

V(A). Planned Program (Summary)

Program # 6

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
202	Plant Genetic Resources	0%		22%	
204	Plant Product Quality and Utility (Preharvest)	0%		17%	
205	Plant Management Systems	85%		35%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		3%	
212	Diseases and Nematodes Affecting Plants	5%		9%	
213	Weeds Affecting Plants	5%		3%	
405	Drainage and Irrigation Systems and Facilities	0%		2%	
601	Economics of Agricultural Production and Farm Management	0%		4%	
604	Marketing and Distribution Practices	0%		5%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	25.0	0.0	15.0	0.0
Actual Paid	10.7	0.0	13.8	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
612064	0	358997	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
612064	0	358997	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1115816	0	3326915	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Key horticulture program areas address issues related to commercial vegetable, fruit, pecan and sweet potato production; home grounds; landscaping; home, community and school gardens and commercial ornamentals and turf. The Louisiana Master Gardener program provided trained volunteers to assist in addressing the growing needs of consumer horticulture audiences. Increased emphasis has been placed on school and community gardening efforts. The Louisiana Super Plants Program will continue to be offered to local horticulture professionals.

Teaching methods included extension and research activities such as result demonstrations, volunteer training, field days, studies, individual consultations, group meetings, mass media, publication development and extensive use of Web technology and social media outlets to reach target audiences.

2. Brief description of the target audience

Horticulture professionals; commercial vegetable, fruit, nut and sweet potato producers; home gardeners; nursery industry professionals; athletic field managers; Louisiana Master Gardener Volunteers; K-12 schools with gardens and related agribusiness clientele.

3. How was eXtension used?

245 questions submitted through eXtension's Ask an Expert system were answered by extension horticulture specialists.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	19799	1457920	2454	0

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

Year: 2014
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	27	31	58

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Web page views

Year	Actual
2014	2310557

Output #2

Output Measure

- Number of Web page visits
 Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of Louisiana Master Gardeners completing training series

Year	Actual
2014	285

Output #4

Output Measure

- Number of service hours contributed by all Louisiana Master Gardeners

Year	Actual
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2014

75818

Output #5

Output Measure

- Number of contacts made using social media tools
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Louisiana Master Gardener volunteers supplement the delivery of consumer horticulture program to clients.
2	Percent adoption of recommended practices by commercial horticulture professionals and producers

Outcome #1

1. Outcome Measures

Louisiana Master Gardener volunteers supplement the delivery of consumer horticulture program to clients.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Louisiana has an estimated 481,000 home vegetable gardens with a projected annual production of \$240 million. There also are countless home landscapes requiring maintenance and development that relates to an ever-increasing need by consumers for research-based horticulture information, training and timely access to LSU AgCenter resources. Reduced numbers of personnel coupled with increased interest in consumer horticulture, home gardening and home grounds has exacerbated the need for trained volunteers to assist in the delivery of quality educational horticulture programs.

What has been done

The Louisiana Master Gardener (LMG) Program involves a network of highly-trained volunteers and was developed to strengthen the capacity of the LSU AgCenter's Cooperative Extension Service ability to effectively and efficiently meet the educational needs of home gardeners in Louisiana. Louisiana Master Gardeners complete the standardized LMG training course and are required to donate 40 hours of service the first year and 20 hours each year thereafter to maintain certification. Now in its 20th year, there are 28 LMG training programs in 58 of 64 parishes that represent 96% of Louisiana's population centers. The LMG Program follows the standard Master Gardener format and participants interact with Habitat for Humanity, garden foundations, parish beautification programs, local farmers' markets, schools and community gardening programs, food banks, professional organizations, local master gardener associations, and Master Gardener programs in other states. In 2014, LMG volunteers: worked with school and 4-H youth, nursing home residents, and home gardeners; answered telephone gardening questions and e-mail communications; provided information at on-site plant health care clinics and gardening information booths; conducted demonstrations, community and school gardening programs,

public presentations, gardening seminars, workshops, garden shows, plant sales, educational tours, plant trials and evaluation; conducted urban tree protection and preservation programs; partnered with civic organizations and municipal entities to complete landscape projects; used media efforts involving newsletters, publications, cable TV and television broadcasts; planned, organized and conducted conference events; and performed on-site consultations.

Results

The increased need for consumer horticulture information and enhanced accessibility to the LSU AgCenter has proven that highly trained LMG volunteers presenting science-based information are recognized in their community as an important and critical resource for gardening education. In 2014, the LMG Program trained 285 new volunteers which increased the active number of volunteers statewide to 2,662. LMG volunteers provided 75,818 hours of their time to Extension educational projects and made 5,876,151 contacts with residents in Louisiana, exposing them to research-based, consumer horticulture information. This volunteer service, equivalent to 48 full-time employees, increased the human capacity of Extension horticulture professionals by 24% and contributed an economic value of \$1,821,248 to the state of Louisiana.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
213	Weeds Affecting Plants

Outcome #2

1. Outcome Measures

Percent adoption of recommended practices by commercial horticulture professionals and producers

