

# 2012 New Mexico State University Combined Research and Extension Plan of Work

Status: Accepted

Date Accepted: 06/01/2011

## I. Plan Overview

### 1. Brief Summary about Plan Of Work

New Mexico State University College of Agricultural, Consumer and Environmental Sciences (ACES) 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 NIFA 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. NIFA has developed five mandatory priority areas. We have explicitly addressed two areas (Global Food Security and Hunger; Food Safety) by renaming and reorganizing existing planned programs. The remaining priority areas are reported in our existing research and Extension programs. We have listed those priority areas separately, although we will not report anything in those areas per se.

ACES 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; Global Food Security and Hunger; and Food Safety.

- 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 Global Food Security and Hunger planned program contains the KAs dealing with animal genetics and genomics, nutrition, reproduction, physiology, stresses, and management systems; genetics, genomics, stresses, efficiencies, and management systems of plants; and pests and pathogens of plants and animals, weeds, biological control and integrated pest management systems, and animal welfare/protection.

- The Food Safety 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.

ACES' **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
2012	38.5	0.0	61.0	0.0
2013	38.5	0.0	61.0	0.0
2014	38.5	0.0	61.0	0.0
2015	38.5	0.0	61.0	0.0
2016	38.5	0.0	61.0	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 University Panel
- External Non-University Panel

**2. Brief Explanation**

We will use internal faculty review and external advisory group review of our planned programs. As appropriate, departments will be reviewed by a panel of NIFA and land-grant university peers.

**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. Responses will be unique to each program.

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

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 committees, 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 specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public

**Brief explanation.**

The College of ACES meets with individuals and groups throughout the year to garner input directly.

**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.**

Feedback from our stakeholders is used to plan the College's priorities in research and extension. This includes deciding budgets and hiring decisions.

**V. Planned Program Table of Content**

<b>S. No.</b>	<b>PROGRAM NAME</b>
1	Global Food Security and Hunger
2	Sustainable Management of Natural Resources
3	Agricultural Markets, Trade, and Economic/Business Development
4	Food Safety
5	Health and Wellbeing
6	4-H and Youth Development
7	Climate Change
8	Sustainable Energy
9	Childhood Obesity

## **V(A). Planned Program (Summary)**

### **Program # 1**

#### **1. Name of the Planned Program**

Global Food Security and Hunger

#### **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; plant genetics/genomics, physiology, quality, stresses, and management activities, which should lead to improved varieties and management techniques for New Mexico producers and the health and protection of plants and animals in production agriculture.

**3. Program existence :** Mature (More than 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

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		5%	
202	Plant Genetic Resources	0%		11%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		4%	
204	Plant Product Quality and Utility (Preharvest)	0%		2%	
205	Plant Management Systems	20%		4%	
211	Insects, Mites, and Other Arthropods Affecting Plants	0%		4%	
212	Pathogens and Nematodes Affecting Plants	20%		5%	
213	Weeds Affecting Plants	10%		8%	
215	Biological Control of Pests Affecting Plants	0%		14%	
216	Integrated Pest Management Systems	5%		12%	
301	Reproductive Performance of Animals	10%		9%	
302	Nutrient Utilization in Animals	10%		10%	
303	Genetic Improvement of Animals	0%		1%	
304	Animal Genome	0%		2%	
305	Animal Physiological Processes	0%		2%	
306	Environmental Stress in Animals	5%		1%	
307	Animal Management Systems	20%		5%	
308	Improved Animal Products (Before Harvest)	0%		1%	
	<b>Total</b>	100%		100%	

**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 producer 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.

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.

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, camel thorn, 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
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

## **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.

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.

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
2012	3.0	0.0	6.6	0.0
2013	3.0	0.0	6.6	0.0
2014	3.0	0.0	6.6	0.0
2015	12.3	0.0	29.4	0.0
2016	0.0	0.0	0.0	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
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

The target audience includes: ranchers, feedlot operators, dairy producers. small/medium/large-scale agricultural operations, business, associations, cooperatives, consulting firms and collectives that might or might not be defined as a farm under the USDA economic return criteria, but are land owners, managers, consultants, or students who wish to improve agricultural production and efficiency. Other audience participants include Extension agents, other agricultural specialists, pesticide applicators, Master Gardeners and garden clubs, youth (4H, Future Farmers of America and other groups) and the general public.

