

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger

Reporting on this Program

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		16%		48%
205	Plant Management Systems		17%		35%
211	Insects, Mites, and Other Arthropods Affecting Plants		5%		17%
213	Weeds Affecting Plants		5%		0%
301	Reproductive Performance of Animals		10%		0%
302	Nutrient Utilization in Animals		10%		0%
303	Genetic Improvement of Animals		5%		0%
308	Improved Animal Products (Before Harvest)		5%		0%
311	Animal Diseases		10%		0%
501	New and Improved Food Processing Technologies		5%		0%
602	Business Management, Finance, and Taxation		5%		0%
603	Market Economics		7%		0%
	Total		100%		100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	21.0	0.0	30.0
Actual Paid Professional	0.0	12.0	0.0	0.0
Actual Volunteer	0.0	0.0	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	1144091	0	2285529
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	1144091	0	2285529
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

The program will utilize an interdisciplinary team in agriculture to explore food insecurity issues and identify strategies to find solutions as a means of impacting the community through research and educational programs. Research in plant and animal production as well as in agricultural economics will be conducted to identify ways by which hunger and food insecurity can be alleviated and eventually eradicated. Research will be conducted by synthesizing existing knowledge and new findings in agricultural sciences. The educational program will provide a wide range of demonstrations, farm tours, group meetings, seminars, applied research, and one-to-one interventions. The indirect activities will include public service announcements, dissemination of newsletters, websites development, research publication reports, information sheets, and publications in scientific journals. These activities will be geared towards increased food production, availability, and access.

2. Brief description of the target audience

This program will be designed specifically for the limited-resource farmers and rural residents within the State of Mississippi. We hope to provide the farmers and residents in Mississippi with findings related to sustainable production, preservation and utilization of identified alternative crops.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	5723	4408	4046	459

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

Year: 2013
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	1	3	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Development of research papers and publications on the findings of studies focusing on plant systems.

Year	Actual
2013	31

Output #2

Output Measure

- Conduct educational field days for limited-resource farm families on sustainable crop production practices.

Year	Actual
2013	7

Output #3

Output Measure

- Conduct educational tours for limited-resource farm families on sustainable crop production practices.

Year	Actual
2013	10

Output #4

Output Measure

- Conduct educational programs on sustainable horticulture production practices to limited-resources farm families.

Year	Actual
2013	10

Output #5

Output Measure

- Develop educational fact sheets on sustainable horticulture production practices to limited-resources farm families.

Year	Actual
2013	12

Output #6

Output Measure

- Conduct research projects on sustainable crop production practices.

Year	Actual
2013	6

Output #7

Output Measure

- Conduct educational workshop for limited-resource farm families on forest soil erosion/management.

Year	Actual
2013	6

Output #8

Output Measure

- Conduct educational demonstrations for limited-resource farm families on best management practices and best available technologies for livestock production.

Year	Actual
2013	0

Output #9

Output Measure

- Conduct educational programs, activities or events on forage production practices for limited-resource farm families

Year	Actual
2013	0

Output #10

Output Measure

- Conduct educational programs, activities or events to improve herd genetics for limited-resource farm families.

Year	Actual
2013	0

Output #11

Output Measure

- Conduct educational programs, activities or events on pastured livestock production practices for limited- resource farm families.

Year	Actual
2013	0

Output #12

Output Measure

- Conduct educational programs, activities or events on reproduction performance, nutrient utilization in animals to decrease livestock production cost for limited-resource farm families.

Year	Actual
2013	0

Output #13

Output Measure

- Conduct educational programs, activities or events on alternative livestock production practices for limited- resource farm families.

Year	Actual
2013	0

Output #14

Output Measure

- Develop research publications related to animal/meat production.

Year	Actual
2013	0

Output #15

Output Measure

- Develop research based reader friendly pamphlets and fact sheets on livestock production for Extension educators and farm families.

Year	Actual
2013	0

Output #16

Output Measure

- Develop M.S. thesis on animal production systems.

Year	Actual
2013	0

Output #17

Output Measure

- Conduct educational programs and demonstrations on alternative crop production.

Year	Actual
2013	12

Output #18

Output Measure

- Conduct educational programs and demonstrations on community and container gardening.

