2010 South Dakota State University Combined Research and Extension Annual Report of Accomplishments and Results

Status: Accepted

Date Accepted: 06/21/2011

I. Report Overview

1. Executive Summary

The College of Agriculture and Biological Sciences at SDSU greatly enhances the quality of life in South Dakota through teaching, research and outreach. This is accomplished with research at the South Dakota Agricultural Experiment Station, educational programming conducted by South Dakota Cooperative Extension Service, and through Academic Programs. The SDSU College of Education and Human Sciences is an important partner to the ABS College, contributing to the understanding of the world and how it affects health and wellness, educational processes, and environmental issues.

Current research priorities for AES are based on bio-renewable energy economic development, applied genomic solutions, natural resource stewardship, community innovation and leadership, and enhancing grain/livestock food system economic development. Educational programming for SDSU Extension is offered within five program areas, Agriculture and Natural Resources, Community Development and University Engagement, Family and Consumer Sciences, Native American Programs, and 4-H Youth Development. TheABS College is extremely diverse with 10 teaching departments, numerous majors and specializations, and hundreds of courses to choose from. Classroom instruction and extension work are often based on the results of research.

The population of South Dakota is 814,180 (2010 Census). From 2000 to 2010, it was the fastest growing state in the Midwest. The state grew by 7.9%; however, the minority population had a significant gain of 38.1 percent. Lincoln County continues to be the fastest growing county in South Dakota. One-third of the population is found in the two largest counties, and 47 percent of the population is found in the five largest counties. Forty-one counties had a loss in population since the 2000 census, most of which also have had a continual decline in population during the past 50 years.

Even though South Dakota shares the US average poverty rate of 13.5%, poverty rates in many South Dakota counties continue to be among the highest in the United States. The five poorest counties in South Dakota are at least 38% below the US poverty level. Unfortunately, the population of these five counties combined is 87% American Indian or Alaska Native.

The American Indian population represents nearly nine percent of the total state population. Unemployment, alcoholism, poor diet, obesity, diabetes and other health and social problems are prevalent in reservation areas with high poverty rates. South Dakota State University has developed working agreements with the four 1994 Land Grant Institutions located in South Dakota, and is continuing to offer programs that address these social and economic needs. South Dakota has a substantial American Indian population, and we place great value on education programs that serve this audience. While all Extension programs are available to the entire population of South Dakota, many of the programs that target American Indian needs are funded through FRTEP.

All outcomes in this report are grouped according to the five NIFA Priorities. Although many of the outcomes could have been placed under variations of the five NIFA Priorities, SDSU Extension chose to make all outcomes fit in the exact wording in the NIFA titles. While variations are likely to be used in future

reports, our approach for this report was very useful for examining all of the knowledge areas and understanding how they can fit into the new priorities.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	164.0	0.0	191.0	0.0
Actual	128.9	0.0	177.6	0.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

- Internal University Panel
- External Non-University Panel
- Expert Peer Review

2. Brief Explanation

All AES research projects are subjected to peer and merit review prior to implementation. All Hatch and multi-state projects require independent peer reviews from two scientists that are knowledgeable in the respective subject area. The department head or a departmental executive committee identifies peer reviewers. The department head and the AES Director serve as merit reviewers.
A standard review instrument facilitates peer and merit reviews. Reviewers are required to comment on why the proposed research is needed, it's relevance to agriculture, the target audience, and how it compliments other research. Proposals for research grants that are funded by stakeholder groups are subjected to review by the stakeholders themselves and by college administrators. Much like the CRIS system, stakeholder groups ask for annual progress reports on funded research.
Cooperative Extension Service administrators serve as the merit review team for the respective components of the plan of work. Department heads, specialists and educators conduct peer reviews of programs.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged 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 traditional stakeholder individuals
- Survey of the general public

- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals

Brief explanation.

The South Dakota State University College of Agriculture and Biological Sciences solicited formal stakeholder input in many forms, from many sources, and at many locations. Methods of inviting stakeholder input included meetings or other communication with: Agricultural Experiment Station Research Farm Advisory Boards; Research Review Meetings with agricultural check-off groups including the South Dakota Soybean Research and Promotion Council, South Dakota Corn Utilization Council, South Dakota Beef Industry Council, South Dakota Oilseeds Council, South Dakota Pork Producers Council, South Dakota Wheat Commission, and others.
Input was also sought from state agricultural commodity groups including Ag Unity, the South Dakota Pork Alliance, the South Dakota Stockgrowers/Cattlewomen, and the South Dakota Veterinary Medical Association; and from meetings with organizations that fund research such as the National Institutes of Health, U.S. Department of Energy, National Science Foundation, NASA, Environmental Protection Agency, and the National Centers for Disease Control and Prevention. In addition, stakeholder input was solicited from governmental agencies, including: the Office of the Governor, the South Dakota Department of Agriculture, South Dakota Department of Environment and Natural Resources, South Dakota Game, Fish and Parks, South Dakota Department of Education and Cultural Affairs, Office of the State Veterinarian, Social Services, Job Service, National Agricultural Statistics Service, 1994 Institutions, and others.
In addition, stakeholder input was sought at SDSU field day tours; SDSU agricultural meetings; Community Leader Meetings throughout the state; meetings with the South Dakota Board of Regents, South Dakota Legislature, and other elected officials and boards; and events open to the public such as the South Dakota State Fair and DakotaFest. Additional input was solicited during comprehensive CSREES Departmental and Institutional Reviews, which span teaching, research and Extension activities.
Input specifically for projects involving McIntire-Stennis funds was sought from the South Dakota Nurseryman's Association, the South Dakota Parks and Recreation Association, the U.S. Forest Service, and also from special project-oriented groups.

2(A). A brief statement of the process that was 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
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief explanation.

County Extension Advisory Boards provide citizen input, guidance, and direction for county programming that target priority needs and issues, and are appointed by County Commissioners. Membership on this board is expected to represent the racial population

mix of the county and of the various interest groups served by Extension.
The State Extension Advisory Board provides guidance and direction to the Cooperative Extension Service, and informally to the Agricultural Experiment Station. Members of this board are elected from each County Extension Advisory Board, and the 1994 land grant institutions.

2(B). A brief statement of the process that was 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
- Survey of 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.

Stakeholder input is directed across the broad scope of the College of Agriculture and Biological Sciences and to activities supported by Smith Lever, Hatch, McIntire-Stennis, and other funds. Stakeholder input was not directed exclusively to the Cooperative Extension Service or Agricultural Experiment Station. The multidisciplinary input system used a variety of techniques that included: direct input, surveys and questionnaires, nominal group technique and other appropriate methods.

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.

Stakeholder input is reviewed, considered and used as a basis to create Extension programs and AES research projects. This happens at the state level, when CES program leaders consider developing new programs, or renew existing programs. It happens at the field education unit and county level when District Extension Directors and Extension Educations implement programs. For the Agricultural Experiment Station, it occurs when

scientists and department administrators consider the allocation of resources and application of grant funds in support of research projects.

Brief Explanation of what you learned from your Stakeholders

Land grant universities have traditionally been known for rural development efforts. In response to stakeholder requests over the past decade, the South Dakota Cooperative Extension Service has offered an increasing amount of community and economic development programs. Cooperative Extension continues to enhance Community Innovation and Leadership as a formal educational program area.

State and federal budget support of the Cooperative Extension Service and Agricultural Experiment Station will be a major issue in the next year. As this is written in April 2011, we know that state budgets have been reduced 10% or more, and federal budgets will be lower. Future reports will reflect new staffing patterns and program delivery methods based on lower budgets.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
3563488	0	2810495	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	2982077	0	2810495	0
Actual Matching	2982077	0	2866777	0
Actual All Other	0	0	0	0
Total Actual Expended	5964154	0	5677272	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	2826817	0	130537	0

V. Planned Program Table of Content

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
302	Nutrient Utilization in Animals	5%		5%	
305	Animal Physiological Processes	5%		15%	
315	Animal Welfare/Well-Being and Protection	10%		5%	
405	Drainage and Irrigation Systems and Facilities	20%		30%	
602	Business Management, Finance, and Taxation	25%		25%	
606	International Trade and Development	5%		10%	
801	Individual and Family Resource Management	30%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	30.9	0.0	95.1	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
715698	0	1491177	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
715698	0	1575645	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Animal Welfare/Well Being and Protection

Animal activist groups are becoming more powerful and could threaten the sustainability of today's farms.

