

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

**Program # 2**

**1. Name of the Planned Program**

Assisting Small-Scale Farmers and Landowners to Manage Change in Agriculture

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

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships		10%		
111	Conservation and Efficient Use of Water		10%		
123	Management and Sustainability of Forest Resources		10%		
131	Alternative Uses of Land		15%		
141	Air Resource Protection and Management		5%		
201	Plant Genome, Genetics, and Genetic Mechanisms		10%		
211	Insects, Mites, and Other Arthropods Affecting Plants		10%		
301	Reproductive Performance of Animals		10%		
501	New and Improved Food Processing Technologies		10%		
601	Economics of Agricultural Production and Farm Management		10%		
	<b>Total</b>		100%		

**V(C). Planned Program (Inputs)**

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	9.5	0.0	0.0
Actual	0.0	9.5	0.0	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
0	670057	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	670588	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	28505	0	0

## V(D). Planned Program (Activity)

### 1. Brief description of the Activity

During the past year, TUCEP, the GWC Experiment Station, and ACES continued collaboration on out-reach educational programs to assist small-scale producers with their production and marketing problems. About 900 small scale beef producers have received training and technical assistance to help improve breeding stock by selecting purebred or high quality replacement bulls and heifers. Over 90% of these producers have seen a steady increase in calf crop percentages, and in birth and weaning weights. Approximately three-quarters of the producers have also improved nutrition management through pasture renovation which has improved forage quality for grazing and hay production. Many producers have begun to incorporate meat goats into their beef production systems leading to considerable additional income. Other educational activities held were the Tuskegee University Master Goat Producer's Certification Program, an annual goat day workshop, and the annual Goat Show.

A one-day workshop and on-farm demonstration on integrated management of gastrointestinal parasites was also conducted where participants learned integrated techniques for controlling internal parasites in goats. Major training components were FAMACHA (a quick parasite detecting tool), major internal parasites and their life-cycles, nutrition, animal selection and breeding, and pasture management. Also, hands-on training was conducted on fecal sample collection and examination, FAMACHA use, hoof trimming, condition scoring, and de-worming.

Relative to vegetable production, fourteen (14) commercial vegetable producers received assistance from TUCEP specialists to construct hoop houses to extend and intensify crop production. Five (5) producers have gone green by using solar panels as energy sources for lighting and for running irrigation systems. Additionally, twenty (20) fruit and vegetable producers increased skills and knowledge in regards to plant propagation (Bud-Grafting) in efforts to produce peaches and other non indigenous crops on Black Belt soils which are not productive for most Commercial fruit production. A sustainable agriculture field day was also organized to create awareness and provide hands-on learning opportunities on sustainable agricultural practices. Some of the specific topics covered included, Plasticulture Production, Sustainable Soil Management Practices, Biofuel Production from Crop Biomass, Integrated Pest Management (IPM), Economics of Horticultural Production, Soil and Water Conservation and Growing Medicinal Herbs for Profit.

TUCEP also provided risk management training and informational opportunities including conferences, workshops, one-on-one technical assistance, marketing handouts, bulletins, and newsletters to help farmers minimize the most prevalent risk factors. Through these activities farmers increased their knowledge of the income earning potential of their farm enterprises, improved their financial skills, and completed marketing and business plans. They also identified potential marketing opportunities,

strengthened their entrepreneurial skills, penetrated new markets, and increased their understanding of production, financial, and marketing risks.

**2. Brief description of the target audience**

The targeted audience consisted of small-scale producers and landowners and their families in the 12 Black Counties of Alabama.

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

**1. Standard output measures**

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Plan</b>	1100	550	250	600
<b>Actual</b>	2005	4999	1009	1508

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

**Patent Applications Submitted**

Year: 2010  
 Plan: 0  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2010	Extension	Research	Total
<b>Plan</b>	0	0	
<b>Actual</b>	0	0	0

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

**Output Target**

**Output #1**

**Output Measure**

- The output target will consist of training in Integrated Pest Management, Plasticulture, Organic Farming, Forest Management, Animal Management and Marketing involving farmers, landowners, homeowners, senior citizens, youth farmer organizations, federal and state agencies and private industry.