Year	Actual
2013	10

Output #19

Output Measure

- Conduct educational programs of food safety and sanitation practices.

Year	Actual
2013	7

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Increase number of program participants to adopt integrated nutrient management to increase crop production.
2	Increase number of program participants to utilize integrated pest management to improve the quality of vegetable production.
3	Increase number of producers to adopt new crop systems to improve crop yield and quality.
4	Increase number of participants to improve product handling and sanitation.
5	Increase number of participants to use recommended cultivar and other production practices to enhance productivity and profitability.
6	Increase number of program participants to improve production livestock production efficiency through best management practices.
7	Increase number of producers that will improve pasture grass fed to livestock.
8	Increase number of farmers to utilize artificial insemination and/or embryo transfer to decrease the need to purchase quality male animals and improve herd genetics.
9	Increase number of farmers to adopt pasture or alternative livestock systems as an alternative enterprise.
10	Increase the number of communities establishing community and container gardens to increase the availability of fresh and locally grown produce.

Outcome #1

1. Outcome Measures

Increase number of program participants to adopt integrated nutrient management to increase crop production.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Plant nutrients must be added continually to most soils for higher yields from intensive cultivation; however, they must be applied with caution. Fertilizer additions (to supplement the nutrient-supplying power of soils) must be calculated to replace the soil nutrient loss and also to assess fertilizer efficiency. Correctly predicting fertilizer requirements for certain crop on a certain soil is a complex problem. Excessive amounts of fertilizers get into the environment by miscalculating how much material to apply. Therefore, soil tests must be used to determine which nutrients are deficient and by how much for evaluating/correcting or avoiding problems. Thus, it is essential to educate producers on specific soil management and cropping systems of the tested soil for achieving efficient production of crops and solving problems of plant nutrient deficiencies or toxicities.

What has been done

Chemical soil analysis is a valuable diagnostic technique for helping to control, manage and provide answers to complex the nutritional problems. Obtaining and analyzing soil sample that represent the area to be used in production will ensure the correct application of the right amount of nutrient need for the crop. Therefore, ten workshops on proper soil sampling techniques, effects of fertilizer application for vegetable production were conducted for limited-resource farmers at various extension programming activities. A total of 500 hundred farmers and youth attended the events. Participants were educated on the importance of soil testing as important management practice for fertilizer application and cropping system of the tested soil.

Results

Questionnaire conducted after the workshops indicated that 87% percent of the participants conducted soil test before planting their crops this growing season. The questionnaire also indicated that 92% of the participants who conducted soil test applied the recommended amount

of nutrients based on the soil test results.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

Outcome #2

1. Outcome Measures

Increase number of program participants to utilize integrated pest management to improve the quality of vegetable production.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	350

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Most vegetable farmers rely heavily on spraying pesticides to reduce the damage from pests and diseases. Maintaining high level of agricultural productivity and profitability while reducing synthetic chemical pesticide use, presents a significant challenge. Therefore, proper care and maintenance of agricultural productivity requires knowledge that emphasize not only cultural and biological controls as the main defense against pests but include the judicious use of synthetic chemical pesticides. This knowledge begins with Integrated Pest Management (IPM.) IPM is a combined approach of crop management to solve ecological problems when applied in agriculture. A key need for IPM development and adoption is to create public awareness and understanding of IPM, including health, environmental, and economic impacts through education programs. Therefore, outreach was focused on educating farmers on the principles and practices of IPM.

What has been done

Seven hands-on training workshops on IPM were conducted for our target audience at Alcorn State University demonstration centers located in Mound Bayou, Preston, Marks, and Lorman and also at participating farmer's fields. Three hundred and fifty (350) farmers and youths attended the training workshops. The trainings utilized the IPM training materials developed

through the need assessment questionnaires. The training material contained information on systems approach to IPM practices such as biological, cultural, chemical, physical/mechanical and promotion of biodiversity. The training materials also included strategies for building and maintaining soil fertility, organic pest management, cover cropping and crop rotation. Thus, participants were trained on different pest monitoring techniques, the use of beneficial insects, cultural, mechanical/physical control methods and the use of low impact pesticides. Participants were also educated on the use of cover cropping and crop rotation as weed control measures and also as means of maintaining soil fertility.