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- 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.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	# of trained professionals
2	# of improved animal varieties
3	# of research publications
4	# of methods, technology, and animal varieties adopted by public and private sectors

**Outcome # 1**

**1. Outcome Target**

# of trained professionals

**2. Outcome Type : Change in Action Outcome Measure**

**2012:2                      2013:2                      2014:2                      2015:6                      2016:0**

**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
- 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
- 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

**4. Associated Institute Type(s)**

- 1862 Research

**Outcome # 2**

**1. Outcome Target**

# of improved animal varieties

**2. Outcome Type : Change in Action Outcome Measure**

**2012:1                      2013:1                      2014:1                      2015:0                      2016:0**

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Research

**Outcome # 3**

**1. Outcome Target**

# of research publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:5                      2013:5                      2014:5                      2015:15                      2016:0**

**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
- 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
- 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

#### 4. Associated Institute Type(s)

- 1862 Research

#### Outcome # 4

##### 1. Outcome Target

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

##### 2. Outcome Type : Change in Action Outcome Measure

2012:2

2013:2

2014:2

2015:4

2016:0

##### 3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 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
- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 308 - Improved Animal Products (Before Harvest)

##### 4. Associated Institute Type(s)

- 1862 Extension

#### 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 Programmatic 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 - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

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

**V(A). Planned Program (Summary)**

**Program # 2**

**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 long-term protection and sustainability of New Mexico's natural resource base.

**3. Program existence :** Mature (More than 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

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	10%		10%	
103	Management of Saline and Sodic Soils and Salinity	5%		5%	
121	Management of Range Resources	20%		20%	
123	Management and Sustainability of Forest Resources	10%		10%	
124	Urban Forestry	5%		5%	
135	Aquatic and Terrestrial Wildlife	10%		10%	
136	Conservation of Biological Diversity	5%		5%	
403	Waste Disposal, Recycling, and Reuse	10%		10%	
405	Drainage and Irrigation Systems and Facilities	10%		10%	
605	Natural Resource and Environmental Economics	15%		15%	
	<b>Total</b>	100%		100%	

**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 managed.

**2. Scope of the Program**

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

**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
2012	7.3	0.0	14.3	0.0
2013	7.3	0.0	14.3	0.0
2014	7.3	0.0	14.3	0.0
2015	7.3	0.0	14.3	0.0
2016	0.0	0.0	0.0	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**

<b>Extension</b>	
<b>Direct Methods</b>	<b>Indirect Methods</b>
<ul style="list-style-type: none"> <li>• Education Class</li> <li>• Workshop</li> <li>• One-on-One Intervention</li> <li>• Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>• Newsletters</li> <li>• TV Media Programs</li> <li>• Web sites other than eXtension</li> </ul>

**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)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(H). State Defined Outputs**

**1. Output Measure**

- 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.

- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	# of trained professionals
2	# of research publications
3	# of Extension publications
4	% of people adopting NMSU recommendations

**Outcome # 1**

**1. Outcome Target**

# of trained professionals

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:3                      2013:3                      2014:3                      2015:3                      2016:0**

**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
- 135 - Aquatic and Terrestrial Wildlife
- 405 - Drainage and Irrigation Systems and Facilities
- 605 - Natural Resource and Environmental Economics

**4. Associated Institute Type(s)**

- 1862 Research

**Outcome # 2**

**1. Outcome Target**

# of research publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:5                      2013:5                      2014:5                      2015:5                      2016:0**

**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
- 135 - Aquatic and Terrestrial Wildlife
- 405 - Drainage and Irrigation Systems and Facilities
- 605 - Natural Resource and Environmental Economics

**4. Associated Institute Type(s)**

- 1862 Research

**Outcome # 3**

**1. Outcome Target**

# of Extension publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

<b>2012:3</b>	<b>2013:3</b>	<b>2014:3</b>	<b>2015:3</b>	<b>2016:0</b>
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**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
- 135 - Aquatic and Terrestrial Wildlife
- 405 - Drainage and Irrigation Systems and Facilities
- 605 - Natural Resource and Environmental Economics

**4. Associated Institute Type(s)**

- 1862 Extension

**Outcome # 4**

**1. Outcome Target**

% of people adopting NMSU recommendations

**2. Outcome Type : Change in Action Outcome Measure**

<b>2012:85</b>	<b>2013:85</b>	<b>2014:85</b>	<b>2015:85</b>	<b>2016:0</b>
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**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
- 135 - Aquatic and Terrestrial Wildlife

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

#### **4. Associated Institute Type(s)**

- 1862 Extension

### **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 Programmatic 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 - Planned Evaluation Studies**