- Animal Physiological Processes

Lower grade beef carcasses are threatening the profitability of cattle operations.

- Drainage and Irrigation Systems and Facilities

South Dakota producers recognize that wet field conditions have reduced their crop yield. To meet the growing demand for food, producers understand they need increased knowledge of agriculture drainage practices to help them reclaim lost acreage.

- Business Management, Finance, and Taxation

Livestock producers in South Dakota realize that to be competitive, they must increase their understanding of sustainability concepts. This increased business knowledge is important for boosting U.S. agricultural production.

- International Trade and Development

Domestic consumption for livestock diets that include dried distillers grains with solubles (DDGS) appears to have reached a plateau; however, production of DDGS is expected to increase, leaving the US with a need to explore new markets to help stabilize or increase DDGS prices.

- Individual and Family Resource Management

When it's time to pass the family farm operation on to the next generation, there are many difficult decisions that must be made. Estate planning is very important whether it involves off-farm heirs or the transfer of the farm business to the children on the farm.

2. Brief description of the target audience

Farmers
Ranchers
Corn growers
Cow-calf producers
Ethanol industry
Youth
Consumers
Families
Cattle Feeders
Feed Manufacturers

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	20648	40000	8300	2000

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010

Actual: 5

Patents listed
Variety: Select
Experimental name or Synonym: <SD 3948>
Taxon: Triticum aestivum L.
Crop: Wheat, common
Applicant: South Dakota Agricultural Experiment Station
Date filed: 09/09/2010
Status: Application Pending
Status date: 04/14/2011
Certified Seed Only - To be sold by variety name only as a class of certified seed.
Plant Variety Protection Number: 200900427

Variety: Colt
Experimental name or Synonym: <SD20883-29>
Taxon: Avena sativa L.
Crop: Oat
Applicant: South Dakota Agricultural Experiment Station
Date filed: 02/02/2010
Status: Application Pending
Status date: 04/14/2011
Certified Seed Only - To be sold by variety name only as a class of certified seed.
Plant Variety Protection Number: 201000133

Variety: Streaker
Experimental name or Synonym: <SD020301-20>
Taxon: Avena sativa L.
Crop: Oat
Applicant: South Dakota Agricultural Experiment Station
Date filed: 02/02/2010
Status: Application Pending
Status date: 04/14/2011
Certified Seed Only - To be sold by variety name only as a class of certified seed.
Plant Variety Protection Number: 201100156

Variety: Davison
Experimental name or Synonym: <SD02-22>
Taxon: Glycine max (L.) Merr.
Crop: Soybean
Applicant: South Dakota Agricultural Experiment Station
Date filed: 05/21/2010
Status: Application Pending
Status date: 04/14/2011
Plant Variety Protection Number: 201000318

Variety: Deuel
Experimental name or Synonym: <SD02-833>
Taxon: Glycine max (L.) Merr.
Crop: Soybean
Applicant: South Dakota Agricultural Experiment Station
Date filed: 05/21/2010
Status: Application Pending

Status date: 04/14/2011
Plant Variety Protection Number: 200800185

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	61	197	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of AES research projects which are intended to enhance agricultural profitability and address gloabal food security.

Year	Actual
2010	60

Output #2

Output Measure

- Number of CES programs for producers which are intended to enhance agricultural profitability and address global food security.

Year	Actual
2010	100

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

Outcome #1

1. Outcome Measures

Number of livestock producers certified through Quality Assurance programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	471

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Livestock producers have seen an increasing level of scrutiny on their current production practices from sources unfamiliar with their farms. These well-financed sources continue to place added pressure on lawmakers to further regulate these family farms. In response, the SD Cooperative Extension service found it necessary to better educate our farmers, ranchers, youth, and consumers about current production practices.

What has been done
Traditional educational programs addressing best management practices, often referred to as Quality Assurance, has addressed animal well-being and safety. These programs certified 128 adult and 343 youth producers, which improved their marketing opportunities. To compliment these existing programs the Extension Service has moved forward with a newer approach. A baseline survey was conducted with 150 agriculture and non-agriculture individuals to identify the level of knowledge on issues related to animal care. Statewide, nine presentations addressed 738 producers on producer and consumer perception of livestock production. Additionally, 1220 direct contacts were made through programming.

Results
Based on the survey, presentations and other contacts, SD Cooperative Extension has learned that producers, consumers, and public officials believe that best management practices that focus on animal well-being and food safety is a critical area for Extension to address. With this information, SD Extension can better educate the target audience on issues related to animal care. The baseline from the survey indicates the following:
8.34 out of 10 producers are very concerned about consumers with no agriculture background being influenced by animal rights groups.
7.46 out of 10 producers feel animal rights groups are a threat to their industry.

Euthanasia, castration, processing, and dehorning were identified as areas for SD Extension to address in the future. Since the baseline was established, approximately 12 more Quality Assurance programs have been planned or conducted and 10 more Animal Welfare presentations have been planned or conducted.

4. Associated Knowledge Areas

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection

Outcome #2

1. Outcome Measures

Number of acres expected to be reclaimed due to knowledge gained in agriculture drainage.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	38000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The impact of several years of excessive precipitation has resulted in overly wet field conditions causing prevented or delayed planting and harvesting and yield reductions from excess water. Changes in precipitation patterns along with increased commodity and land prices have led to increasing interest in and adoption of agricultural drainage. This situation has caused a need for producer, policy maker, and public education.

What has been done
An Ag Drainage Forum was developed and organized to provide an educational setting for interested members of the public. A committee of Extension Staff identified topics and speakers to address the issue. Approximately 100 participants including producers, government officials, and land owners attended the forum. Sessions were recorded and posted on the SDSU Extension website.

Results

As producers gain knowledge in agriculture drainage, more of them are being influenced to install drain tile. The NRCS reports approximately 3,200 pending requests for certified wetland determinations, most of them for plans to install drain tile. Results from the forum:
97% of participants indicated receiving a better understanding of South Dakota Ag Drainage Laws and Applications.
80% of participants indicated receiving a better understanding of United States Department of Ag/Natural Resource 128 Conservation Service regulations on Ag Drainage.
92% of participants indicated receiving a better understanding of fundamentals, benefits, and the impacts of Ag Drainage.
93% of the participants identified future programming needs for Ag Drainage Education.
SD Extension will continue to track this progress and report measurable outcomes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
405	Drainage and Irrigation Systems and Facilities

Outcome #3

1. Outcome Measures

Economic impact from IRM/SPA analysis.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	14542

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Cow-calf producers are confronted with an extremely volatile, increasingly competitive, but optimistic future. Most livestock enterprises are capital intensive with low operating margins and unpredictable levels of profitability. Sustainability hinges on their ability to optimize production, minimize risk and develop marketing plans founded on Unit Cost of Production.

What has been done
To enhance livestock producer sustainability, SD Extension presented educational programs targeting reproduction, nutrition, artificial insemination, calf weaning, and record keeping to name

a few. Within one six-county area, eight producers completed the record keeping program, Integrated Resource Management/Standardized Performance Analysis (IRM/SPA). Integrated Resource Management is a method of managing the farm as a whole, rather than as separate, unrelated enterprises. A key component of the IRM approach to management is Standardized Performance Analysis (SPA). The SPA is a cow-calf performance analysis system that is used to integrate production and financial data using a standardized performance analysis procedure to identify production management and financial inefficiencies in the cow-calf enterprise.

