Alternative Crop Production

Alternative Crop Production

V(A). Planned Program (Summary)

1. Name of the Planned Program

Alternative Crop Production

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		25%		25%
205	Plant Management Systems		25%		25%
211	Insects, Mites, and Other Arthropods Affecting Plants		25%		25%
601	Economics of Agricultural Production and Farm Management		25%		25%
	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	0.0	0.1	0.0	4.2
Actual	0.0	0.1	0.0	2.2

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	6831	0	273908
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	213416
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

Conduct research experiments; make presentations in conferences and meetings; conduct workshops and field days; develop Extension publications; and develop research publications.

Evaluated vegetable crop sequences as a combination or combinations of summer crops and fall greens in rotation and continuous cropping systems. Sweet potato yield levels were lower in 2008 than in 2006, but the yield decrease was much less in rotated than in continuous crop sequences. Similarly, squash yields in 2008 were higher under rotated than continuous squash-fall greens sequences. In 2008, higher fall greens yields were obtained if the previous crop was southern peas or squash.Sweet corn and southern pea- fall greens sequences produced lower fall greens yields and no yields for sweet corn and southern pea crops; therefore, this crop sequence would not be profitable to the farmer. Due to the increased demand for fresh peas in South Arkansas, we evaluated southern pea genotypes to identify genotypes with high fresh seed yield potential and harvest index. Fresh seed yield was highly correlated to harvest index. We found that two genotypes (UAPB2 and Early Scarlet) had higher yields and harvest indices comparable to those of the most popular genotype (Top Pick) grown by small farmers. Evaluation of superior southern pea genotypes will continue with more emphasis on finding management practices that increase fresh seed yield such as plant population, planting date, weed control and fertilization. A soil testing very low in potassium was used to evaluate the yield response and components of yield of sweet corn to potassium fertilizer application. Results indicate that application of 80 lbs K2O per acre increased ear weight by 29% compared to the control. In addition, the variation in plants with two ears and ear diameter accounted for by potassium fertilizer was 45% and 50%, respectively. It is important to supply nutrients if the soil supply is low to ensure optimum vegetable yields and quality.Research will continue to determine nutrient needs of other vegetable crops using cheap alternative fertilizers. Eight varieties of Gladiolus flower plant: Plum Tart, Goldfield, Mixed Colors, Arabian Night, Fire-Cracker, Wigs Sensation, Pink Event, and Expresso were evaluated for flower yield in the southeast Arkansas conditions. Results indicate that the variety "Expresso" produces the highest number of flowers under the Southeast Arkansas conditions. The plants require frequent irrigation during the hot summer period. Since the Southeast Arkansas is prone to drought in the summer months, varieties should be selected for drought tolerance, vigorous growth, and early flowering. Such selections would ensure sustainability and profitability of the floriculture agribusiness.Results suggest that planting Gladiolus species for floral production could be a profitable agribusiness in the Southeast Arkansas Delta. The first year trial suggests that the environment is very favorable or conducive for the growth of Gladiolus species. However, there is a need to conduct appropriate selections for vigorous growth and early flowering. Since the Southeast Arkansas is prone to drought in the summer months, there is also the need to select appropriate varieties for drought tolerance. This would help to limit irrigation times and also ensure sustainability. Furthermore, experiment on fully matured (or dried) cow peas and early (or fresh) cow peas against bruchid beetles in laboratory conditions such as lower humidity, and development of enterprise budge(s) are on-going.

2. Brief description of the target audience

Small Farms and Limited Resource Farmers.

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	50	75	20	50
2008	25	60	15	25

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

Patent Applications Submitted

Year	Target
Plan:	0
2008:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target
Output #1

Output Measure

Fifty percent of the UAPB LRF's clientele adapt the rotation and insect control practices after five years. In case of ornamental 2-3% of UAPB LRF's will adopt ornamental production after five years.

Not reporting on this Output in this Annual Report

V(G). State Defined Outcomes

O No.	Outcome Name
1	1)The number of LRFs that adopt vegetable rotations/planting sequences, and insect control practices developed by this research; 2) number of LRFs that enter ornamental horticultural production, and 3) number of contact with clientele at workshop, field days, demonstrations, etc.

Alternative Crop Production
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

Natural Disasters (drought,weather extremes,etc.)
Economy
Appropriations changes
Government Regulations

Brief Explanation

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

1. Evaluation Studies Planned

After Only (post program)

Evaluation Results

Key Items of Evaluation