

V(A). Planned Program (Summary)**Program # 12****1. Name of the Planned Program**

Horticulture

 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	15%		2%	
202	Plant Genetic Resources	0%		3%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%		4%	
204	Plant Product Quality and Utility (Preharvest)	15%		5%	
205	Plant Management Systems	60%		53%	
206	Basic Plant Biology	0%		3%	
211	Insects, Mites, and Other Arthropods Affecting Plants	0%		6%	
212	Pathogens and Nematodes Affecting Plants	0%		7%	
216	Integrated Pest Management Systems	0%		2%	
601	Economics of Agricultural Production and Farm Management	10%		4%	
602	Business Management, Finance, and Taxation	0%		1%	
603	Market Economics	0%		1%	
604	Marketing and Distribution Practices	0%		1%	
903	Communication, Education, and Information Delivery	0%		8%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	20.0	0.0	3.5	0.0
Actual Paid Professional	22.3	0.0	5.4	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
598936	0	210386	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
598936	0	669266	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	621077	0

V(D). Planned Program (Activity)**1. Brief description of the Activity**

Research and extension activities designed to:

- Increase commercial producer profitability by promoting cultural practices that are research based;
- Improve marketing of horticultural crops;
- Determine commercial producer and support industry needs via interaction with commodity groups, grower meetings, advisory councils, etc.
 - Reduce economic and environmental impact of commercial production by facilitating implementation of integrated pest management techniques in commercial production;
 - Increase commercial production efficiency by decreasing labor requirements, i.e. mechanization, automation, etc.
 - Continue selection of appropriate varieties for local environments in Mississippi;
 - Increase the sustainability, efficiency, and enjoyment of home and non-commercial horticulture; and
 - Contribute to the overall art and science of horticulture.

2. Brief description of the target audience

The target audience includes commercial producers, manufacturers, suppliers, managers, and consumers, within the vegetable and fruit production, sweetpotato, turf, floriculture, and ornamental nursery industries. It also includes gardeners, landscapers, turf owners/managers, retailers and wholesalers in commercial and/or non-commercial horticulture.

3. How was eXtension used?

The resources provided through eXtension were used to supplement and enhance our public learning experiences provided by MSU Extension agents and specialists. eXtension was also used as a resource in state-based planning processes. Overall, 212 MSU employees are eXtension users, with 15 new registrations during this reporting period. Further, MSU Extension has 64 employees that serve on one or more of the 72 Communities of Practice (COPs); MSU Extension employees are member of 33 COPs. Twelve MSU Extension employees serve as a leader for a COP, leading 9 COPs. MSU Extension faculty lead the All About Blueberries COP, Bee Health COP, and Grapes COP. Extension personnel are members of these COPS as well as the Consumer Horticulture COP.

V(E). Planned Program (Outputs)

1. Standard output measures

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	153743	148229	0	0

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

Patent Applications Submitted

Year: 2012
 Actual: 6

Patents listed

1. Provisional Patent - Crapemyrtle Plant Named Neshoba, serial number 61/626,458
2. Provisional Patent - Crapemyrtle Plant Named Pascagoula, serial number 61/626,459
3. Provisional Patent - Crapemyrtle Plant Named Sequoyah, serial number 61/626,463
4. Provisional Patent - Crapemyrtle Plant Named Shumaka, serial number 61/626,497
5. Provisional Patent - Crapemyrtle Plant Named Tishomingo, serial number 61/626,484
6. Patent Awarded - Bermuda grass Plant Named "MSB-04-264." Patent Application submitted and notice of Allowance received.

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2012	Extension	Research	Total
Actual	7	17	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of clientele attending seminars, workshops, short courses, and demonstrations.

Year	Actual
2012	50329

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of clientele adopting recommended practices, new technologies, strategies, systems, or cultivars.
2	Number of producers reporting increasing profitability levels.
3	Number of Master Gardeners completing training.
4	Number of attendees at field days and events reporting knowledge gains in post event surveys.

Outcome #1

1. Outcome Measures

Number of clientele adopting recommended practices, new technologies, strategies, systems, or cultivars.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	10666

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

MSU Extension has provided relevant, timely, and appropriate information to Mississippi fruit growers for more than a century. However, as electronic technology advances and becomes faster and more affordable, it is inevitable that the next generation of users will desire information delivered in this format.