#### **Description of Planned Evaluation Studies**

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

## **V(A). Planned Program (Summary)**

### **Program # 3**

#### **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 than 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

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
511	New and Improved Non-Food Products and Processes	5%		5%	
601	Economics of Agricultural Production and Farm Management	30%		15%	
602	Business Management, Finance, and Taxation	20%		15%	
603	Market Economics	10%		20%	
604	Marketing and Distribution Practices	10%		5%	
606	International Trade and Development	5%		5%	
608	Community Resource Planning and Development	10%		15%	
610	Domestic Policy Analysis	5%		15%	
611	Foreign Policy and Programs	5%		5%	
	<b>Total</b>	100%		100%	

**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 international 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
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

**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
2012	4.9	0.0	7.0	0.0
2013	4.9	0.0	7.0	0.0
2014	4.9	0.0	7.0	0.0
2015	4.9	0.0	7.0	0.0
2016	0.0	0.0	0.0	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
<ul style="list-style-type: none"> <li>• Education Class</li> <li>• Workshop</li> <li>• One-on-One Intervention</li> </ul>	<ul style="list-style-type: none"> <li>• Newsletters</li> <li>• Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

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

### **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

### **V(H). State Defined Outputs**

#### **1. Output Measure**

- 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.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	# of research publications
2	# of Extension publications

**Outcome # 1**

**1. Outcome Target**

# of research publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:2                      2013:2                      2014:2                      2015:2                      2016:0**

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

**4. Associated Institute Type(s)**

- 1862 Research

**Outcome # 2**

**1. Outcome Target**

# of Extension publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:2                      2013:2                      2014:2                      2015:2                      2016:0**

**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
- 604 - Marketing and Distribution Practices
- 608 - Community Resource Planning and Development

#### **4. Associated Institute Type(s)**

- 1862 Extension

### **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 Programmatic 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 - Planned Evaluation Studies**

#### **Description of Planned Evaluation Studies**

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

**V(A). Planned Program (Summary)**

**Program # 4**

**1. Name of the Planned Program**

Food Safety

**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

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	50%		50%	
502	New and Improved Food Products	5%		5%	
503	Quality Maintenance in Storing and Marketing Food Products	25%		25%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	20%		20%	
	<b>Total</b>	100%		100%	

**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
- Multistate Extension
- Integrated Research and 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 available 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
2012	1.5	0.0	0.5	0.0
2013	1.5	0.0	0.5	0.0
2014	1.5	0.0	0.5	0.0
2015	1.5	0.0	0.5	0.0
2016	0.0	0.0	0.0	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**

<b>Extension</b>	
<b>Direct Methods</b>	<b>Indirect Methods</b>
<ul style="list-style-type: none"> <li>• Education Class</li> <li>• Workshop</li> <li>• Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>• Newsletters</li> <li>• Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

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

**V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(H). State Defined Outputs**

**1. Output Measure**

- 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.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	# of trained professionals
2	# of research publications
3	# of Extension publications
4	% of food processors using NMSU for their food product development

**Outcome # 1**

**1. Outcome Target**

# of trained professionals

**2. Outcome Type : Change in Knowledge Outcome Measure**

<b>2012:2</b>	<b>2013:2</b>	<b>2014:2</b>	<b>2015:2</b>	<b>2016:0</b>
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**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 Occurring Toxins

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

# of research publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

<b>2012:1</b>	<b>2013:1</b>	<b>2014:1</b>	<b>2015:1</b>	<b>2016:0</b>
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**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 Occurring Toxins

**4. Associated Institute Type(s)**

- 1862 Research

**Outcome # 3**

**1. Outcome Target**

# of Extension publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:1                      2013:1                      2014:1                      2015:1                      2016:0**

**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 Occurring Toxins

**4. Associated Institute Type(s)**

- 1862 Extension

**Outcome # 4**

**1. Outcome Target**

% of food processors using NMSU for their food product development

**2. Outcome Type : Change in Action Outcome Measure**

**2012:90                      2013:90                      2014:90                      2015:90                      2016:0**

**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 Occurring Toxins

**4. Associated Institute Type(s)**

- 1862 Extension

**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 - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

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

## **V(A). Planned Program (Summary)**

### **Program # 5**

#### **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 than 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

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
702	Requirements and Function of Nutrients and Other Food Components	5%		10%	
703	Nutrition Education and Behavior	20%		25%	
704	Nutrition and Hunger in the Population	20%		0%	
724	Healthy Lifestyle	20%		0%	
801	Individual and Family Resource Management	20%		20%	
802	Human Development and Family Well-Being	10%		30%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	5%		15%	
	<b>Total</b>	100%		100%	