Results

Results from the questionnaire survey administered at the training workshops revealed that 90% of the participants anticipate taking action or making changes on their pest management program based on the information received from the training workshops. The results also indicated that majority of the framers anticipate adopting IPM practices based on the training workshops and 83%- use cover crop and crop rotation to maintain soil fertility and weed control measures.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants

Outcome #3

1. Outcome Measures

Increase number of producers to adopt new crop systems to improve crop yield and quality.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	850

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Crop production is a complex operation. It success depends on adapting to new and improved cropping systems that will manage production inputs to production quality crops. Vegetable crops

can be produced from a very small parcel of land if the producer is able to make the right decision in terms of selecting and managing the appropriate production inputs. Many diseases and other pests that affect horticultural crops are results of cropping systems used. Therefore, producers must be introduced to new crop varieties and cropping systems that are adapted to new production technology. Hence, farmers need to be educated on the system of crop production that allows the planting of different crops in a given field every year or every other year. This scheme of crop rotation permits crops to retain water and soil and tend to rebuild the soil countering losses incurred when crops occupied the land. Many diseases and other pests that affect horticultural crops are a result of the cropping system used.

What has been done

Monoculture encourages a large buildup of diseases and insect. Limited-resource farmers reported loss of income opportunities due to the current mono cropping and crop maintenance systems being practiced on their farms. The impact of different sustainable production practices were compared with the current conventional production practices at the demonstration centers. Hence, during our field days conducted by ASUEP in Preston, Lorman, Port Gibson and Mound bayou five hundred (850) farmers were educated on modern production techniques such as crop rotation; cover cropping, mulching, tillage practices and different pest application methods.

Results

Response from the survey conducted after the workshops indicated that 88% of the participants indicated that they anticipate adopting sustainable farming systems based on the training workshops while 72% indicated that they have adopted the use cover crop and crop rotation to maintain soil fertility and weed control measures their farming operations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems

Outcome #4

1. Outcome Measures

Increase number of participants to improve product handling and sanitation.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
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2013

670

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A sanitation program is as good as the attitude, willingness, and efforts of people. The importance of proper postharvest handling techniques for horticultural crops is vital. Concerns about food safety when handling fresh fruits and vegetables have increased over the past decade that is why the most important aspect of a sanitation program is ongoing farming operation. It is essential that everyone concerned in the food system accept the full meaning of sanitation and its wide economic scope. Therefore, producers must be trained on Best Management Production that includes appropriate sanitation principles, product-handling practices, manufacturing controls, and personal hygiene practices.

What has been done

Eight workshops on quality control, sanitation, post-harvest handling and crop proper production practices were conducted at the Alcorn state University Vegetable Processing facility located in Marks MS and during other ASUEP programming activities. A total of six hundred and seventy (670) farmers attended the workshops. In addition, farmers were also educated on environmental factors such as soil type, temperature, frost, and rainy weather at harvest because the aforementioned factors can have an adverse effect on storage life and quality of the produced.

Results

Results of the questionnaire conducted after the workshops indicated that majority (80%) of participants have adopted product handling and sanitation technology and sustainable farming operations on their farms.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
501	New and Improved Food Processing Technologies

Outcome #5

1. Outcome Measures

Increase number of participants to use recommended cultivar and other production practices to enhance productivity and profitability.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	625

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Each year, thousands of new vegetable cultivars are released from seed companies and public research institutions around the world. These new cultivars provide the potential for increased yields, quality and pest resistance. At the same time, changing production practices, pest pressures, economic conditions and environmental constraints alter the performance requirements of vegetable cultivars. Cultivars which were once the industry standard soon becomes obsolete due to these rapid changes.. Thus, farmers need to be educated on sustainable methods of vegetable production techniques in other to produce quality vegetable crop.

What has been done

Vegetable trials studies have been conducted at the Alcorn Experiment Station and other off-campus Extension/Research Centers in an effort to identify vegetables with high income potential that will adapt to the region. To assist small farmers make better crop choices on their farms five workshops and three on-hand training activities were conducted at the research and demonstration farms located in Lorman, Preston and Mound Bayou and farmers' fields during extension programming activities. The workshops were used to educate 625 farmers including youths on proper crop selection and different production practices (cultivar, fertilizer and irrigation rates, planting densities, and pest control programs).

