Target

- The specific output measures will vary according to the specific project being monitored. The development of research procedures and technology, training of students, publishing research papers, and disseminating research results via educational workshops, conferences, and Extension media are important outputs for the various projects falling under this planned program.

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

V(I). State Defined Outcome

1. Outcome Target

# of trained professionals

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :2 **2009 :** 2 **2010 :** 2 **2011 :**2 **2012 :** 2

3. Associated Knowledge Area(s)

- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 215 - Biological Control of Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 312 - External Parasites and Pests of Animals
- 315 - Animal Welfare/Well-Being and Protection

1. Outcome Target

# of research publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :3 **2009 :** 3 **2010 :** 3 **2011 :**3 **2012 :** 3

3. Associated Knowledge Area(s)

- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

- 216 - Integrated Pest Management Systems
- 312 - External Parasites and Pests of Animals
- 315 - Animal Welfare/Well-Being and Protection

1. Outcome Target

# of Extension publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :2 **2009 :** 2 **2010 :** 2 **2011 :**2 **2012 :** 2

3. Associated Knowledge Area(s)

- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 215 - Biological Control of Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 312 - External Parasites and Pests of Animals
- 315 - Animal Welfare/Well-Being and Protection

1. Outcome Target

% producers adopting NMSU recommendations to protect plants and animals

2. Outcome Type : Change in Action Outcome Measure

2008 :30 **2009 :** 40 **2010 :** 50 **2011 :**60 **2012 :** 60

3. Associated Knowledge Area(s)

- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 215 - Biological Control of Pests Affecting Plants
- 216 - Integrated Pest Management Systems
- 312 - External Parasites and Pests of Animals
- 315 - Animal Welfare/Well-Being and Protection

1. Outcome Target

Successful agricultural enterprises

2. Outcome Type : Change in Condition Outcome Measure

2008 :0 **2009 :** 0 **2010 :** 0 **2011 :**0 **2012 :** 0

3. Associated Knowledge Area(s)

- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 215 - Biological Control of Pests Affecting Plants

- 216 - Integrated Pest Management Systems
- 312 - External Parasites and Pests of Animals
- 315 - Animal Welfare/Well-Being and Protection

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities

Description

The projects conducted under this planned program are affected by density independent factors (e.g., weather), economic conditions, and changes in governmental policies and priorities.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Description

Evaluations studies will be conducted before, after, and during the projects. Comparisons will include non-participating groups and locations.

2. Data Collection Methods

- Sampling
- Mail
- Structured
- Case Study
- Observation
- Portfolio Reviews
- Journals

Description

Data collection methods include the methods noted above.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Plant Production

2. Brief summary about Planned Program

Research and Extension outreach in this program area encompass the range of plant genetics/genomics, physiology, quality, stresses, and management activities, which should lead to improved varieties and management techniques for New Mexico producers.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 201 40% Plant Genome, Genetics, and Genetic Mechanisms
- 202 5% Plant Genetic Resources
- 203 10% Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 15% Plant Product Quality and Utility (Preharvest)
- 205 30% Plant Management Systems

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

1. Situation and priorities

Crop output in New Mexico has a value of over $582.3 million with a net income reported in 2004 of over $862.4 million, up 65% from 2003. Agronomic crops, particularly feed crops such as hay, grain sorghum, grain corn and silage corn as well as fiber crops such as cotton, make up over half the total cash receipts for all crops grown across the state and over 13.5% of the total agricultural cash receipts. With either or both agronomic crops and improved pasture in all the counties across the state, more information and research is needed to improve cropping enterprises and benefits to the land and producers.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension
- Multistate Extension
- Multistate Integrated Research and Extension
- Multistate Research

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

1. Assumptions made for the Program

People will be motivated to learn/change.
Funding will be secure throughout planned program.
Research results will lead to improved plant varieties and production methods.