**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
- Multistate Research
- Integrated Research and Extension
- Multistate Integrated Research and Extension

**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 family 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
2012	7.0	0.0	1.1	0.0
2013	7.0	0.0	1.1	0.0
2014	7.0	0.0	1.1	0.0
2015	7.0	0.0	1.1	0.0
2016	0.0	0.0	0.0	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

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

Extension	
Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>• Education Class</li> <li>• Workshop</li> <li>• Group Discussion</li> <li>• One-on-One Intervention</li> <li>• Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>• Public Service Announcement</li> <li>• Newsletters</li> <li>• TV Media Programs</li> <li>• Web sites other than eXtension</li> </ul>

**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)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- 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.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	# of research papers
2	# of Extension publications
3	# of trained professionals
4	% diabetics adopting NMSU recommendations regarding nutrition

**Outcome # 1**

**1. Outcome Target**

# of research papers

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:1                      2013:1                      2014:1                      2015:1                      2016:0**

**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

**4. Associated Institute Type(s)**

- 1862 Research

**Outcome # 2**

**1. Outcome Target**

# of Extension publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:3                      2013:3                      2014:3                      2015:3                      2016:0**

**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

**4. Associated Institute Type(s)**

- 1862 Extension

**Outcome # 3**

**1. Outcome Target**

# of trained professionals

**2. Outcome Type : Change in Action Outcome Measure**

**2012:2                      2013:2                      2014:2                      2015:2                      2016:0**

**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

**4. Associated Institute Type(s)**

- 1862 Research

**Outcome # 4**

**1. Outcome Target**

% diabetics adopting NMSU recommendations regarding nutrition

**2. Outcome Type : Change in Action Outcome Measure**

**2012:85                      2013:85                      2014:85                      2015:85                      2016:0**

**3. Associated Knowledge Area(s)**

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

**4. Associated Institute Type(s)**

- 1862 Extension

**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 Programmatic 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 - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

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

**V(A). Planned Program (Summary)**

**Program # 6**

**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 than 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

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%		100%	
	<b>Total</b>	100%		100%	

**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
2012	5.5	0.0	0.3	0.0
2013	5.5	0.0	0.3	0.0
2014	5.5	0.0	0.3	0.0
2015	5.5	0.0	0.3	0.0
2016	0.0	0.0	0.0	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
<ul style="list-style-type: none"> <li>• Education Class</li> <li>• Workshop</li> <li>• Group Discussion</li> <li>• One-on-One Intervention</li> <li>• Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>• Newsletters</li> </ul>

### 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)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

### V(H). State Defined Outputs

#### 1. Output Measure

- 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.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.



**V(I). State Defined Outcome**

O. No	Outcome Name
1	# of Research publications
2	# of Extension publications
3	% volunteers trained

**Outcome # 1**

**1. Outcome Target**

# of Research publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:1                      2013:1                      2014:1                      2015:1                      2016:0**

**3. Associated Knowledge Area(s)**

- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Research

**Outcome # 2**

**1. Outcome Target**

# of Extension publications

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:2                      2013:2                      2014:2                      2015:2                      2016:0**

**3. Associated Knowledge Area(s)**

- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension

**Outcome # 3**

**1. Outcome Target**

% volunteers trained

**2. Outcome Type : Change in Action Outcome Measure**

**2012:70                      2013:70                      2014:70                      2015:70                      2016:0**

**3. Associated Knowledge Area(s)**

- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programmatic 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 - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

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

**V(A). Planned Program (Summary)**

**Program # 7**

**1. Name of the Planned Program**

Climate Change

**2. Brief summary about Planned Program**

Our climate change activities are part of our Sustainable Management of Natural Resources Planned Program, which includes paleoclimates (soil science) and climatology activities.

**3. Program existence :** New (One year or less)

**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 :** No

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	50%		0%	
132	Weather and Climate	50%		0%	
	<b>Total</b>	100%		0%	

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

**1. Situation and priorities**

Climate Change will be part of our Sustainable Management of Natural Resources Planned Program. See that section.

**2. Scope of the Program**

- In-State Research
- Multistate Research

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

**1. Assumptions made for the Program**

See the section on the Sustainable Management of Natural Resources Planned Program.

**2. Ultimate goal(s) of this Program**

See the section on the Sustainable Management of Natural Resources Planned Program.

