

Economic Infrastructure and Commerce

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Economic Infrastructure and Commerce

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	30%	30%	15%	
602	Business Management, Finance, and Taxation	4%	4%	7%	
603	Market Economics	4%	4%	12%	
604	Marketing and Distribution Practices	26%	26%	31%	
607	Consumer Economics	6%	6%	13%	
608	Community Resource Planning and Development	10%	10%	8%	
609	Economic Theory and Methods	10%	10%	8%	
610	Domestic Policy Analysis	10%	10%	3%	
701	Nutrient Composition of Food	0%	0%	3%	
Total		100%	100%	100%	

V(C). Planned Program (Inputs)

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

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	72.6	5.9	20.0	0.0
Actual	40.0	1.6	19.0	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
538377	141271	412725	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1733272	70635	552170	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
539178	12500	298077	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Our research analysis includes assessment of market potential, market feasibility studies for new agri-industry ventures, buyer and consumer preferences studies, market segmentation analysis and buyer profiling, analysis of new product acceptance, analysis of marketing alternatives, and analysis of valuation of product attributes. We evaluate the impacts of various policies, management strategies, or economic conditions on a farm's bottom line and financial strength, sometimes using a set of representative farms that encompass major segments of agriculture in Tennessee. Methods for evaluating risk include risk-based econometric models, risk-based mathematical programming models, generalized stochastic dominance criteria, dynamic optimization, and subjective probability assessment criteria.

The Extension MANAGE program helped families analyze their total farming business so they could make informed decisions regarding their future. Extension staff trained in farm and financial management helped families to:

- review their current financial situation
- capitalize on strengths and reduce weaknesses in the farm business
- develop individualized farm and financial plans
- explore alternatives both on and off the farm
- evaluate capital investment opportunities including land and/or machinery purchases

Extension workshops were offered to help farmers improve marketing, goal-setting, and strategic planning.

2. Brief description of the target audience

- Limited-resource and small farmers
- Farmers transitioning from tobacco to other crops

Research audiences include government policymakers at the federal, state and municipal/county level, commodity groups, individual producers, and agricultural industries.

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	10000	25000	5000	10000
2007	27153	50000	5000	50000

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

Patent Applications Submitted

Year	Target
Plan:	0
2007:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	6	10	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of exhibits displayed to promote program awareness and participation.

Year	Target	Actual
2007	5	6

Output #2

Output Measure

- Numer of research-based publications distributed as part of this program.

Year	Target	Actual
2007	5000	5500

V(G). State Defined Outcomes

O No.	Outcome Name
1	Land Ownership Information Program: Number of African-American landowners who increased their knowledge of property rights and responsibilities.
2	Land Ownership Information Program: Number of African-American landowners who developed farm management plans.
3	Land Ownership Information Program: Number of African-American landowners who developed estate plans to reduce the financial and legal risks farm family businesses face as they transition between generations.
4	Farm Financial Analysis and Planning: Number of farmers and rural business operators who gained new knowledge and skills through the Quickbooks, FIRM and other record keeping workshops.
5	Farm Financial Analysis and Planning: Number of farm families and rural business operators who implemented partial budgeting decisions (examples include sell calves now or later, evaluating equitable leasing arrangements and mach
6	Farm Financial Analysis and Planning: Number of farm families and rural business operators implementing improved record systems.
7	Farm Financial Analysis and Planning: Number of farm families who used FINPACK for developing and implementing whole farm plans.
8	Farm Financial Management: Number of farmers who increased their knowledge and skills in farm and financial planning.
9	Farm Financial Management: Number of farmers who developed financial plans for their farms.
10	Farm Financial Management: Number of farmers who increased their potential cash income from their farming operation.
11	Farm Financial Management: Amount (in dollars) that farmers increased their potential cash income from implementing a farm plan.
12	Tennessee's role in biomass to energy
13	Veterinary services in Tennessee
14	Impact of U.S. sod production industry
15	Diet, health, and nutrition studies
16	Agronomic crop studies

Outcome #1**1. Outcome Measures**

Land Ownership Information Program: Number of African-American landowners who increased their knowledge of property rights and responsibilities.

2. Associated Institution Types

•1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	600	89

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #2**1. Outcome Measures**

Land Ownership Information Program: Number of African-American landowners who developed farm management plans.

2. Associated Institution Types

•1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	600	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #3**1. Outcome Measures**

Land Ownership Information Program: Number of African-American landowners who developed estate plans to reduce the financial and legal risks farm family businesses face as they transition between generations.

2. Associated Institution Types

•1890 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	600	33

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #4**1. Outcome Measures**

Farm Financial Analysis and Planning: Number of farmers and rural business operators who gained new knowledge and skills through the Quickbooks, fIRM and other record keeping workshops.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	465

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
607	Consumer Economics

Outcome #5**1. Outcome Measures**

Farm Financial Analysis and Planning: Number of farm families and rural business operators who implemented partial budgeting decisions (examples include sell calves now or later, evaluating equitable leasing arrangements and mach

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	722

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
607	Consumer Economics

Outcome #6**1. Outcome Measures**

Farm Financial Analysis and Planning: Number of farm families and rural business operators implementing improved record systems.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	371

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
607	Consumer Economics

Outcome #7

1. Outcome Measures

Farm Financial Analysis and Planning: Number of farm families who used FINPACK for developing and implementing whole farm plans.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	152

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
601	Economics of Agricultural Production and Farm Management

Outcome #8

1. Outcome Measures

Farm Financial Management: Number of farmers who increased their knowledge and skills in farm and financial planning.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	1516

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
607	Consumer Economics

Outcome #9

1. Outcome Measures

Farm Financial Management: Number of farmers who developed financial plans for their farms.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	105

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
601	Economics of Agricultural Production and Farm Management

Outcome #10

1. Outcome Measures

Farm Financial Management: Number of farmers who increased their potential cash income from their farming operation.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2000	60

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
607	Consumer Economics

Outcome #11

1. Outcome Measures

Farm Financial Management: Amount (in dollars) that farmers increased their potential cash income from implementing a farm plan.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150000	500065

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #12**1. Outcome Measures**

Tennessee's role in biomass to energy

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Research in biomass to energy is paying dividends as ethanol and biodiesel facilities have announced Tennessee plans.