Results
Working with cow-calf producers and the IRM/SPA program, South Dakota Cooperative Extension Service shows that eight producers indicated an average impact of $6.61 per cow. The total number of cows represented was 2,200, for an average economic impact of $14,542 for the six-county area.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #4

1. Outcome Measures

Average percent increase in DDGS exports to Mexico, Columbia and Chile.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	86

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
During 2010 nearly 38% of the corn grain produced in the United States was used for ethanol production. As a consequence, availability of its co-product dried distillers grains with solubles (DDGS) also increased with around 37 MMT produced. Dried distillers grains are in demand as a feedstuff for livestock because of their nutrient dense composition. Nearly 78% of the DDGS produced in the U.S. goes for domestic use, and the rest is exported.

What has been done

Working as consultant for U.S. Grains specifically in the area of DDGS, SD Cooperative Extension's Dr. Alvaro Garcia helped develop the U.S. markets in Mexico in 3 opportunities. Four consulting trips during 2008 and 2010 to Colombia, Chile, Peru, and Ecuador, under the auspices of U.S. Grains and the USDA gave him the opportunity to better understand the constraints faced by these countries. The objective was to promote the use of DDGS as a feedstuff in ruminant diets, dairy cows in particular.

Results
In 2010, DDGS exports to Mexico, Colombia and Chile increased by 17%, 70%, and 171%, and in February 2011, the work of Dr. Alvaro Garcia began paying off. The largest dairy coop in Uruguay, PROLESA, purchased 6,700 Tons of Dakota Gold dried distillers with solubles from POET Nutrition in Sioux Falls, South Dakota. The total value of this shipment to Uruguay was two million dollars. This volume of dried distillers? grains came from approximately 20,000 Tons of corn (714,000 bushels) which represented $3,570,000 in sales for state corn growers. South Dakota State University Dairy Extension was again invited to implement the use of DDGS in livestock diets during March 2011. In April 2011 PROLESA/Uruguay purchased a second shipment of DDGS from POET Nutrition of Sioux Falls South Dakota. This last shipment was of 12,000 tons of DDGS which represented a total of $3.84 million in gross sales for the state of South Dakota. This DDGS tonnage equaled roughly 36,000 tons of corn which at today's grain prices it represented an additional $10 million perceived by grain growers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
606	International Trade and Development

Outcome #5

1. Outcome Measures

Prepare families for farm transitions.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	60

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As the average age of South Dakota's producers climb, so do their land values and potential tax consequences. Family operations need to begin making decisions about asset distribution and transfers in order to accomplish the goals of the operation. Along with knowing and understanding the financial side of their operations, family relationships and dynamics are a large factor to consider during this often difficult time of transition.

What has been done
Estate planning workshops were held across South Dakota in several cities. Sixty families attended these workshops, and an additional 130 women attended Women-in-Ag programs where estate planning training was also presented. Extension followed up with bi-weekly mailings to evaluate the family's progress.

Results
The families that participated in the workshops reported that the training was very valuable and motivating. From meeting with lawyers to setting goals for the transfer of management, many of the families have taken action. Of the 60 families, 20 responded to the surveys. After six months, two of the families had completed their Business Estate Plan and 70% of the respondents reported that they were at least 25% complete with their plan. Fifty percent of the respondents said that their family communication had improved and 50% also said that a shift in management of the operation had occurred. Many of the respondents also reported that they have made important decisions that affect their tax burdens, life insurance, retirement and their wills.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

Outcome #6

1. Outcome Measures

Management Procedures to Reduce Marbling Depression in Beef Cattle.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The proportions of beef carcasses of higher quality grades is declining and the proportion of lower grading carcass subject to pricing discounts is increasing in the US fed beef market.

What has been done
A cattle feeding experiment was conducted to evaluate how nutrition, management, and genetics influence beef carcass quality and fat distribution. The experiment focused on whether prolonged feeding of glycerol during backgrounding would enhance carcass marbling. The experiment included a control diet of corn silage and diets that contained 25% glycerol or dry rolled corn. All cattle were fed a similar finishing diet, and carcass data were captured to assess glycerol impact on overall fatness and degree of marbling.

Results
The deposition of intramuscular fat can be altered during early stages of growth. Moreover, glucose is considered to play a key role in stimulating intramuscular adipocytes, and glycerol is glucogenic. Glycerol added to a corn silage diet while backgrounding cattle did not affect growth or efficiency. When the corn silage diet was supplemented with dry rolled corn, intake increased, but growth rate and efficiency were similar.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
305	Animal Physiological Processes

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

With the production of ethanol, farmers have more markets for corn, which also increases the availabilty of its co-product dried distillers grains with soluables (DDGS). However, the demand for DDGS in the United States has leveled off, leaving a surplus of DDGS and creating a need for new markets.

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

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Climate Change

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	25%		0%	
102	Soil, Plant, Water, Nutrient Relationships	50%		0%	
104	Protect Soil from Harmful Effects of Natural Elements	15%		0%	
133	Pollution Prevention and Mitigation	10%		0%	
134	Outdoor Recreation	0%		50%	
135	Aquatic and Terrestrial Wildlife	0%		25%	
136	Conservation of Biological Diversity	0%		25%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	5.2	0.0	37.7	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
119283	0	386892	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
119283	0	408146	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

By increasing soil knowledge, producers are more prepared to maintain high productivity while facing climate changes.

Determine the population characteristics of a native big-river fish species (paddlefish) to evaluate the potential to create a sport fishery.

Create a statewide aquatic invertebrate voucher collection and database to support a state monitoring effort using aquatic invertebrates.

2. Brief description of the target audience

Landowners
Producers
Ranchers
Fisheries scientists
Anglers
Water resources monitoring and management agencies

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	8865	10000	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	8	13	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of stakeholders receiving information regarding sustainable consumer horticulture.

Year	Actual
2010	500

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of producers that increased knowledge in soil nutrient management and soil testing.
2	Quantify the population ecology of paddlefish in Lake Francis Case.
3	Number of invertebrate vouchers collected from South Dakota waters.

Outcome #1

1. Outcome Measures

Number of producers that increased knowledge in soil nutrient management and soil testing.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	813

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
With narrowing profit margins and increasing land prices, landowners and producers benefit from utilizing rangeland more efficiently and sustainably. By better understanding soil nutrient management and conducting soil testing, producers can save money and increase productivity.

What has been done
South Dakota Extension educators and South Dakota State University specialists provided research-based, educational programming thru one-on-one contacts, range tours, and workshops, with the goal of helping landowners and producers efficiently utilize natural resources through sustainable management.

Results
South Dakota Extension helped producers increase not only their immediate profits, but they also established how producers can expect long term gains. One wheat grower was consistently running 10-15 bushels an acre lower than his neighbors. By following the educator's recommendation of soil sampling and then fertilizing according to the samples, he increased his yield approximately 10 bushels per acre on a 65 acre field. With the advice of SD Extension, another producer tested a 70 acre sunflower field by switching from fertilizer to the recommended manure. His cost dropped from $50 an acre for fertilizer to $12 an acre for manure, saving him $38 an acre for a total of $2,660. On his neighboring field, he fertilized to recommendations but did not put down manure. His yields were very similar, but he had the higher costs of fertilizer.
Additionally:
2,250 contacts regarding soil nutrient management and soil testing.
203 producers conducted soil tests, of those, 164 based their fertilizer applications on the results of the tests.
113 producers increased knowledge specifically in soil and soil health.

100 consumer horticulturists/gardeners that obtained soil sample information.
795 consumer horticulture questions specific to soils that were answered by Extension personnel.
Educating producers on soil health and nutrient management can lead to both economic and environmental benefits.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements

Outcome #2

1. Outcome Measures

Quantify the population ecology of paddlefish in Lake Francis Case.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Sport fisheries in Missouri River reservoirs are important to the South Dakota economy, but the creation of these reservoirs also resulted in the loss of much of the river bottom ecosystem and the decline of some native big-river fishes.

What has been done
To quantify the population ecology of paddlefish in Lake Francis Case, paddlefish were collected and aged. Results showed that stocking larger individuals (advanced fingerlings) resulted in higher survival. In fact, few, if any individuals that originated with fry stockings could be detected. Advanced fingerling stockings have occurred every year since 1990 resulting in an abundant population of paddlefish.