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	78

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The commercial fruit, pecan, sweet potato and vegetable industry in Louisiana is small by comparison to other major production states within the U.S. However, this industry has a large economic impact within Louisiana. The 2013 gross farm values of fruit crops was \$28.9 million, pecans \$7.8 million, sweet potatoes \$48.9 million and vegetable crops \$53.6 million (LSU Ag Center Ag Summary 2013). Research and extension efforts towards improving applied production practices are warranted to help the fresh fruit/ nut and vegetable industry grow as a whole. The target audience for the LSU AgCenter's research and extension efforts primarily consists of the producers of these crops and related industry personnel including but not limited to: fertilizer and chemical reps, irrigation specialists, farmers' market managers, restaurant and grocery produce managers and wholesale brokers/ buyers. There are three grower and LSU AgCenter-driven commodity groups that accommodate this audience (Louisiana Fruit and Vegetable Growers' Association, Louisiana Sweet Potato Association and Louisiana Pecan Growers Association).

What has been done

The LSU AgCenter hosted regularly scheduled grower meetings in 2014. Fruit and vegetable growers attended bi-annual meetings held at Burden Botanical Gardens and Museum in the summer and winter months. The meetings are comprised of production management practice information, a general LFVGA membership meeting, and field tours of fruit and vegetable trials. Pecan growers meet in June with a rotational meeting location between Arkansas, Mississippi and Louisiana plus a spring and fall workshop held at a Louisiana orchard. Topics include grafting, fertility, and pruning. Sweet potato growers meet annually (Jan) for a production and business meeting. The sweet potato field day held annually (Aug) rotates between the sweet potato research station and a grower's field. Partners for these programs include Louisiana Farm Bureau, Louisiana Land Bank, Louisiana Department of Agriculture and Forestry, irrigation supply stores, seed companies, hardware stores, plant nurseries, equipment suppliers, farm chemical companies, sweet potato processors and pecan processors/ bag companies.

Examples of applied research efforts include: vegetable variety trials, herbicide management for broadleaf weed control in watermelon, tomato grafting trials, fertilizer studies on strawberry crops, high tunnel production of herb, strawberry, and tomato crops, cover crop studies to improve soil health, advanced sweet potato lines, soil nutrient studies, insect pest management, weed management, soil moisture effects on root set and sweet potato yield, pecan scorch and pecan scab resistance, monitoring incidence of pecan nutcase bearer, pheromone traps and insecticidal trials to prevent pecan insect damage, variety assessments for nut allergens, nut quality and antioxidants and breeding lines.

Results

In order to evaluate the effectiveness of educational programming and acceptance rate of production practices within the fruit, pecan, sweet potato and vegetable industry, surveys were mailed to producers to evaluate effectiveness in communication of research efforts. The survey was mailed to 450 fruit/vegetable and industry personnel, 78 sweet potato growers/industry personnel, and 35 of pecan growers. Eighty-five (85) surveys were returned equating to a response rate of 15%. Response rate may have been higher had the surveys been passed out at grower meetings and or if the recipients received stamped return address envelopes. Ninety-six percent of the responses were provided by growers and the remaining 3% of responses came from crop consultants, government agency representatives and other sources.

When asked where this group obtains most of their information regarding production practices,

62% indicated their first source was the LSU AgCenter followed by 21% obtaining information from other producers. When asked what printed and online sources these producers use to obtain information on fertilizer and pesticide rates 29% indicated they use the SE Vegetable Crop Handbook, co-published by LSU AgCenter and other southeastern U.S. university personnel. Between 17% and 43% also use LSU AgCenter specific production publications, 29% also use other university websites and books and 43% also consult with industry related educational websites, books and publications. These results indicate the LSU AgCenter publications are as much in demand as other state and industry materials.

In regards to following specific production information: 60% indicated they usually or always plant the recommended vegetable varieties, 82% usually or always follow weed control recommendations, 80% usually or always follow fertilizer recommendations, 71% usually or always fertilize according to our soil tests, 86% usually or always follow disease control recommendations and 87% usually or always follow insect control recommendations provided by the LSU AgCenter.

The industry continues to change and grow. Over the past four years, 48% of the respondents increased, 11% decreased and 41% stayed the same in terms of total numbers of acreage placed in production. In terms of employing new farm labor, 31% of respondents increased their employees, 67% employed the same number while only 2% reduced the number of employees they hire. Operation expenses increased for 77% of the survey respondents, 19% indicated expenses stayed the same and 4% saw a decrease in production costs. Most of the respondents (56%) indicated that the increase in operational costs was between 10-25% over the past 4 years. Fortunately for the industry, 43% of responses indicated that their income also increased over the past 4 years, 17% reported a decrease in income and 40% income remained the same. Again change in income (decrease or increase) was most predicted at the 10-25% range. Based on survey results the estimated overall adaption rate of LSU AgCenter recommended production practices is 78%.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Diseases and Nematodes Affecting Plants
213	Weeds Affecting Plants
601	Economics of Agricultural Production and Farm Management

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
- Competing Programmatic Challenges

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}