Results

Questionnaire after the workshops indicated that approximately 88% of the participants that attended the workshops are now making better crop choices by purchasing and planting recommended varieties.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
501	New and Improved Food Processing Technologies

Outcome #6

1. Outcome Measures

Increase number of program participants to improve production livestock production efficiency through best management practices.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	425

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Producers often are reluctant to apply new technology that will improve their operation; this is because they are accustomed to and feel more comfortable in doing and using practices that they have used over the years. Pasture-raised animals can add quality to animals that create niche markets for pasture-raised animals. Small Producers often times don't understand or don't use best management practices (BMPs) as a land management strategies that prevent or reduce the movement of sediment, nutrients, pesticides and other pollutants from the land to surface or groundwater. BMPs are designed to protect water quality from potential adverse effects of land management practices from all locations within a watershed. Producers should use best management practices that include soil and water conservation practices, other management techniques and social actions developed for a particular region as effective and practical tools for environmental protection.

What has been done

Knowledge of best management practices of management, nutrition, herd health, and reproductive performance was presented and taught to producers during field days, personal contacts, bulletins and demonstrations. 425 producers and potential producers received educational programming through six (6) workshops and (4) seminars on Rotational grazing, Best Management Practices, Reproductive performance and Forage Requirements.

Results

Two hundred sixty-five limited resource producers indicated they were using rotational grazing and following BMP guidelines in their operation. Sixty percent of producers indicated that rotational grazing and BMPs would be implemented in to their farming plan. Sixty percent of producers indicated interest in applying the techniques learned through activities. Limited resource producers used some best management practices that increased the quality of animals

raised and has seen some economic benefits. One hundred fifty five limited resource producers and farm families were documented to have adapted new management techniques.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
308	Improved Animal Products (Before Harvest)
311	Animal Diseases

Outcome #7

1. Outcome Measures

Increase number of producers that will improve pasture grass fed to livestock.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	326

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Limited resource producers often times lack the resources and knowledge to improve pastures. Soil test are very seldom used to determine the needs of the soil in order to grow quality pastures. Weed control is not applied and weeds compete with grasses and want allow the livestock to have good grazing conditions.

What has been done

Through collaborative efforts of ASU-EP, MSU-ES & NRCS we were able to implement a Grazing Conference, educational Field?s Day along with a tour of conservation practices used to enhance livestock production. Technical assistance and information on winter/spring pastures, herd health, forage management, and nutrient requirements were provide to participants

Results

After evaluation of grazing conference, field?s day and tour, 60% of participants indicated that they were using these practices or had plans to implement practices on their farms in the future. Through these efforts 326 producers gained knowledge and training on forage management, weed control, and nutrient importance of pasture grasses.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
308	Improved Animal Products (Before Harvest)

Outcome #8

1. Outcome Measures

Increase number of farmers to utilize artificial insemination and/or embryo transfer to decrease the need to purchase quality male animals and improve herd genetics.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	542

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Producers often have inferior herd genetics from the lack of quality breeding stock. The knowledge and resources to improve genetics have not been applied to livestock operations which lead to poor animals for market. Most producers have not planned nor have the resources for the breeding season that should include typical management activities such as making sure that bulls, bucks and boars are in adequate body condition and have passed a breeding soundness exam well in advance of the breeding season. Small producers often times don?t have the resources and knowledge to make decision using artificial insemination that will excel in traits that the producer needs- high weaning, exceptional carcass quality and good maternal characteristics.

What has been done

Training/demonstrations with artificial insemination being the focus was conducted in which producers attended and gain knowledge and training on artificial insemination/estrus

synchronization and best management practices. Swine producers through Pork Producers Field?s Day were informed of the importance of improving genetics to meet market demands. Information on genetics improvement was disseminated to limited resource producers and farm families.

Results

Through evaluation and farm visits, three new cattle producers were using artificial insemination as a result of training and outcome of last year?s producers who introduce AI in their herds had sufficiently improved herd genetics over the last two breeding seasons. Another five cattle producer was to begin artificial insemination during this next breeding. Eighteen producers indicated that they were going to receive more training and begin the process in the future. Swine and goat producers was interested in AI, but felt their operations were too small to invest in the time needed to succeed. All though most of the producers understood the need for improvement; they were reluctant due to the lack of knowledge, training, and experience in this artificial insemination.