Results

The data suggest that this population is large enough to sustain a recreational fishery. After evaluating several size-selective harvests regulations, it is recommended that the most protective regulation would ensure brood stock protection, maintain a higher proportion of large (i.e., trophy) individuals in the population and would support total harvest levels similar to other fisheries. Further, results suggest that similar paddlefish population could be developed in other reservoirs providing additional opportunities to create fisheries. The South Dakota Department of Game, Fish and Parks is using results of this effort to determine if a sustainable sport fishery can be supported in the system.

4. Associated Knowledge Areas

KA Code	Knowledge Area
134	Outdoor Recreation
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

Outcome #3

1. Outcome Measures

Number of invertebrate vouchers collected from South Dakota waters.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	4945

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
South Dakota has 570 publicly owned lakes and nearly 9,300 miles of perennial streams and rivers which have assigned beneficial uses. According to the most recent report on the status of South Dakota?s waters, 51% of assessed stream miles and publicly owned lakes do not support one or more of their assigned beneficial uses. Aquatic macro invertebrates are useful indicators of aquatic life uses and the subject of monitoring within many state programs. A state inventory or voucher collection is needed to support a state monitoring effort using aquatic invertebrates.

What has been done

Invertebrate specimens collected from state-supported watershed studies were curated and vouchered within the Department of Biology & Microbiology at South Dakota State University. Digital photographs of each specimen, body measurements, taxonomic and ecological information, collection information and links to original research reports and datasets will be incorporated into a digital SPECIFY database.

Results

A statewide aquatic invertebrate voucher collection and database have been created. The collection currently houses physical specimens and associated metadata for 4,945 invertebrate vouchers collected from 120 streams and lakes and 161 sampling locations. These include 3,962 vials and 983 slides with an estimated 19,780 total specimens. Database information associated with these specimens includes locations, taxonomy, ecological attributes, digital images and project reports. Additional funding was granted by the state of South Dakota to continue development of the collection database.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

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

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Sustainable Energy

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	10%		45%	
204	Plant Product Quality and Utility (Preharvest)	10%		20%	
205	Plant Management Systems	20%		35%	
608	Community Resource Planning and Development	25%		0%	
806	Youth Development	35%		0%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	5.2	0.0	9.5	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
119283	0	188217	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
119283	0	106906	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Long-term energy independence in the United States requires a vast pool of agricultural experts, scientists and engineers. It is imperative that we are prepared and equipped with the intellectual resources to guarantee sustainable energy into the future. Our youth are the key to that future. We must also make sure that our youth receive essential farm safety training to protect their lives so they can become our next scientists and engineers capable of delivering sustainable energy.

Crop production in South Dakota is moving toward no-till continuous cropping and has created a demand for alternative crops to extend crop rotations. The selection of crop varieties and the selection and use of alternative crops is increasingly becoming a critical issue in the sustainability of South Dakota farmers and ranchers.

The development and growth of small businesses in rural South Dakota is one indicator of economic viability. To thrive, South Dakota needs to invest in business education and support the entrepreneurial environment. By doing so, we will expand the skills and decision-making tools needed to find new opportunities that contribute to sustainable energy.

2. Brief description of the target audience

Youth
Crop producers
Rural communities in South Dakota
Business owners
All citizens of South Dakota

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2190	3000	11140	2000

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total

Actual	6	37	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of stakeholders receiving energy conservation through consultation, workshops, displays and other methods.

Year	Actual
2010	5000

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of youth that participated in the Science, Engineering and Technology programs.
2	Number of youth that that participated in farm safety training.
3	Number of producers learning about proper crop variety selection and alternative crops.
4	Number of individuals/businesses participating in the educational course Managing Your Business.

Outcome #1

1. Outcome Measures

Number of youth that participated in the Science, Engineering and Technology programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	2100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The United States is falling dangerously behind other nations in developing its future workforce of scientists, engineers, and technology experts. To ensure global competitiveness, we must act now to prepare the next generation of science, engineering, technology, and mathematical leaders. 4-H is leading the way and is recognized as a leader in providing experiential, non-formal learning experiences that engage youth in a dynamic process of discovery and exploration in Science. South Dakota will address our nation's critical challenge by preparing 10,000 new people to excel in science, engineering, technology, and mathematics by 2013.

What has been done
More than 6,000 hours were involved teaching science, engineering, technology and mathematics programs. The activities ranged from alternative energy programs to technology camps and science fairs conducting experiments demonstrating how biofuels are created. These programs reached 2,100 youth in communities all across the South Dakota.

Results
Fifty percent of the 2,100 youth participating in the Science, Engineering and Technology programs increased their teamwork and decision making skills. Many students reported using scientific methods to solve problems in and out of school. Youth increased their knowledge, teamwork and critical thinking skills by participating in workshops and other activities. Youth also developed advanced mathematics skills through physics activities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #2

1. Outcome Measures

Number of youth that that participated in farm safety training.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	1679

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
An average of 61 farm and non-farm, unintentional injury deaths occurred per year in South Dakota from 2001 to 2006. That is 367 deaths that could have been prevented. To reduce the number of farm accidents and deaths to our youth, South Dakota Extension has several programs in place to address safety. HOSTA (Hazardous Safety Training in Agriculture) is one program aimed at teenage farm workers that operate hazardous equipment. SOFY (Save our Farm Youth) is another program that teaches safety around hazardous equipment, but also includes safety training for other dangerous situations.

What has been done
South Dakota Extension has approximately 20 approved instructors that conduct HOSTA training throughout the state. Extension also administers and coordinates a partnership with other health entities to reach our farm and urban youth with the SOFY program.

Results
The many years of SD Extension?s programming efforts to protect youth are very important. Current data specifically for youth injuries and deaths is difficult to measure; however, the number of fatal work injuries in South Dakota in 2009 did decrease from 2008. In South Dakota, more than 1679 youth attended farm safety training in 2010. At a minimum, the training included topics such as driving tractors, operating machinery, and the dangers of flowing grain and power take-off shafts. Youth also learned lawn mower safety, how to handle emergencies, or simply how to deal with stormy weather when home alone.

4. Associated Knowledge Areas

KA Code	Knowledge Area

806 Youth Development

Outcome #3

1. Outcome Measures

Number of producers learning about proper crop variety selection and alternative crops.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	592

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Since no-till farming practices have become widely adopted, developing and using successful crop rotations is a critical component of successful no-till practices. The use of cover crops is considered by some to be the next step to maximize the effectiveness and economic success of no-till farming, for many reasons, including the incorporation of grazing livestock. Cover crops use soil moisture while they grow and this has been found to have negative effects on crop yield in semi-arid environments. In western South Dakota, efforts continue to identify one or more cover crops that can be grown for a short period of time due to the difficulty with lack of moisture. Whether cover crops can be successfully integrated into cropping systems in semi-arid environments depends on how this delicate balance between water use and soil water availability is managed.

What has been done
A variety of educational programming was done by South Dakota Cooperative Extension Service Extension Educators and South Dakota State University Specialists and faculty to address crop variety and alternative crop issues. Educational workshops were conducted and involved 104 hours of educating.

Results
Producers learned the benefits of proper crop variety selection, and how alternative crops and cover crops can positively affect the bottom line of their operation. An estimated 1,677 farmers planted alternative crops over the past year, amounting to 176,580 acres. Alternative crops planted include: rye, triticale, brassicas, oilseeds, pulse crops, annual forages, grasses, small grains, grain sorghum, millet, vetch, peas, lentils, edible beans, sudangrass, buckwheat and leftover soybeans. Producers growing alternative crops reported improved soil health, increased

revenue, and reduced pesticide use. Other benefits reported include a reduction in soil compaction and fewer cattle losses from sickness.

4. Associated Knowledge Areas

KA Code	Knowledge Area
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems

Outcome #4

1. Outcome Measures

Number of individuals/businesses participating in the educational course Managing Your Business.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The Horizons program and Extension Community Development began working with rural communities in 2010 to support entrepreneurial development. Educational actions were taken to assist budding entrepreneurs with understanding the importance of business plan development, marketing, financial planning and expansion. Linking emerging entrepreneurs with established business owners within the region has also been a specific strategy to strengthen the potential for success.