What has been done

We assessed the biodiesel industry; in the last two years, Tennessee had less than ten facilities producing biodiesel, and 39 biodiesel stations. Capital costs are similar for various feedstock, but feedstock costs vary, and are the largest part of production costs. Per gallon biodiesel costs are about \$2.98 (soybean oil), \$1.67 (yellow grease), and \$3.35 (canola oil) vs. about \$1.56 (petroleum). We projected the impacts of a mature cellulosic industry. By 2025, Tennessee's economy might increase by \$13 billion with the development of a reliable cellulosic feedstock and conversion to energy industry, providing 2.3 billion gallons of ethanol and nearly 40 billion kWh of electricity.

Results

The impact analysis of cellulosic ethanol helped secure \$70 million in state funds to construct a pilot plant. The estimated economic impacts of the industry have been presented widely in 2007 and cited by industry, academics, President Bush, and presidential candidates. The information was used by groups like the 25x25 organization to move a resolution through congress affirming the goal of 25% renewable energy by 2025.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
603	Market Economics
604	Marketing and Distribution Practices
610	Domestic Policy Analysis
608	Community Resource Planning and Development

Outcome #13**1. Outcome Measures**

Veterinary services in Tennessee

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Tennessee livestock producers have expressed concern regarding access to veterinary services.

What has been done

We evaluated veterinary services in Tennessee. A study of livestock producers found that the majority did not have problems obtaining veterinary services. Commonly cited problems were a delay in obtaining services, only treating animals transported to the facility, and costs too expensive relative to the animal's value.

Results

Statewide financial impacts of lack of veterinary access for livestock producers are estimated at \$9.5 million (<1% of sales). Problems seem more prevalent in certain counties. Scholarship programs for large- and food-animal veterinary students, relocation incentives, and greater availability of veterinary technicians were seen as effective ways to increase access. This analysis is being used in the legislature to link additional funding to areas in need.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
601	Economics of Agricultural Production and Farm Management
610	Domestic Policy Analysis

Outcome #14**1. Outcome Measures**

Impact of U.S. sod production industry

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Many problems in the nursery industry relate to economic and environmental constraints. Environmental constraints revolve around water and soil quality, weather related stresses, and aesthetic and biological requirements. Economic constraints include changing resources, costs (such as land, labor, and chemicals), and demand for landscape plants.

What has been done

Several regional studies were initiated to assess the importance of the Green Industry, including analyzing the horticulture industry and updating cost of production budgets for nursery growers.

Results

This research sought to conduct a comprehensive economic impact study of the U.S. sod production industry; impact values provide policy makers, nursery industry leaders, specialists, growers and others with specific, actionable information.

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
604	Marketing and Distribution Practices
603	Market Economics
601	Economics of Agricultural Production and Farm Management

Outcome #15

1. Outcome Measures

Diet, health, and nutrition studies

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Important issues on American's diet, health, and nutrition are addressed in this project. The roles of consumer health and dietary knowledge in dietary behavior are crucial information and tools for policy makers. Also important are the impacts of Federal food and nutritional programs on health and nutrition of small children and on household food insecurity.

What has been done

We studied: 1) Knowledge of dietary fats among U.S. consumers. 2) Food programs and nutrition in small children. 3) FSP and food insecurity (FI). 4) Grain consumption in the U.S. Consumption was compared with the recommendations in the Government's 2005 Dietary Guidelines, using CSFII 1994-96 and 1998. 5) Smoking and obesity. 6) Nutritional label use and obesity. 7) Consumer knowledge and meat consumption. 8) Demand for cigarettes. 9) Lifestyle and obesity. 10) Demand for vegetables.

Results

This information provides policy makers, the consumers and, more importantly, the tax payers whether the expensive Federal programs are working, and whether they have the potential to continue working. National issues are Tennessee issues and therefore are of interest to state policy makers. Findings are useful for deliberations of educational messages, nutrition programs, food labeling, and other policy measures, and have important implications for American's health and nutritional well being.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
607	Consumer Economics
603	Market Economics

Outcome #16

1. Outcome Measures

Agronomic crop studies

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Cotton and corn are major components of the U.S. agricultural system; biomass crops (like switchgrass) are of increasing importance.

What has been done

Our research focused on switchgrass optimal seeding, nitrogen rates, harvest and storage as well as an online nitrogen rate calculator for corn and a review of studies analyzing cotton fertility.

Results

The application of price data to our findings for switchgrass will enhance its competitiveness, farmers can increase their net returns on corn to up to \$15 per acre, and cotton growers can reduce uncertainty about spray equipment.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
610	Domestic Policy Analysis
603	Market Economics

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)

Brief Explanation

In 2007, Tennessee faced a drought of monumental proportions and temperature extremes. Warm March weather encouraged producers to plant corn earlier than normal, and freezing conditions in April damaged over 200,000 acres of corn which had to be replanted. Exceptional drought and heat plagued the rest of the growing season. With no water for crops, including forages, many beef and dairy producers downsized their operations. Many outcome targets in this planned program were not measured because Extension programs were constantly changing to address drought-related issues of plant diseases and livestock marketing.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

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

Evaluation Results**Key Items of Evaluation**