4. Associated Knowledge Areas

KA Code	Knowledge Area
303	Genetic Improvement of Animals

Outcome #9

1. Outcome Measures

Increase number of farmers to adopt pasture or alternative livestock systems as an alternative enterprise.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	485

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Small Producers often times don?t understand or don?t have a farm plan in order to maximize their operation. Opportunities often exist for producers to develop other alternative enterprise that will supplement their farming income. Knowledge of pasture system using best management practices (BMPs) as a land management strategy has not been used.

What has been done

Small limited resource producers were provided information through workshops, field days and one on one consultation on alternative enterprises with emphasis placed on pastured poultry, pastured swine and goat production.

Results

Through evaluation and observation measures, 45 % of participants were considering an alternative enterprise for their present operation. Evaluations also indicated that 30% had some type of pasture system for livestock on their farm. About 50% of the participants indicated that they understood the need for pasture systems and would be implementing these systems in their operation. One hundred twenty two youth participated in field day and demonstration in which pastured poultry was promoted as an alternative enterprise. Through evaluation two youth indicated that they were raising pastured poultry and twenty youth indicated that they were planning to begin raising pastured poultry in the near future. Over 400 adults and youth gained knowledge on pastured systems and around 30% implemented these systems on the farms

4. Associated Knowledge Areas

KA Code	Knowledge Area
308	Improved Animal Products (Before Harvest)

Outcome #10

1. Outcome Measures

Increase the number of communities establishing community and container gardens to increase the availability of fresh and locally grown produce.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	950

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Vegetable gardeners in urban areas are faced with lots of problems such as lack of space, soils contaminated with heavy metals such as lead and arsenic, shade from trees and buildings, and soil-borne diseases such as fusarium, pythium, rhizoctonia, and phytophthora. Container

gardening allows the grower to create special gardens to fit any situation. The grower may grow special plants that need a bit more attention to soil and water than he/she will be able to provide in a large in-ground garden. The popularity of container gardening has exploded. Plants in containers are showing up everywhere. From the front porches of bungalows to the rooftops of urban high-rises to the streets of Main Street U.S.A. plants in pots can be found. Successful container gardeners know that a good looking, well-maintained and long-lasting container just doesn't happen. When a few basic principles are applied, even first-time gardeners can create and maintain attention-grabbing containers.

What has been done

The vegetables suitable for container gardening are the ones that require small spaces -- particularly the dwarf or determinate types that bear fruit or other harvestable parts over a longer period of time. They usually require full sun, more than six hours of sunlight a day -- or partial shade, three to six hours of morning or early afternoon sunlight a day. Most fruit bearing vegetables such as tomatoes, peppers, cucumbers, squash, and eggplant require full sun. Leafy vegetables such as lettuce, cabbage, collards, mustard greens, spinach, and parsley can tolerate more shady location compared to the root vegetables such as turnips, beets, radishes, carrots, and onions. To this end, Alcorn State University Extension Program specialists and educator's utilized current research and information in conducting a series of workshops, field days and farm tours for south-west Mississippi residents wishing to gain an understanding of community and container gardening. A total of 250 participants attend the events and activities.

Results

Results from the questionnaire survey administered at the training events revealed that 90% of the participants are willing to engage in container gardening or making changes to their current container gardening methods.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
213	Weeds Affecting Plants

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Government Regulations
- Populations changes (immigration, new cultural groupings, etc.)
- Other (Personnel availability)

Brief Explanation

The availability of grant funds reduced research efforts and educational programs. This planned program area had too many outcomes to address and several outcomes have been

combined or eliminated for 2013.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- Limited-resource farmers are adopting sustainable vegetable production practices.
- There is an increased interest in community and container gardening.
- Limited-resource farmers need farmer markets and other direct outlets to market their produce.
- Limited-resource farmers are increasing their net farm income by producing syrup.

Key Items of Evaluation

Limited-resource farmers are interested in alternative crop production and alternative marketing strategies.