What has been done
The "Managing Your Business" educational course was created. This course consists of 6 sessions that address components of successful business plan creation. Components that are emphasized include business goal setting, SWOT analysis, marketing plans, and financial assessment. The course concludes with the writing of the business plan. Managing Your Business was delivered in 3 community regions to 36 individuals/businesses in 2010. Two Entrepreneurship Fairs were conducted at the community level - including St Francis on the Rosebud Indian Reservation. Also conducted was a Hospitality/Customer Service Training for

business owners & their employees.

Results

Fifteen individuals completed a business plan for their small business as a result of their participation in the Managing Your Business course. Seventeen individuals who completed the Managing Your Business course now have clear plans of the entrepreneurial future they wish to achieve. Twenty-two other business plans developed through other outreach efforts. One new employee was hired as the result of a business plan being successfully implemented and 48 students and 85 adults attended the Entrepreneurship Fairs. Also, 32 businesses and 130 employees attended Customer Service Training. More than $7,100 was obtained in grant funds for entrepreneurial efforts with more than $9,000 of economic value leveraged for local business owners through their involvement in Extension entrepreneurial programs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Other (Technical)

Brief Explanation

Lignocellulose is an abundant natural resource, but it has not yet been integrated into corn ethanol facilities due to technical and economic limitations.

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Childhood Obesity

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
205	Plant Management Systems	5%		15%	
701	Nutrient Composition of Food	10%		30%	
702	Requirements and Function of Nutrients and Other Food Components	5%		20%	
703	Nutrition Education and Behavior	20%		10%	
704	Nutrition and Hunger in the Population	10%		10%	
724	Healthy Lifestyle	5%		5%	
802	Human Development and Family Well-Being	10%		5%	
806	Youth Development	35%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	18.1	0.0	6.9	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
417491	0	226443	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
417491	0	234891	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Too many South Dakotans are overweight and out of shape, and it's only going to improve if adults do something about it and set better examples for the youth. South Dakota Extension is attacking the problem from several angles, from nutrition and healthy lifestyle programs to gardening and family bonding.

2. Brief description of the target audience

Adults
Youth
Parents/caregivers of youth 10 to 14 years in age and their youth
Partner agencies
Persons with health issues
Individuals/families with low incomes/ living in poverty
Community residents who have limited access to healthy affordable foods

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	19152	20000	27812	3000

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	8	1	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of participants in nutrition programs.

Year	Actual
2010	6000

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of individuals provided with behavioral change programs for nutrition and physical activity.
2	Number of youth that increased essential human nutrition knowledge.
3	Number of youth that participated in gardening projects.
4	Number of families that successfully completed the SFP 10-14 program.

Outcome #1

1. Outcome Measures

Number of individuals provided with behavioral change programs for nutrition and physical activity.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	4000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
According to the Centers for Disease Control (2009), 30% of South Dakota's citizens are obese, and 37% are overweight. This is at least 5% higher than the last reporting period. Furthermore, the level of physical activity is also of concern with only 45% of the population exercising 30 minutes five or more days per week.
Eating patterns of particular concern for South Dakotans are:
Only 15% meet fruit and vegetable consumption recommendations (5 or more servings per day).
43.6% consume greater than 10% of their fat intake from saturated fats.

What has been done
South Dakotans across the lifespan were provided with nutrition and physical activity programs in a collaborative effort by Family and Consumer Sciences and 4-H/Youth Development Cooperative Extension Educators. As a result, an estimated 2,500 youth and 1,500 adults were provided with research based nutrition and physical activity programs designed to empower individuals, families and communities with the tools they need to make positive behavioral changes.

Results
Many programs for the young and the old were conducted by SD Extension to promote healthy eating and encourage a more physical lifestyle. Educators spent more than 2,500 hours teaching these various programs.
1,332 individuals increased knowledge/awareness of preparing healthy meals and 59 reported an increase in the number of meals eaten at home.
1,212 individuals increased knowledge/awareness of fruit & vegetable recommendations and/or health benefits and 877 actually reported an increased consumption of fruits and vegetables.
660 individuals increased knowledge/awareness of portion distortion and portion control and 42

adopted one or more practices to decrease portion sizes of foods consumed.
168 individuals reduced their time spent in sedentary activities.
KidsQuest, a signature program developed by SD Cooperative Extension to provide nutrition and physical activity programming, was implemented to 12 different schools in South Dakota.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #2

1. Outcome Measures

Number of youth that increased essential human nutrition knowledge.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	2112

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
South Dakota's poverty rate has hit 13.6% (an estimated 31,000 South Dakotans). Nationally, the poverty rate is 14.3%. The number of residents on Supplemental Nutrition Assistance Program benefits (formerly food stamps) is also at a record level. In August 2010, nearly 100,000 South Dakotans received SNAP benefits, up 18% from August 2009 and up more than 50% from August 2008. Obesity, poor nutrition, and limited physical activity are significant health concerns. Poor health disproportionately affects minority and low-income populations. Educational opportunities and resources are limited. Sixty percent of EFNEP and FNP participants who reported income are at or below 100% of poverty, earning $22,050 a year or less for a family of four. At least 70% of all EFNEP and FNP adults are minorities (67% Native American, 2% Black, and 1% Asian).

What has been done

South Dakota State University's Cooperative Extension Service provides two educational programs to help people with limited financial resources gain knowledge and skills to stretch their food dollars and have a healthier, more adequate diet. The Expanded Food and Nutrition Education Program (EFNEP) and the Family Nutrition Program (FNP) bring together federal, state, and local resources to target low-income families, youth, individuals, and seniors. EFNEP and FNP are available in 19 county/reservation areas, including both urban and rural sites.

Results
South Dakota Extension made more than 74,000 EFNEP and FNP educational contacts. With its collaborators of more than 100 organizations, educators were able find and educate potential program families. A high percentage of adults reported improved nutrition practices and improved diets, as well as better food resource management practices.
In addition:
2112 youth increased essential human nutrition knowledge
1130 youth now eat a variety of foods
1356 youth increased their ability to select low-cost, nutritious foods
2329 youth improved food safety and preparation practices
EFNEP and FNP educators are members of the communities they support and are dedicated to reaching diverse, low-income populations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population

Outcome #3

1. Outcome Measures

Number of youth that participated in gardening projects.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	400

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Childhood obesity has more than tripled in the past 30 years. In that time period, the prevalence of obesity among children aged 6 to 11 years increased from 6.5% to 19.6%. The prevalence of obesity among adolescents aged 12 to 19 years increased from 5.0% to 18.1% (National Center for Health Statistics, 2004). Contributing factors to childhood obesity frequently cited are lack of physical activity, and an increase in consumption of foods and beverages which are high in fat, salt, and sugar. Youth horticulture educational programming has the capacity to speak to both of these issues.

What has been done
Multiple programs in youth horticulture have addressed both science education and the healthy well-being issues of youth. Adult volunteers received training and technical assistance in plant and soil sciences to support them in leading youth gardening projects throughout the state. In addition, educational materials and standards for the 4-H horticulture project and judging contest have been amplified.

Results
South Dakota Extension is very active in reducing childhood obesity and increasing physical activity through its youth horticulture programming. To address healthy living issues, nutrition education and physical activities are essential components of every youth gardening project through the efforts of county Educators and FNP/EFNEP assistants.
At least 90% of youth participants were physically active through their involvement in planting, weeding, watering, and harvesting in local gardens.
At least 90% of the children tasted the fresh produce harvested, many youth trying a new vegetable for the first time.
More than 50 adult volunteers led or contributed time to children's gardening projects.
More than half of the youth involved in children's gardening participated in a community service project, such as, community beautification, or donating fresh produce to local food pantries or senior citizens.
More than 100 families received fresh garden produce to use at home.
The Grant County senior horticulture team placed first at the State Fair and is participating in the National Junior
Horticulture Association (NJHA) convention in October.
Eleven individuals, businesses, and state associations contributed $3,000 to support their trip.
The South Dakota Community and Family Extension Leaders contributed $1,500 for mini-grants to children's gardening projects in 2010.
The Tiger Post OST (Edmunds County) Garden Club submitted recipes for Mrs. Michelle Obama's A White House Garden Cookbook. Three recipes were published in the recipe book.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
703	Nutrition Education and Behavior
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

Number of families that successfully completed the SFP 10-14 program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	17

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Even though the Strengthening Families Program for Parents and Youth 10-14 (SFP 10-14) began as a way to reduce substance abuse for teens, the program has proven to improve the relationship between parents and youth and help build family strengths. This helps to change behavioral problems and leads to better decision making, such as increasing nutrient knowledge and choosing healthier diets.

