Master Gardeners

Program Evaluation

Report on Survey Results

Comprehensive Report
Master Gardener Graduates from
Fall 2014 and Spring 2015 Courses

August 1, 2016

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Assessment Resource Center
University of Missouri
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Introduction

University of Missouri Extension is a partnership of the University of Missouri campuses, Lincoln University, the people of Missouri through county extension councils, and the National Institute for Food and Agriculture of the U.S. Department of Agriculture. The Missouri Master Gardener Program is part of University of Missouri Extension, training hundreds of Missourians in horticultural and environmental stewardship every year.

To determine the success of this program throughout the state, students in the fall 2014 and spring 2015 Core Course trainings were surveyed regarding their classes and their experience using the information received during the class sessions. In order to assess the lasting impacts of Master Gardener training, the end-of-course surveys were updated and re-administered to the spring and fall graduating classes, approximately one year after completion of the course. Results from both these sets of surveys were provided in individual reports. This final comprehensive report provides the findings for both sets of surveys in order to assess the degree to which impacts of the program were sustained a year after the initial experience.

Background

The Missouri Master Gardener Program was established in 1983 by the Department of Horticulture as part of University of Missouri Extension. The Master Gardener Program provides in-depth horticultural training to individuals throughout Missouri who then volunteer their time, applying what they have learned to help others in their communities learn about gardening and environmental stewardship. The Master Gardener Program promotes and raises public awareness of the University of Missouri Extension as a source of unbiased, research-based gardening information. To date, nearly 10,000 Missourians have gone through Master Gardener training.

To become a Certified Master Gardener, an individual must attend a 30-hour Core Course training and give 30 hours of volunteer service back to their community in approved University of Missouri Extension activities. To remain an active Master Gardener, an individual must volunteer 20 hours and attend six hours of continuing education annually. There are more than 2,000 active Missouri Master Gardeners serving as Extension volunteers in towns and cities throughout Missouri.

Graduates completing the surveys reported a variety of positive outcomes stemming from their participation. Respondents gained knowledge across all course topics that they were able to share with others in their communities. Respondents reported changes in their own practices, such as increased volunteering, use of native plants, and increased physical activity. Finally, respondents found economic value from the program by growing more of their own food, reducing landscaping and yard maintenance costs, and lowering their water consumption.
Methods

In fall 2014, a team of Extension specialists and researchers from the Assessment Resource Center (ARC) drafted a Master Gardener Program evaluation tool that could be used statewide. After the fall 2014 and spring 2015 administrations, the survey was modified for the one-year follow-up distribution. This report provides summary results for both sets of surveys.

The surveys cover course evaluation areas including an evaluation of graduates’ knowledge of topics in the Core Course, their use of gardening knowledge, and changes in their gardening practices. Questions also try to capture other ways the course is of value to the graduates besides through acquisition of knowledge, such as through economic returns, volunteer activities, and continued experience with MU Extension.

Procedure

Students enrolled in fall 2014 and spring 2015 trainings were asked to complete two surveys, an initial end-of-course survey at the end of their training and a follow-up survey approximately one year after graduation from the program. Both sets of surveys were administered to individuals completing Master Gardener training by the Extension specialists who had taught the courses. For both the end-of-course and the follow-up surveys, specialists were provided a link to the survey to send to their students by email. For the initial end-of-course survey, specialists were also given the opportunity to request paper versions of the survey to distribute. In order to maximize response rates, specialists were prompted to send up to three reminders to their graduates for each survey administration.

In all, 210 students from the spring 2014 and fall 2015 training sessions completed the end-of-course survey. As expected, fewer students (N=138) responded to the follow-up survey that was sent to them a year after they had completed the course. The system for enrollment in Master Gardener courses is decentralized; therefore, Extension staff could not provide a precise number of Master Gardeners trained in the 2014-2015 period covered by this survey. Extension staff estimated that there were approximately 400 graduates across the fall 2014 and spring 2015 semesters, suggesting a response rate of roughly 53% for the end-of-course survey and 35% for the one-year follow-up survey. Not all respondents answered each survey question, so totals vary between questions.

Results

Both the end-of-course and the one-year follow-up surveys contained demographic questions to characterize survey respondents, questions about their gardening knowledge, and questions evaluating the impact of the program. For this report, responses from students enrolled in the spring and fall trainings were aggregated into one dataset for each survey. The two surveys contain some items that are exactly the same, some that run parallel, and some that are unique. Findings are presented for all items, with comparisons where appropriate.
Demographics of Respondents

As described in the procedures section, both the end-of-course and the one-year follow-up surveys were distributed by Extension specialists through an emailed survey link. The survey was completely anonymous, which creates difficulties in tracking participants who did or did not respond. For this reason, the overlap between the respondent groups for the two surveys is unknown. Whereas, the data shows that a larger percentage of students completed the end-of-course survey than the one-year follow-up survey, the response rate for this latter survey is quite high under the circumstances. It is significant to acknowledge that students experiencing the greatest impact from the course, be that positive or negative, are likely most willing to participate in a survey a year after having finished the course.

