

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Home Horticulture and Environment

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	5%			
205	Plant Management Systems	50%			
211	Insects, Mites, and Other Arthropods Affecting Plants	10%			
212	Pathogens and Nematodes Affecting Plants	10%			
213	Weeds Affecting Plants	15%			
216	Integrated Pest Management Systems	10%			
	Total	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	9.6	0.0	0.0	0.0
Actual	11.0	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
421244	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
437604	0	0	0
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

Some of the major activities under this program are Master Gardener training (core course), advanced Master Gardener training, Garden 'N Grow training and workshops for garden center employees. Other activities include the Plants of Merit and HortLine programs in cooperation with Missouri Botanical Gardens, homeowner workshops, Lifespan Learners Series, Responsible Home Horticulture Series, booths at home shows and fairs, Plant a Row for the Hungry, Horticulture Therapy in Nursing Homes and the Home*A*Syst Program.

2. Brief description of the target audience

The ultimate target audience of this program is individuals with an interest in gardening. However, to reach this diverse and highly dispersed audience, MU Extension will need to use several community multipliers of information. One highly important audience will be the Master Gardener volunteers. After receiving training, Master Gardeners contribute volunteer hours to assist with dissemination of horticultural information through speaking engagements, workshops, information booths, youth programs, Extension Center hot lines, demonstration plantings and other activities. Youth groups including 4-H are another important target audience. Many young people will enroll in the Garden 'N Grow program.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	6000	10000	500	0
Actual	6500	600000	320	0

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
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Provide in-service training session (s) for regional Extension specialists on an annual basis.

Year	Target	Actual
2010	1	0

Output #2

Output Measure

- Develop or revise guide sheets a year for regional extension specialists to use in producer meetings.

Year	Target	Actual
2010	5	6

Output #3

Output Measure

- Print and electronic newsletters devoted to pest and horticulture crop management will be developed and distributed to regional specialists and other clientele.

Year	Target	Actual
2010	12	15

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Master Gardeners, garden center employees, retired persons and home gardeners will increase their knowledge of basic plant growth, fertility, plant care, varieties, diseases.
2	4-H members & youth will improve their gardening skills and awareness of where food comes from through the Garden & Grow program.
3	Increase the number of Missourians participating in gardening activities.
4	Increase use of soil sampling and plant diagnostic services by home gardeners.
5	Increase the number of Master Gardner volunteer hours and contacts.

Outcome #1

1. Outcome Measures

Master Gardeners, garden center employees, retired persons and home gardeners will increase their knowledge of basic plant growth, fertility, plant care, varieties, diseases.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1000	4500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Selecting poorly adapted plants for home gardens can lead to frustration and may discourage people from future gardening activity. Awareness of sources of information about proper plant selection will contribute to gardening success and the human health benefits derived from it. Additionally, proper plant selection reduces plant stress, which can lead to a reduced amount of fertilizer and pesticides needed to maintain plant health.

What has been done

Through Master Gardener training and volunteer activities of Master Gardeners, newsletters, media releases, Nursery Association Certification training, and Web access to extension horticultural guides, thousands of Missourians receive information on plant selection and culture every year. The 2010 program included a Native Plant Field Day and a Tomato Festival. A presentation at the FFA field day reached 175 young people with information on pests that can be spread by firewood.

Results

Of 1.4 million valid hits on all MU agricultural guides from July 1, 2009, to June 30, 2010, 55 percent were horticulture guides. This is over twice as many hits as for any other category of agricultural guides. Horticultural and pest-management guides together accounted for 0.9 million (62%) of the agricultural guide hits for the period. The most popular horticulture guides were on composting, pruning shrubs, raised bed gardening, roses and vegetable production. Thus, thousands of Missourians received information to help them improve their gardening success. If 10 percent of those receiving home horticulture information increase their purchasing of plants, gardening supplies and landscape services by \$100 due to MU Extension activities, this would translate to a \$6 million increase in sales.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

4-H members & youth will improve their gardening skills and awareness of where food comes from through the Garden & Grow program.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	300	35

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Youth gardening programs, including Garden 'n Grow, are intended to develop strong skills in science through the curriculum. The goals are also for young people who participate in the program to experience gardening as a positive, fun activity, to enjoy the feeling of success with their gardening efforts, and to experience the satisfaction of sharing their harvested produce with others. Young people also learn to produce healthy food and the importance of fresh produce in human nutrition.

What has been done

Garden 'n Grow was hosted in three Missouri locations, in which volunteers work with school children to help them plant, manage and harvest vegetable plots.