What has been done
South Dakota Cooperative Extension Service Family and Consumer Sciences (FCS) and 4-H/Youth Development Educators along with several community members were trained as SFP 10-14 facilitators in order to offer the program in communities across the state. Training was made possible through the CYFAR (Children, Youth & Families at Risk) Grant and the South Dakota State University College of FCS.

Results
Seventeen out of 18 (94%) families successfully completed SFP 10-14. The parents or guardians and the youth who participated in the program completed a before and after survey and all responses reflected an increase in positive parent-child relationships. Comments from the families ranged from participants saying that they learned how much fun it is to spend time together as a family, as well as saying how important it is to obey their parents. They also reported how valuable it is to learn to deal with tough decisions. With these positive results, families can work on all behavioral changes, including choosing healthier diets.

4. Associated Knowledge Areas

KA Code	Knowledge Area

802 Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Competing Programmatic Challenges

Brief Explanation

Even though SDSU Extension reaches thousands of individuals each year concerning health issues, obesity in South Dakota continues to to be a serious problem. With the poor economy, fewer resources are available and must be stretched to also address other challenges.

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		35%	
212	Pathogens and Nematodes Affecting Plants	10%		25%	
213	Weeds Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	20%		10%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	50%		20%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Actual	69.6	0.0	28.4	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1610322	0	517766	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
1610322	0	541189	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

South Dakota Extension is charged with the responsibility of helping producers reduce expenses and maintain profitability, while at the same time provide a safe food supply.

2. Brief description of the target audience

Producers
Landowners
Adult and Youth Citizens
Food Entrepreneurs

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	29391	10000	4309	2000

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	38	2	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of workshops for high risk consumers in food handling and preservation.

Year	Actual
2010	10

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of farmers gaining knowledge of IPM techniques.
2	Number of people that received food preservation information.

Outcome #1

1. Outcome Measures

Number of farmers gaining knowledge of IPM techniques.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	6500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Proper identification of agronomic pests as well as recommended management and pest control measures has a direct influence on the profitability of the farm operation. Weather and environmental variability from year to year have an influence on how growers manage crop diseases. Through education, research, and demonstrations, the South Dakota Cooperative Extension Service and South Dakota State University can assist farmers and crop producers in making sound economically beneficial crop pest management decisions.

What has been done
A variety of educational programs were presented by Extension County Agronomy educators and SDSU Plant Science Extension Specialists addressing pest management issues in corn, wheat, soybeans, pulse and pasture crops.
1,238 growers attended educational meetings
500 growers attended pesticide applicator meetings
1,800 agronomists attended commercial applicator recertification
More than 150 growers received weed identification assistance
78 participants learned how to calibrate their sprayers using the 128th of an acre method
Other efforts by SD Extension include soybean sentinel plots, a new Plant Science website, and continued service by South Dakota State University's Plant Diagnostic Lab in assisting the public.

Results
Growers attending the clinics, workshops and other programs learned weed identification, how to scout for pests, better fungicide practices, and sprayer calibration. The pest management knowledge that producers gained has helped them to make better decisions and has led to higher profits while making a beneficial impact on the environment. By following the advice of Extension

agronomists, soybean growers saved $10 an acre on 647,200 acres by not spraying for insects below the recommended threshold. This amounted to approximately $6,472,000 in savings. By using the pesticide rate and application information from SD Extension, 15 growers saved $5 an acre on 4,000 acres for a savings of $20,000. One grower reported almost eliminating biennial and perennial thistles in his pastures by using a fall weed control program offered by Extension.

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

Number of people that received food preservation information.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	8000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Local food systems, gardening and a depressed economy have contributed to an increased number of families growing and preserving fruits and vegetables. Also, the South Dakota State Legislature passed a new law allowing for the sale of home processed foods.

What has been done
Extension Educators serve as a primary science-based resource for food preservation information, workshops, and answering specific questions by home food processors, food entrepreneurs and educators. The FCS Educators are current in all food preservation practices through the Food Safety Specialist, and each office maintains a current library of researched based resources. A variety of venues are utilized to provide food preservation educational activities across the state.

Results

South Dakota Extension has been instrumental in disseminating food preservation information and is considered the foremost authority on the subject in the state. More than 8000 people in South Dakota and the surrounding states received safe food preservation information from SD Extension during the reporting period. Of 2,080 people that participated in a food preservation educational activity, 1,830, or 88% reported that they adopted a critical safe food handling practice. Also of significance, for the first time in South Dakota, food entrepreneurs can have their thermal process of a home canned product reviewed and tested for verification of safe food handling practices. Twenty-five SD citizens were trained to become SD Acid Food Processing Authorities (AFPA); six are actively working with food entrepreneurs. Additionally, 20 County FCS Educators were trained by the Food Safety Specialist to provide support for the SD AFPA. More than 50 products have had the process reviewed by the Extension Food Safety Specialist. Also, more than 3,000 phone calls, emails and office visits occur at the county and state specialist's offices regarding food preservation techniques with nearly 100% of clientele making decision and adopting practices based on increased or confirmation of safe food handling knowledge.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Competing Programmatic Challenges

Brief Explanation

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Natural Resources and Environment

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	5%		0%	
102	Soil, Plant, Water, Nutrient Relationships	5%		0%	
104	Protect Soil from Harmful Effects of Natural Elements	5%		0%	
111	Conservation and Efficient Use of Water	5%		0%	
112	Watershed Protection and Management	5%		0%	
121	Management of Range Resources	5%		0%	
123	Management and Sustainability of Forest Resources	5%		0%	
132	Weather and Climate	5%		0%	
133	Pollution Prevention and Mitigation	5%		0%	
135	Aquatic and Terrestrial Wildlife	55%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	0.0	3.0	0.0
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
0	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

NO LONGER REPORTTING ON THIS PLANNED PROGRAM
Soils
Crop nutrient and soil management recommendations will be maintained and adapted to reflect environmentally and economically sensitive issues. This process includes unbiased in-field research pertinent to crop nutrient and soil management issues in South Dakota. Educational efforts will include direct and indirect crop producer contacts, crop clinics, field days and demonstrations.
Small Acreage
Seminars, clinics, and popular press articles will be the primary vectors for educating the public. We also intend to increase public awareness of SDSU extension activities and expertise so that more people know they can solicit information.

2. Brief description of the target audience

• Crop Producers - (landlords, tenants), crop consultants/advisors, fertilizer managers, commodity groups, homeowners
• Owners and users of any small acreage, or otherwise interested persons or groups both inside and outside of the state of South Dakota.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	{NO DATA	{NO DATA	{NO DATA	{NO DATA

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010

Actual: {No Data

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	{No Data Entered}	{No Data Entered}	{No Data Entered}

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Producer clinics, workshops, field days and other direct training opportunities.

Year	Actual
2010	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Research to address appropriate management of wildlife populaion.
2	Increase in number of crop producers that use environmentally and economically sensitive crop nutrient and soil management recommendations.
3	Number of small acreages that increase land stewardship of practices, including weed controlled and improved grazing.