2. Ultimate goal(s) of this Program

By understanding more on plant physiology, crop and turfgrass production can be optimized for use in food, feed, fiber as well as biofuel uses by developing sustainable production practices, inputs and timely operations.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	7.5	0.0	11.6	0.0
2009	7.5	0.0	11.6	0.0
2010	7.5	0.0	11.6	0.0
2011	7.5	0.0	11.6	0.0
2012	7.5	0.0	11.6	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

• Research procedures and technology • Papers, citations, patents • Train students • Dissemination of research results • Educational workshops • Conferences • Commercialization of techniques and products

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Workshop • One-on-One Intervention • Demonstrations	• Public Service Announcement • Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

The target audience is both small as well as medium and large scale agricultural operations, businesses, associations, cooperatives, consulting firms and collectives that may or may not be defined as a farm under the USDA economic return criteria, but rather are land owners, managers, consultants, or students that wish to improve agronomic production and efficiency as do and are other audience participants such as Extension agents, farmers, ranchers, other agricultural specialists, private-tribal-state-federal and even nonprofit organizations.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(H). State Defined Outputs

1. Output Target

- The specific output measures will vary according to the specific project being monitored. The development of research procedures and technology, training of students, publishing research papers, and disseminating research results via educational workshops, conferences, and Extension media are important outputs for the various projects falling under this planned program.

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

V(I). State Defined Outcome

1. Outcome Target

# of trained professionals

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :2 **2009 :** 2 **2010 :** 3 **2011 :**3 **2012 :** 3

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

1. Outcome Target

# of research publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
3	3	3	3	3

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

1. Outcome Target

# of Extension publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
2	2	2	2	2

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems

1. Outcome Target

% of producers, growers, homeowners adopting NMSU recommendations

2. Outcome Type : Change in Action Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
40	50	60	75	75

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems

1. Outcome Target

# of improved plant varieties released

2. Outcome Type : Change in Action Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
1	1	1	1	1

3. Associated Knowledge Area(s)

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)

1. Outcome Target

Successful plant agricultural enterprises

2. Outcome Type : Change in Condition Outcome Measure

2008 :	2009 :	2010 :	2011 :	2012 :
0	0	0	0	0

3. Associated Knowledge Area(s)

- 205 - Plant Management Systems

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges

Description

The projects conducted under this planned program are affected by density independent factors (e.g., weather), economic conditions, and changes in governmental policies and priorities.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- During (during program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Description

Evaluation studies will be conducted during the projects. Comparisons will include non-participating groups and locations.

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Observation
- Portfolio Reviews
- Journals

Description

Data collection methods include the methods noted above.

V(A). Planned Program (Summary)

1. Name of the Planned Program

Sustainable Management of Natural Resources

2. Brief summary about Planned Program

Research and Extension outreach in this program area lead to improved range and forest management techniques; improved water and soil management techniques; better appraisals of forest and range conditions for production of livestock forage, water yield, wildlife habitat, forest productivity, and reclamation activities; and better appraisals and remediation of water and soil. These, in turn, improve the economic performance and log-term protection and sustainability of New Mexico's natural resource base.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 102 10% Soil, Plant, Water, Nutrient Relationships
- 103 5% Management of Saline and Sodic Soils and Salinity
- 121 20% Management of Range Resources
- 123 10% Management and Sustainability of Forest Resources
- 124 5% Urban Forestry
- 135 10% Aquatic and Terrestrial Wildlife
- 136 5% Conservation of Biological Diversity
- 403 10% Waste Disposal, Recycling, and Reuse
- 405 10% Drainage and Irrigation Systems and Facilities
- 605 15% Natural Resource and Environmental Economics

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

1. Situation and priorities

New Mexico natural resource agencies and governments need accurate, unbiased, science-based information and policies to help them resolve conflicts that arise over the management of the state’s natural resources, especially water, grazing, and wildlife issues. Water quality and quantity, as well as threatened/endangered species, are affected by industrial, agricultural, public, and private uses (consumptive, chemical runoff, and waste management). Also, wildlife diversity and healthy ecosystem functioning depend on how forests, rangelands, and soils are mangaged.