**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
2012	0.0	0.0	0.5	0.0
2013	0.0	0.0	0.5	0.0
2014	0.0	0.0	0.5	0.0
2015	0.0	0.0	0.5	0.0
2016	0.0	0.0	0.5	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

See the section on the Sustainable Management of Natural Resources Planned Program.

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

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>• Education Class</li> </ul>	<ul style="list-style-type: none"> <li>• Newsletters</li> <li>• Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

Undergraduate and graduate students are the target audience.

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Conduct classes on climate change.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
1	Number of students trained.

**Outcome # 1**

**1. Outcome Target**

Number of students trained.

**2. Outcome Type : Change in Knowledge Outcome Measure**

<b>2012:10</b>	<b>2013:10</b>	<b>2014:10</b>	<b>2015:10</b>	<b>2016:10</b>
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**3. Associated Knowledge Area(s)**

- 101 - Appraisal of Soil Resources
- 132 - Weather and Climate

**4. Associated Institute Type(s)**

- 1862 Research

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Economy
- Competing Programmatic Challenges

**Description**

The number of students will be affected by the state economy, which also affects programmatic priorities.

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

{NO DATA ENTERED}



**V(A). Planned Program (Summary)**

**Program # 8**

**1. Name of the Planned Program**

Sustainable Energy

**2. Brief summary about Planned Program**

Sustainable Energy is part of our Sustainable Management of Natural Resources Planned Program. See that section.

**3. Program existence :** New (One year or less)

**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 :** No

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
131	Alternative Uses of Land	100%		0%	
	<b>Total</b>	100%		0%	

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

**1. Situation and priorities**

Biofuels will be reported as part of our sustainable Management of Natural Resources Planned Program.

**2. Scope of the Program**

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

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

**1. Assumptions made for the Program**

See the section on the Sustainable Management of Natural Resources Planned Program.

**2. Ultimate goal(s) of this Program**

See the section on the Sustainable Management of Natural Resources Planned Program.

**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
2012	0.0	0.0	0.0	0.0
2013	0.0	0.0	0.0	0.0
2014	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.0	0.0
2016	0.0	0.0	0.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

See the section on the Sustainable Management of Natural Resources Planned Program.

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

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

Students and producers are the target audiences.

### **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

### **V(H). State Defined Outputs**

#### **1. Output Measure**

- Number of students trained.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	# students trained.

**Outcome # 1**

**1. Outcome Target**

# students trained.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:10                      2013:10                      2014:10                      2015:10                      2016:10**

**3. Associated Knowledge Area(s)**

- 131 - Alternative Uses of Land

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Economy
- Government Regulations
- Competing Programmatic Challenges

**Description**

Regulations and programmatic priorities will affect the research efforts and acceptance of Extension efforts.

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

{NO DATA ENTERED}

**V(A). Planned Program (Summary)**

**Program # 9**

**1. Name of the Planned Program**

Childhood Obesity

**2. Brief summary about Planned Program**

Childhood Obesity is addressed as part of our Health and Wellbeing Planned Program.

**3. Program existence :** New (One year or less)

**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 :** No

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
724	Healthy Lifestyle	100%		0%	
	<b>Total</b>	100%		0%	

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

**1. Situation and priorities**

Childhood obesity is addressed in our Health and Wellbeing Planned Program. See that section.

**2. Scope of the Program**

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

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

**1. Assumptions made for the Program**

See the section on the Health and Wellbeing Planned Program.

**2. Ultimate goal(s) of this Program**

See the section on the Health and Wellbeing Planned Program.

**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
2012	0.0	0.0	0.0	0.0
2013	0.0	0.0	0.0	0.0
2014	0.0	0.0	0.0	0.0
2015	0.0	0.0	0.0	0.0
2016	0.0	0.0	0.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

See the section on the Health and Wellbeing Planned Program.

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

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> </ul>	<ul style="list-style-type: none"> <li>● Newsletters</li> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

Children, youth, and families are the target audiences.

### **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

### **V(H). State Defined Outputs**

#### **1. Output Measure**

- Conduct workshops and classes on healthy food choices.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.



**V(I). State Defined Outcome**

O. No	Outcome Name
1	# of youth adopting healthy food choices

**Outcome # 1**

**1. Outcome Target**

# of youth adopting healthy food choices

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:20**

**2013:25**

**2014:30**

**2015:35**

**2016:40**

**3. Associated Knowledge Area(s)**

- 724 - Healthy Lifestyle

**4. Associated Institute Type(s)**

- 1862 Extension

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Economy

**Description**

The state economy will greatly affect how workshops and other extension activities are conducted and attended.

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

{NO DATA ENTERED}