Year	Target	Actual
2010	450	450

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Participants will gain awareness of new techniques in agriculture and natural resources management. The number of participants who change attitudes about existing production techniques will increase.

## **Outcome #1**

### **1. Outcome Measures**

Participants will gain awareness of new techniques in agriculture and natural resources management. The number of participants who change attitudes about existing production techniques will increase.

### **2. Associated Institution Types**

- 1890 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	133	133

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

Plasticulture technology is the practice of enhancing horticultural production using plastic, including the use of plastic mulches. Although there are many benefits of using plastic mulches, including earliness of crop, higher yields, cleaner and higher quality produce, efficient and fertilizer use, reduced erosion, and fewer pest problems, there is very little adoption of this technology in Alabama Black Belt region. The expected outcome of plasticulture is increased vegetable yields leading to higher farm income and hence contribution to poverty alleviation.

#### **What has been done**

A field day was conducted on September 30, 2010 and farmers were taught the principles of plasticulture production. This was followed by site visit to plasticulture demonstration plots. On campus demonstration plots were also set up, one in summer and another one in fall 2010. Several vegetable crops were grown including tomato, pepper, cantaloupes, watermelons, onions and collards green, using plastic mulch and drip irrigation system. On campus faculty and staff participated in community gardening exercise. A one hour class on gardening was conducted for the participants.

#### **Results**

Farmers increased more awareness of plasticulture technology, learned about the different systems of plasticulture technology including plastic mulch, row covers, and hoophouses. Farmers learnt how to calculate the crop water requirement, weed control methods, and insect pest and disease control methods. Ten farmers reported that they would adopt plasticulture practices; 7 farmers reported that learning about plasticulture techniques was very useful. More farmers are expected to adopt plasticulture technology.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
123	Management and Sustainability of Forest Resources
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141	Air Resource Protection and Management
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#### **V(H). Planned Program (External Factors)**

##### **External factors which affected outcomes**

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

##### **Brief Explanation**

Program outcomes were particularly affected by extreme weather conditions and the economy. A number of planned field demonstrations were cancelled due to bad weather and number of participants were lower than expected for some workshop and training sessions that required registration fees.

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

##### **1. Evaluation Studies Planned**

- Before-After (before and after program)
- Case Study
- Comparisons between program participants (individuals, group, organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Other (Farm surveys)

##### **Evaluation Results**

There has been a significant increase in the number of experienced and young producers that are adopting the principles of sustainable and organic livestock and crop production as well as integrated pest management in their production systems in efforts to reduce the cost of pesticides and to produce healthier produce for the market. Over 90% of

livestock producers have seen a steady increase in calf crop percentages, and in birth and weaning weights and 75% have also improved nutrition management through pasture renovation which has improved forage quality for grazing and hay production. Fourteen (14) commercial vegetable producers received assistance from TUCEP specialists to construct hoop houses to extend and intensify crop production. Five (5) producers have gone green by using solar panels as energy sources for lighting and for running irrigation systems. Additionally, twenty (20) fruit and vegetable producers increased skills and knowledge in regards to plant propagation (Bud-Grafting) in efforts to produce peaches and other non indigenous crops on Black Belt soils which are not productive for most Commercial fruit production.

### **Key Items of Evaluation**

Extension and Research are engaged in several research projects relative to crossbreeding exotic breeds of goats (African Boar) with a Spanish breed to produce a meat goat that is more resistance to many internal parasites and wet soil types in the Blackbelt which create low production of breeding herds and increased mortality rates for newborn kid as well as hoof problem for many producers. Crossbred goats will be evaluated for feed conversion versus the purebred African boar goat to determine which animal will convert native forages and browse plants into better meat production. This research will help save Alabama meat goat producers thousands of dollars in healthcare and feed costs. Pre- and post-test evaluations of participants in management of internal parasites in goats as well as weed and pasture management workshops show increased knowledge in both areas. Producers are therefore expected to use the knowledge gained to improve their production practices and in turn increase profitability.