Results

One site was located at a teen pregnancy center, and another program was located at the Sierra-Osage Treatment Center in Poplar Bluff. Twenty girls from low-income backgrounds received horticultural training, and participated in team-building exercises with the Master Gardener mentors. The group designed and planted an annual flower bed displayed at a central location in Poplar Bluff (pop. 17,000+). Master Gardeners contributed more than 80 volunteer hours to the project. Youth surveys demonstrated the nutritional value of the program: 4 out of 5 respondents

reported that after the training they understood why it is important to eat fresh vegetables; 4 out of 5 stated they can grow vegetables in a garden by themselves now. All respondents indicated that "I learned to cook vegetables I didn't know how to prepare and cook before participating in this program."

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

Outcome #3

1. Outcome Measures

Increase the number of Missourians participating in gardening activities.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2500	3500

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Beneficial effects of gardening on human quality of life are well documented. Among other benefits, home gardening improves nutrition, reduces energy costs, encourages physical activity and contributes to psychological well-being. Missourians who garden are likely to derive these benefits throughout their lives.

What has been done

Through Master Gardener training, and volunteer activities, press releases, radio spots, Web and printed guides, field days and many other activities, thousands of Missourians gain information that will make them more likely to participate in gardening activities.

Results

Of 1.4 million valid hits on all MU agricultural guides from July 1, 2009, to June 30, 2010, 55 percent were horticulture guides. This is over twice as many hits as for any other category of agricultural guides. Horticultural and pest-management guides together accounted for 0.9 million (62%) of the agricultural guide hits for the period. The most popular horticulture guides were on composting, pruning shrubs, raised bed gardening, roses and vegetable production. Thus, thousands of Missourians received information to help them improve their gardening success.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

Outcome #4

1. Outcome Measures

Increase use of soil sampling and plant diagnostic services by home gardeners.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A recent summary of urban soil samples from the St. Louis and Kansas City areas showed that the majority of samples tested high or very high in soil phosphorus, which poses a threat to water quality. Increased soil testing will reduce the unintentional over application of fertilizer. Workshops to enhance environmental stewardship by homeowners and by lawn-care and horticulture industry professionals help to reduce unnecessary use of pesticide and fertilizer.

What has been done

MU Extension has developed Healthy Yards for Clear Streams, a program that focuses on training regional specialists to educate homeowners and lawn-care professionals to change management practices of lawns, gardens and landscapes. This program, in addition to Master Gardener outreach efforts, media releases and Web access to extension horticultural guides encouraged environmentally responsible gardening activity.

Results

The number of lawn and garden soil samples submitted to the MU Soil and Plant Testing Lab in 2010 was approximately 10 percent less than during the previous year, possibly due to economic

conditions. The number of plant diagnostic samples was reduced by 80 percent from the previous year, due to the resignation of the lab director and a delay in refilling the position.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

Outcome #5

1. Outcome Measures

Increase the number of Master Gardner volunteer hours and contacts.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2500	44581

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

There continues to be tremendous demand in the general public for gardening information. Many individuals enroll in the Master Gardener class to have access to this type of training. Once Master Gardeners are trained, they disseminate research-based information throughout their county and improve the knowledge base among home gardeners in their community.

What has been done

Master Gardener Core Training was offered in 25 counties in Missouri with 450 new Master Gardeners being trained.

Results

Newly trained Master Gardeners are aware of the resources of the University of Missouri and MU Extension and are able to promote their use. They become better educated and more environmentally aware as gardeners. They also actively promote the purchase of plants from local garden centers and nursery businesses. Master Gardeners contributed over 44,000 volunteer

hours to assist MU Extension in outreach and to benefit horticulture in their communities. With speaker's bureaus, newsletters, booths at home shows and many other venues, Master Gardeners contacted nearly half a million Missourians to provide research-based gardening information.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

While MU Extension made significant progress in hiring regional horticulture specialists, staffing limitations are still a major factor affecting program outcome. Most state Extension Specialists in horticulture have responsibilities in teaching, research and extension and, therefore, have limited time to devote to this program. Regional horticulture specialists have responsibilities in up to 13 counties and in multiple program areas. Budget constraints due to the poor economy and low tax revenues have restricted extension programming. The economic conditions over the past year have undoubtedly influenced the gardening habits of Missourians. While sales of vegetable seeds are up, purchase of higher cost items such as trees and shrubs has declined, despite extension programming to encourage their planting.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)

Evaluation Results

Surveys are collected at the end of nearly all Master Gardener core training series asking participants to evaluate program effectiveness and impact on their likelihood of adopting improved gardening practices. On a scale of 1-4 with 4 best, the average rating is 3.75.

Key Items of Evaluation

It is evident from the reception by the gardening public of programs such as Master Gardener, Show Me Yards and Neighborhoods, and Healthy Yards for Clear Streams that there is a tremendous demand for information about gardening. Home gardeners are increasingly concerned about the effects of their gardening activities on environmental quality. Furthermore, it is apparent that, given high quality, understandable information, gardeners tend to be willing to change their practices to be more environmentally responsible based on this information. Curricula developed for the Healthy Yards for Clear Streams program will be available for use in any program focused on environmentally responsible landscape and garden management.