Outcome #1

1. Outcome Measures

Research to address appropriate management of wildlife populaion.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	20	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #2

1. Outcome Measures

Increase in number of crop producers that use environmentally and economically sensitive crop nutrient and soil management recommendations.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #3

1. Outcome Measures

Number of small acreages that increase land stewardship of practices, including weed controlled and improved grazing.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Plants and Their Systems

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	5%		0%	
202	Plant Genetic Resources	5%		0%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	5%		0%	
204	Plant Product Quality and Utility (Preharvest)	5%		0%	
205	Plant Management Systems	5%		0%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		0%	
212	Pathogens and Nematodes Affecting Plants	5%		0%	
213	Weeds Affecting Plants	5%		0%	
215	Biological Control of Pests Affecting Plants	5%		0%	
216	Integrated Pest Management Systems	55%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	52.0	0.0	46.0	0.0
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

NO LONGER REPORTTING ON THIS PLANNED PROGRAM
Plant breeders, entomologists, and plant pathologists will develop superior varieties with tolerance or resistance to insects and new disease races. Agronomists will evaluate crop management systems and forage systems that are best adapted to South Dakota, including areas with a history of limited growing season moisture. Soil scientists will develop more effective and cost efficient strategies for conserving soils and reducing fertilizer inputs in cropping systems. Entomologists, plant pathologists, and weed scientists will develop more effective and cost efficient means to safely control plant pests while reducing chemical inputs; including IPM and alternative methods. Horticulturalists will develop appropriate varieties for home gardeners and landscapers, and will teach cost effective production methods.
Hands-on Field Scouting School, crop tours, producer/grower meetings will be held. Provide one-onone individual consultations. Research and timely information will be provided in news columns, current and up-to-date county and state websites, and Extension publications.
Extension will deliver the resulting research and extension program impacts to the SD Department of Agriculture, SD Crop Improvement Association, SD Corn Utilization Council, SD Soybean Research & Promotion Council, SD Wheat Commission, SD Oilseeds Council, SD Association of County Weed & Pest Boards, SD Weed Commission, and Master Gardeners Association.

2. Brief description of the target audience

All farm producers, agricultural land owners, hobby gardeners, homeowners, and Master Gardeners

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	{NO DATA	{NO DATA	{NO DATA	{NO DATA

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010

Actual: {No Data

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	{No Data Entered}	{No Data Entered}	{No Data Entered}

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research projects completed in SDSU Planned Program Two - Plants and Their Systems

Year	Actual
2010	0

Output #2

Output Measure

- Number of Plant Variety Protection (PVP) varieties - Title V registration

Year	Actual
2010	0

Output #3

Output Measure

- Number of acres scouted

Year	Actual
2010	0

Output #4

Output Measure

- Number of resistant varieties or improved technologies utilized

Year	Actual
2010	0

Output #5

Output Measure

- Statewide savings due to scouting, applying thresholds, and avoiding unnecessary pesticide applications.

Year	Actual
2010	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of farmers learning about new crops, varieties, crop management techniques, forages and biofuels.
2	Percent increase in number of acres seeded t minor grain, oilseed, legume, brassicas and warm-cool-season formage crops
3	Percent increase in consumer knowledge of plant selection and growing techniques for sustainable landscaping.

Outcome #1

1. Outcome Measures

Number of farmers learning about new crops, varieties, crop management techniques, forages and biofuels.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	3900	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #2

1. Outcome Measures

Percent increase in number of acres seeded t minor grain, oilseed, legume, brassicas and warm-cool-season formage crops

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1000	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #3

1. Outcome Measures

Percent increase in consumer knowledge of plant selection and growing techniques for sustainable landscaping.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Animals and Their Systems

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	5%		0%	
302	Nutrient Utilization in Animals	5%		0%	
303	Genetic Improvement of Animals	5%		0%	
305	Animal Physiological Processes	5%		0%	
307	Animal Management Systems	5%		0%	
308	Improved Animal Products (Before Harvest)	5%		0%	
311	Animal Diseases	5%		0%	
313	Internal Parasites in Animals	65%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	24.6	0.0	45.8	0.0
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

NO LONGER REPORTTING ON THIS PLANNED PROGRAM
Producer meetings will be held at county beef days, as well as Rancher forums, and specialized meetings, webaries, WebPages, and list servers will be used to get information to producers who cannot attend these meetings. In addition, learning communities where producers can share ideas and management decision that effect production efficiency will be established. Pre-breeding workshops, AI clinics, bull clinics, as well as other clinics, will be held to allow producers to learn hands-on advancing technologies and the benefit of these technologies. SDSU CES cooperating with industries, feed companies, auctions, pharmaceutical companies, and other ag industries. Research projects that incorporate advancing technologies will be conducted to show producers that these technologies do benefit production efficiency in the environment that they are in.

2. Brief description of the target audience

All ranchers, livestock producers, dairy producers and processors, and veterinarians in the state, as well as concerned citizens and policy makers. In addition, other state and federal agencies including the SD Department of Agriculture, Animal Industry Board, Department of Environment, and Natural Resources, Natural Resource Conservation Service.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	{NO DATA	{NO DATA	{NO DATA	{NO DATA

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010
Actual: {No Data

Patents listed
{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	{No Data Entered}	{No Data Entered}	{No Data Entered}

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research projects completed on enhancing sustainable production.

Year	Actual
2010	0

Output #2

Output Measure

- Number of research projects completed on dairy foods

Year	Actual
2010	0

Output #3

Output Measure

- Number of research projects completed on dairy production

Year	Actual
2010	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of ranchers learning new production techniques
2	Number of farmers using new production techniques
3	Number of veterinarians and producers learning about animal disease.
4	Number of veterinarians and producers changing behaviors to improve the control of animal disease

Outcome #1

1. Outcome Measures

Number of ranchers learning new production techniques

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1200	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #2

1. Outcome Measures

Number of farmers using new production techniques

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	450	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #3

1. Outcome Measures

Number of veterinarians and producers learning about animal disease.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	600	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #4

1. Outcome Measures

Number of veterinarians and producers changing behaviors to improve the control of animal disease

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	200	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Agricultural, Natural Resource and Biological Engineering

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
401	Structures, Facilities, and General Purpose Farm Supplies	5%		0%	
403	Waste Disposal, Recycling, and Reuse	5%		0%	
404	Instrumentation and Control Systems	90%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	4.9	0.0	3.8	0.0
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

NO LONGER REPORTTING ON THIS PLANNED PROGRAM
Conduct research on livestock facilities, water management and climatic impacts on crop and

livestock producers. Extension will conduct informational seminars and interactive learning opportunities
for producer groups across South Dakota.

2. Brief description of the target audience

• Urban areas, surveys of urban water users
• Livestock producers
• Consulting engineers with livestock boards and association contacts for input.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	{NO DATA	{NO DATA	{NO DATA	{NO DATA

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010
Actual: {No Data

Patents listed
{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	{No Data Entered}	{No Data Entered}	{No Data Entered}

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research projects completed on livestock facilities, water management or climatic impacts on crop and livestock producers

Year	Actual
2010	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of farmers learning about improved livestock facilities, water management or climatic impact on crops and livestock.

Outcome #1

1. Outcome Measures

Number of farmers learning about improved livestock facilities, water management or climatic impact on crops and livestock.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	150	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Food and Non-food Products, Development, Processing, Quality and Delivery

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	5%		0%	
502	New and Improved Food Products	5%		0%	
511	New and Improved Non-Food Products and Processes	90%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	6.6	0.0	22.9	0.0
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

NO LONGER REPORTTING ON THIS PLANNED PROGRAM
A series of milk quality training sessions in a minimum of 5 dairy farms are proposed. At least

one
HACCP workshop will be held in South Dakota for small meat and food processors to educate them on
HACCP requirements, plans, and documentation. Also, Beef and Pork Quality Assurance trainings will be held as well as a state wide 4-H meat animal quality assurance program developed. At least two publications (one in Spanish one in English) addressing milk quality issues will be published through Ag Bio communications in 2009.