Although we cannot know what percentage of respondents were included in both response groups, patterns of residency were similar across the two surveys suggesting a degree of geographic consistency across groups (Figures 1 and 2). Respondents to the end-of-course survey reported living in one of 42 counties across Missouri. Respondents completing the one-year follow-up survey a year after training, selected 30 of these same counties, plus three additional counties (Pemiscot, Randolph, and Ripley).
Figure 1. County of Respondent’s Residence (End-of-Course)
Figure 2. County of Respondent’s Residence (One-Year Follow-Up)
In addition to residency, a comparison of responses to common questions contained on both surveys suggest that the two samples have similar demographic characteristics. For both surveys, most respondents were between 45 and 62 years-of-age (Figure 3). Likewise, both had similar patterns of employment with the largest share of respondents either working full-time or retired (Figure 4). Finally, the majority of the respondents were female across both surveys (Table 1).
Table 1. Gender of Respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>End-of-Course</th>
<th>One-Year Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Male</td>
<td>19</td>
<td>18.6%</td>
</tr>
<tr>
<td>Female</td>
<td>82</td>
<td>80.4%</td>
</tr>
<tr>
<td>Other</td>
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</tr>
<tr>
<td>Total</td>
<td>102</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note: The fall 2014 survey did not include this question; therefore, all end-of-course results for gender are from spring 2015.

In addition to sharing basic demographic characteristics, an examination of the type and location of training also supports the comparability of the two samples. The majority of respondents for both surveys received their training in person (Table 2). Likewise, the training locations were similar for both sets of respondents, albeit with a larger representation of counties for the end-of-course survey. Respondents to the end-of-course survey attended trainings in one of 34 separate counties (Figures 5). With the exception of Pemiscot and Randolph counties, all 26 training locations selected by respondents completing the one-year follow-up survey were included in both response sets (Figure 6). As was pointed out in the individual survey reports, counties with one student may represent graduates who had taken the course online.

Table 2. Training Delivery Format

<table>
<thead>
<tr>
<th>Format</th>
<th>End-of-Course</th>
<th>One-Year Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Online</td>
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<tr>
<td>In Person</td>
<td>165</td>
<td>78.6%</td>
</tr>
<tr>
<td>Total</td>
<td>210</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Figure 5. County of Master Gardener Training (End-of-Course)
Figure 6. County of Master Gardener Training (One-Year Follow-Up)
Garden Knowledge

In order to gain a better understanding of graduates’ experiences with the Master Gardener Program, participants were presented with a series of questions regarding their level of knowledge in thirteen different topics (e.g., plant growth and development, plant propagation) covered in the Master Gardener program. For the end-of-course survey, respondents were asked to rate their knowledge level before and after entering the Master Gardener Program. The one-year follow-up survey had respondents rate their knowledge a year after graduation.