What has been done

To satisfy the current need and prepare for future needs, a blog was begun to address fruit education in Mississippi. The blog, Mississippi Fruit and Nut Blog (msfruitextension.wordpress.com) allow an extension educator to communicate directly with their audiences, delivering timely information, and initiating online conversation in a collaborative

Results

The blog started in December 2011. From December 2011 to September 2012, nearly 6,000 views were made by visitors from 110 countries. Visitors gain knowledge in various areas including pest control, cultural management, and variety selection. The posts have been shared 62 times by readers and have elicited 66 comments. These numbers are growing rapidly. Deriving a monetary value is difficult, but readers must find the time investment worthwhile in finding the material and then implement the knowledge after reading. Writing a blog can be a rewarding experience, both for the author and reader. An engaging blog allows the author to become more familiar to the audience, breaking down barriers between the university and the grower and creating trust between the parties on a more personal level.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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102	Soil, Plant, Water, Nutrient Relationships
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #2

1. Outcome Measures

Number of producers reporting increasing profitability levels.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	8053

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Roses are a major horticultural crop highly desired for their beauty, fragrance and nostalgia. However, numerous cultivars are challenged by the heat and humidity of MS, making them a high maintenance plant for gardens. Gardeners and landscape professionals will use roses in their landscapes if sustainable cultural techniques and cultivars can be developed. Program goals are to provide best management practices for production and garden maintenance of roses and broaden opportunities for low-maintenance gardens and land restoration.

What has been done

Research and extension activities are carried out at the Veterans Memorial Rose Garden (VMRG) at MSU. Roses are present for public viewing as well as for research observation. Research plots contain experiments that investigate sustainable gardening and landscape practices for roses and other ornamental species. Two years of data collection on a study of modern shrub roses concluded in spring, and a second experiment on heat tolerance on the shrub roses was initiated. A study of soil influences on growth of native perennials is ongoing.

Results

A constant flow of visitors to the site are observed year-round. Tours, demonstrations, videotapes and other media capable of reaching a diverse audience are used to promote landscape design, gardening, and care of roses. The garden is also used for teaching classes, exercise and meeting place. Analysis of the recently finished shrub rose research project will provide best management

practices for optimum spacing of these roses in the landscape, which is a common issue in garden installations. Completion of the study on effect of soil flora on the growth of native perennials will indicate whether native perennials, as a group, are improved by addition of soil biological amendments.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures

Number of Master Gardeners completing training.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2012	195

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Popularity of home gardening and landscaping continues to rise with a corresponding need for accurate and timely home horticulture information and programming to meet this demand. County Extension offices continue to report that most questions asked pertain to home horticulture. With a reduced Extension workforce to supply information and conduct programming, the Master Gardener volunteer is vital for Extension's outreach to home gardeners.

What has been done

The Mississippi Master Gardener program is growing, with more trained volunteers being recruited and trained than ever before. Mississippi now has 52 counties with the Master Gardener program. Each year approximately 200 new Master Gardeners are trained and added to the program for a total in Mississippi of approximately 1,500 active Master Gardeners.

Results

Master Gardener volunteers devoted 47,303 hours to deliver home horticulture programming and information to MS citizens. This equates to 23 FTEs and represents a donation of time valued at \$1,047,289. They made 87,882 contacts while traveling 150,336 miles. Volunteers devoted 20,858 hours to develop and maintain educational projects; 2,768 hours to deliver presentations; 926 hours to write and publish newspaper columns, magazine articles, factsheets, etc.; 893 hours to youth programming; and numerous other hours that increased home gardeners' knowledge and awareness of good gardening practices and techniques. The volunteers extend and amplify the impact of a decreased Extension workforce and provide clientele with access to an abundance of home horticulture expertise and face-to-face contact at the county level.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems

Outcome #4

1. Outcome Measures

Number of attendees at field days and events reporting knowledge gains in post event surveys.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

MSU Extension agents and specialists, as well as MAFES faculty, used a variety of recommended methods to gather needed information. Specific strategies will be initiated and utilized for collecting evaluation information to determine program outputs and outcomes (see impact statements for examples).

In FY 2012, MSU Extension agents and specialists were required to submit four

quarterly reports (January, April, July, and September). This quarterly report collects information about the number of contacts, types of contacts, and number of programs conducted in each Priority Planning Area. In addition, two narrative Accomplishment Reports are required from each MSU Extension employee each year. Finally, a specific request for impact statements is also made. The evaluation results are a combination of this quantitative and qualitative data.

MAFES scientists operate research programs under an approved Hatch or Hatch-Multistate CRIS project plan of work. Outputs, outcomes, target audiences, and impacts are reported annually through the CRIS (REeport) system. Annual and project termination reports are developed by scientists and reviewed by Department Heads and the Director's office before submission to USDA-NIFA through REeport.

Key Items of Evaluation