2. Scope of the Program

- In-State Extension
- In-State Research
- Integrated Research and Extension
- Multistate Extension
- Multistate Integrated Research and Extension
- Multistate Research

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

1. Assumptions made for the Program

People, industry, and government agencies will be motivated to learn/change.
Funding will be secure throughout planned program.
Research results will lead to improved natural resource management techniques and policies.

2. Ultimate goal(s) of this Program

Sustainable use of New Mexico's natural resources, including water, soils, forest, rangelands, and wildlife for commercial, recreational, and aesthetic purposes.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	7.3	0.0	14.3	0.0
2009	7.3	0.0	14.3	0.0
2010	7.3	0.0	14.3	0.0
2011	7.3	0.0	14.3	0.0
2012	7.3	0.0	14.3	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research procedures and technology
Papers, citations, patents
Train students
Dissemination of research results
Educational workshops
Conferences
Commercialization of techniques and products

2. Type(s) of methods to be used to reach direct and indirect contacts

Extension	
Direct Methods	Indirect Methods
• Education Class • Workshop • One-on-One Intervention • Demonstrations	• Newsletters • TV Media Programs • Web sites

3. Description of targeted audience

Target audiences include: ranchers, farmers, urban landscapers, park departments, state and federal agencies, private homeowners, and recreational users of parks, forests, and waters.

V(G). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(H). State Defined Outputs

1. Output Target

- The specific output measures will vary according to the specific project being monitored. The development of research procedures and technology, training of students, publishing research papers, and disseminating research results via educational workshops, conferences, and Extension media are important outputs for the various projects falling under this planned program.

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

V(I). State Defined Outcome

1. Outcome Target

# of trained professionals

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :3 **2009 :** 3 **2010 :** 3 **2011 :**3 **2012 :** 3

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 103 - Management of Saline and Sodic Soils and Salinity
- 121 - Management of Range Resources
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 403 - Waste Disposal, Recycling, and Reuse

- 405 - Drainage and Irrigation Systems and Facilities
- 605 - Natural Resource and Environmental Economics

1. Outcome Target

# of research publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 5 **2009 :** 5 **2010 :** 5 **2011 :** 5 **2012 :** 5

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 103 - Management of Saline and Sodic Soils and Salinity
- 121 - Management of Range Resources
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 605 - Natural Resource and Environmental Economics

1. Outcome Target

# of Extension publications

2. Outcome Type : Change in Knowledge Outcome Measure

2008 : 3 **2009 :** 3 **2010 :** 3 **2011 :** 3 **2012 :** 3

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 103 - Management of Saline and Sodic Soils and Salinity
- 121 - Management of Range Resources
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 605 - Natural Resource and Environmental Economics

1. Outcome Target

% of people adopting NMSU recommendations

2. Outcome Type : Change in Action Outcome Measure

2008 : 50	**2009 :** 60	**2010 :** 70	**2011 :** 80	**2012 :** 85

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 103 - Management of Saline and Sodic Soils and Salinity
- 121 - Management of Range Resources
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 605 - Natural Resource and Environmental Economics

1. Outcome Target

Successful natural resource management policies implemented

2. Outcome Type : Change in Condition Outcome Measure

2008 : 0	**2009 :** 0	**2010 :** 0	**2011 :** 0	**2012 :** 0

3. Associated Knowledge Area(s)

- 103 - Management of Saline and Sodic Soils and Salinity
- 121 - Management of Range Resources
- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 403 - Waste Disposal, Recycling, and Reuse
- 405 - Drainage and Irrigation Systems and Facilities
- 605 - Natural Resource and Environmental Economics

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges

Description

The projects conducted under this planned program are affected by density independent factors (e.g., weather), economic conditions, and changes in governmental policies and priorities.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Description

Evaluation studies will be conducted before, after, and during the projects. Comparisons will include non-participating groups and locations.

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Structured
- Observation
- Portfolio Reviews
- Journals

Description

Data collection methods include the methods noted above.