Natural Resources and Environmental Management

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Natural Resources and Environmental Management

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	15%		15%	
111	Conservation and Efficient Use of Water	30%		30%	
112	Watershed Protection and Management	30%		30%	
121	Management of Range Resources	15%		15%	
141	Air Resource Protection and Management	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	16.0	0.0	12.0	0.0
Actual	30.0	0.0	46.0	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
283170	0	856244	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1176630	0	5635368	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1565010	0	841524	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Review existing and ongoing research to evaluate utilization of precipitation and extent of protective land cover for semi-arid crop systems which differ in cropping intensity, (i.e., number of crops harvested in a rotation cycle); emphasize the importance of integration of water and nutrient management to agricultural producers; develop a decision model and improved management practices for limited irrigation; evaluate improved management and disseminate information for improving water conservation in urban and suburban settings; provide education and training in irrigation scheduling and new technologies for Certified Crop Advisors (CCAs); use the Mobile Irrigation Lab to educate irrigators about water conservation and management and demonstrate improved technologies; evaluate optimum cropping systems and dryland, no-till crop production systems using models and field trials; demonstrate Best Management Practices (BMPs) to avoid groundwater pollution from application of manure to cropland; conduct an educational program and public awareness campaign aimed at citizen action to meet TMDLs, especially abatement of fecal coliform bacteria; provide educational and technical assistance for improved waste management to livestock producers; evaluate BMPs for reducing phosphorus, sediment, and pesticides in surface runoff from cropland and grazing lands; evaluate the benefits and design of riparian buffers and other kinds of vegetated filter strips for Kansas; conduct water quality assessments for watersheds that drain into important public water supply reservoirs in Kansas; protect existing riparian forest lands and implement BMPs to improve health and productivity to reduce non-point source pollutants in surface waters; provide education and assistance in urban water quality restoration and protection planning for local governments; validate and implement a Phosphorus Site Index in Kansas; achieve a better understanding of nitrogen build up in soils where manure is applied and consequences of nitrogen buildup through research and experience with nutrient management planning. Identify trade-offs between N-based and P-based manure application; provide education and training in water quality planning and management to local government entities; evaluate green technologies for treating and managing storm water runoff in an urban setting (Topeka); identify sources of fecal bacteria using bacteria source tracking in the Wichita area; provide environmental education to youths through the EARTH program; evaluate best management practices for the ability to sequester carbon and improve soil quality; develop educational materials and Web sites for producers, the agricultural and energy industry, and policy makers on issues related to implementing a soil carbon sequestration program; and develop a scientific basis for policies that would enhance agricultural practices that enhance soil carbon sequestration and provide incentive for producers; Review, evaluate, and analyze existing information on crop production for biomass energy with the goal of synthesizing relationships between productivity, land class, water availability, and economic potential. From these relationships, build a decision support model that will evaluate cropping strategies for biomass energy production that enhance farm financial performance and minimize adverse environmental impacts; Develop educational materials and programs aimed at increasing the capacity to produce biomass for energy in Kansas; and deliver education and technology transfer programs that address characterization and cost-effective abatement of airborne emissions from open lot feeding systems.

2. Brief description of the target audience

The target audience includes agricultural producers, youths, policymakers/regulators, and crop and livestock consultants.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	5000	25000	1000	2000
2008	0	0	0	0

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

Patent Applications Submitted

Year	**Target**
Plan:	0
2008:	{No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	16	12	
2008	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Number of educational programs delivered

Year	Target	Actual
2008	20	0

Output #2

Output Measure

Number participating in educational programs

Year	Target	Actual
2008	400	0

V(G). State Defined Outcomes

O No.	Outcome Name
1	Number of producers adopting BMPs that protect environmental quality
2	Number of acres utilizing wastewater applications for crop production
3	Number of irrigators using evapotranspiration (ET)-based irrigation scheduling

Natural Resources and Environmental Management
Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area

V(H). Planned Program (External Factors)

External factors which affected outcomes

Economy
Public Policy changes
Government Regulations

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}