2. Brief description of the target audience

Biofuels producers
Producers &ndash all types of agriculture.
Youth Organizations
Gardeners
Cottage Industry
Processors &ndash use products produced in both South Dakota, and neighboring states.
End Users (includes retail and consumers)

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	{NO DATA	{NO DATA	{NO DATA	{NO DATA

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2010
Actual: {No Data

Patents listed
{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	{No Data Entered}	{No Data Entered}	{No Data Entered}

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research projects completed on food/non-food products

Year	Actual
2010	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of producers/processors/end users working with SDSU for research and/or Extension programs related to the development, processing, quality and/or delivery of food or non-food products.
2	Number of producers/processors/end users using the research and educational tools developed by SDSU and their collaborators to make decisions related to the development and delivery of the identified food or non-food item.
3	Number of producers/processors/end users that have developed and are delivering a product impacts the economic/quality of life for the people of South Dakota.

Outcome #1

1. Outcome Measures

Number of producers/processors/end users working with SDSU for research and/or Extension programs related to the development, processing, quality and/or delivery of food or non-food products.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	20	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #2

1. Outcome Measures

Number of producers/processors/end users using the research and educational tools developed by SDSU and their collaborators to make decisions related to the development and delivery of the identified food or non-food item.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	25	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #3

1. Outcome Measures

Number of producers/processors/end users that have developed and are delivering a product impacts the economic/quality of life for the people of South Dakota.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected 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.)
- null

Brief Explanation

{No Data Entered}

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Economics and Market Policy

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	5%		0%	
602	Business Management, Finance, and Taxation	5%		0%	
604	Marketing and Distribution Practices	5%		0%	
606	International Trade and Development	5%		0%	
607	Consumer Economics	5%		0%	
608	Community Resource Planning and Development	5%		0%	
610	Domestic Policy Analysis	70%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	9.8	0.0	17.2	0.0
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

NO LONGER REPORTTING ON THIS PLANNED PROGRAM
Research will be conducted in priority areas of resource allocation and economic development, policy analysis, financial analysis, renewable and value-added agriculture, and marketing alternatives. Extension will provide training in formal and informal venues. Research findings will be extended to the appropriate audiences.

2. Brief description of the target audience

Agri-business persons in South Dakota and the Northern Plains Region. Managers, extension educators and professional colleagues will all benefit from the program activities.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	{NO DATA	{NO DATA	{NO DATA	{NO DATA

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2010
Actual: {No Data

Patents listed
{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	{No Data Entered}	{No Data Entered}	{No Data Entered}

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Extension Educators Trained

Year	Actual
2010	0

Output #2

Output Measure

- One-on-One Management Consultations

Year	Actual
2010	0

Output #3

Output Measure

- Completed Research Projects

Year	Actual
2010	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of farmers calculating production costs and returns to storage.
2	Number of agri-business persons aware of marketing strategies and crop insurance and farm program alternatives.
3	Number of agri-business persons aware of their financial positions and farm business plan components.
4	Number of farmers employing marketing strategies and allocating scarce resources effectively.
5	Number of agri-businesses with stable or improved profitability.

Outcome #1

1. Outcome Measures

Number of farmers calculating production costs and returns to storage.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #2

1. Outcome Measures

Number of agri-business persons aware of marketing strategies and crop insurance and farm program alternatives.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #3

1. Outcome Measures

Number of agri-business persons aware of their financial positions and farm business plan components.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #4

1. Outcome Measures

Number of farmers employing marketing strategies and allocating scarce resources effectively.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #5

1. Outcome Measures

Number of agri-businesses with stable or improved profitability.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	55	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Human Nutrition, Food Safety, and Human Health and Well-Being

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
702	Requirements and Function of Nutrients and Other Food Components				
703	Nutrition Education and Behavior				
722	Zoonotic Diseases and Parasites Affecting Humans				
	Total				

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	18.0	0.0	3.8	0.0
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

NO LONGER REPORTTING ON THIS PLANNED PROGRAM

• May 2009- Dec. 2013 - Extension Educators will provide a variety of training opportunities to individuals and families across South Dakota & Pre/Post surveys will be given to measure participant knowledge & behavior change.

• May 2009 - December 2013 - Extension Educators and Specialists will write and distribute a variety of nutrition, health & wellbeing and food access educational materials, newsletters & other mass media.

• May 2009-December 2013 - Educators will receive ongoing training through Elluminate and periodic face to face area of emphasis trainings.

• 2013 A signature program will be utilized and evaluated to collect research data and impacts.

• 2013 Develop and deliver a Master Food Preserver Program across South Dakota

2. Brief description of the target audience

Adults
Youth
Partner agencies
Persons with health issues
Individuals/families with low incomes/ living in poverty
Community residents who have limited access to healthy affordable foods
• Stakeholder input will be collected through: Focus Groups, Pre & Post Surveys, County & Field Education Unit Needs Assessments, Educator Observation, Emerging Issues in community and collaboration with other community service agencies.
S.D. and youth who attend reservation schools

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2010
Actual: {No Data

Patents listed
{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	9	4	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research projects

Year	Actual
2010	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Decrease in obesity rates by percentage of the population.
2	Number of participants demonstrating ability to choose or prepare food with reduced fat and/or calories.
3	Number of participants increasing the number of minutes spent daily in physical activity.
4	Number of food service managers implementing a safe food handling training program for employees, thus increasing the retention rate of training participants in the food service industry (workforce).

Outcome #1

1. Outcome Measures

Decrease in obesity rates by percentage of the population.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #2

1. Outcome Measures

Number of participants demonstrating ability to choose or prepare food with reduced fat and/or calories.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1500	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior

Outcome #3

1. Outcome Measures

Number of participants increasing the number of minutes spent daily in physical activity.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1500	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #4

1. Outcome Measures

Number of food service managers implementing a safe food handling training program for employees, thus increasing the retention rate of training participants in the food service industry (workforce).

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	150	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities

Brief Explanation

{No Data Entered}

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Families, Youth and Communities

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	5%		0%	
802	Human Development and Family Well-Being	5%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	5%		0%	
805	Community Institutions, Health, and Social Services	85%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	55.8	0.0	9.6	0.0
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

NO LONGER REPORTTING ON THIS PLANNED PROGRAM
Research will be conducted on rural low income families, rural communities, premarital education with longitudinal follow ups, and financial saving behavior. Research will be social science in nature. Census data will also be available to communities.
Extension will conduct informational seminars, interactive learning opportunities, group classes, and provide printed curriculum to youth audiences (4-H, schools, afterschool programs, head start and child care centers) and adult audiences (senior citizens, community organizations, parents, teachers, others) while also working with community based groups (city councils, community development groups, city councils).

2. Brief description of the target audience

• Rural communities in South Dakota.
• Extension educators
• Community planners and developers
• Educators and other professionals who work in social services including welfare programs targeting low-income audiences.
• Tribal colleges in S.D. and families who reside on the reservations
• Youth
• Adults
• Senior citizens
• Targeted business owners
• Low income citizens

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	{NO DATA	{NO DATA	{NO DATA	{NO DATA

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2010
Actual: {No Data

Patents listed
{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Actual	{No Data Entered}	{No Data Entered}	{No Data Entered}

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research projects completed

Year	Actual
2010	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of youth participating in math, engineering or science related activities to further develop workforce preparation skills.
2	Number of youth that were engaged as partners in community civic activities with an adult.
3	Number of communities that were engaged in poverty reduction and/or leadership development activities that lead to the development of a strategic plan for action.
4	Increase in low-income family self-sufficiency, by percentage of the population.
5	Number of communities reporting an increase in rural community vitality (population stability, economic indicators)

Outcome #1

1. Outcome Measures

Number of youth participating in math, engineering or science related activities to further develop workforce preparation skills.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	800	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #2

1. Outcome Measures

Number of youth that were engaged as partners in community civic activities with an adult.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	400	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #3

1. Outcome Measures

Number of communities that were engaged in poverty reduction and/or leadership development activities that lead to the development of a strategic plan for action.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	30	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #4

1. Outcome Measures

Increase in low-income family self-sufficiency, by percentage of the population.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

Outcome #5

1. Outcome Measures

Number of communities reporting an increase in rural community vitality (population stability, economic indicators)

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	3	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
{No Data Entered}

What has been done
{No Data Entered}

Results
{No Data Entered}

4. Associated Knowledge Areas

KA Code	Knowledge Area
{No Data}	null

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}