The results show that many students entered the Master Gardener Program with some garden knowledge. Prior to participation, across all thirteen topics, 14% (preventing and managing plant diseases) to 58% (vegetable gardening) of respondents reported “moderate” to “high” levels of knowledge (Table 3). Upon completion of the program results suggest substantial knowledge gains across all topics. When these same respondents were asked on the end-of-course survey about their knowledge after completing the course, 84% (preventing and managing plant diseases) to 97% (Plant growth and development) reported “moderate” to “high” knowledge levels (Table 4). Finally, findings from the one-year follow-up survey suggest only slight declines in knowledge a year after the course ended. From 61% (fruit production) to 98% (plant growth and development) of graduates responding to the one-year follow-up survey reported “moderate” to “high” levels of knowledge across all topics (Table 5).
<table>
<thead>
<tr>
<th>Topic Areas</th>
<th>None</th>
<th>Very Low</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant growth and development</td>
<td>3</td>
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<td>62</td>
<td>81</td>
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<td>206</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>Plant propagation</td>
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<td>59</td>
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<tr>
<td></td>
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</tr>
<tr>
<td>Soils and fertility</td>
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<td>76</td>
<td>47</td>
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<td></td>
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</tr>
<tr>
<td>Vegetable gardening</td>
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<td>Fruit production</td>
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<tr>
<td>Woody landscape plants</td>
<td>23</td>
<td>53</td>
<td>69</td>
<td>50</td>
<td>10</td>
<td>205</td>
</tr>
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<td>4.9%</td>
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</tr>
<tr>
<td>Pruning</td>
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<td>61</td>
<td>47</td>
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</tr>
<tr>
<td>Herbaceous annual and perennial flowers</td>
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<td>81</td>
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<td>205</td>
</tr>
<tr>
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<td>100.0%</td>
</tr>
<tr>
<td>Lawns and turf</td>
<td>32</td>
<td>61</td>
<td>77</td>
<td>31</td>
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<td>206</td>
</tr>
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<td>30.4%</td>
<td>26.0%</td>
<td>4.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Identification of beneficial and pest insects</td>
<td>32</td>
<td>63</td>
<td>76</td>
<td>29</td>
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<td>206</td>
</tr>
<tr>
<td></td>
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<td>Preventing and managing plant diseases</td>
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<td>Safe pesticide use</td>
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*Note: 10 to 14 respondents did not answer this question.*
<table>
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<tr>
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<td>Soils and fertility</td>
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<td>60</td>
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<td>100.0%</td>
</tr>
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<td>12.7%</td>
<td>48.5%</td>
<td>36.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Pruning</td>
<td>0</td>
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<td>25</td>
<td>96</td>
<td>83</td>
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</tr>
<tr>
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<td>46.6%</td>
<td>40.3%</td>
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</tr>
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<tr>
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<td>10.3%</td>
<td>57.6%</td>
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<td>100.0%</td>
</tr>
<tr>
<td>Landscape design</td>
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<td>120</td>
<td>63</td>
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<td>100.0%</td>
</tr>
<tr>
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<td>11.2%</td>
<td>57.8%</td>
<td>29.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Preventing and managing plant diseases</td>
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<td>13.6%</td>
<td>53.4%</td>
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<td>100.0%</td>
</tr>
<tr>
<td>Safe pesticide use</td>
<td>0</td>
<td>6</td>
<td>18</td>
<td>102</td>
<td>79</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
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<td>8.8%</td>
<td>49.8%</td>
<td>38.5%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note: 10 to 13 respondents did not answer this question.
## Table 5. Master Garden Knowledge: One-Year Follow-Up

<table>
<thead>
<tr>
<th>Topic Areas</th>
<th>None</th>
<th>Very Low</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant growth and development</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>94</td>
<td>35</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.3%</td>
<td>71.2%</td>
<td>26.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Plant propagation</td>
<td>1</td>
<td>2</td>
<td>16</td>
<td>87</td>
<td>30</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>0.7%</td>
<td>1.5%</td>
<td>11.8%</td>
<td>64.0%</td>
<td>22.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Soils and fertility</td>
<td>1</td>
<td>1</td>
<td>14</td>
<td>83</td>
<td>35</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>0.7%</td>
<td>0.7%</td>
<td>10.4%</td>
<td>61.9%</td>
<td>26.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Vegetable gardening</td>
<td>2</td>
<td>0</td>
<td>13</td>
<td>69</td>
<td>51</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td>1.5%</td>
<td>0.0%</td>
<td>9.6%</td>
<td>51.1%</td>
<td>37.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Fruit production</td>
<td>3</td>
<td>6</td>
<td>43</td>
<td>69</td>
<td>13</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>2.2%</td>
<td>4.5%</td>
<td>32.1%</td>
<td>51.5%</td>
<td>9.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Woody landscape plants</td>
<td>0</td>
<td>1</td>
<td>25</td>
<td>75</td>
<td>34</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>0.7%</td>
<td>18.5%</td>
<td>55.6%</td>
<td>25.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Pruning</td>
<td>0</td>
<td>0</td>
<td>23</td>
<td>67</td>
<td>46</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>0.0%</td>
<td>16.9%</td>
<td>49.3%</td>
<td>33.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Herbaceous annual and perennial flowers</td>
<td>0</td>
<td>1</td>
<td>9</td>
<td>69</td>
<td>57</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>0.7%</td>
<td>6.6%</td>
<td>50.7%</td>
<td>41.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Lawns and turf</td>
<td>0</td>
<td>7</td>
<td>30</td>
<td>72</td>
<td>28</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>5.1%</td>
<td>21.9%</td>
<td>52.6%</td>
<td>20.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Landscape design</td>
<td>3</td>
<td>4</td>
<td>29</td>
<td>82</td>
<td>18</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>2.2%</td>
<td>2.9%</td>
<td>21.3%</td>
<td>60.3%</td>
<td>13.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Identification of beneficial and pest insects</td>
<td>0</td>
<td>2</td>
<td>36</td>
<td>75</td>
<td>23</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>1.5%</td>
<td>26.5%</td>
<td>55.1%</td>
<td>16.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Preventing and managing plant diseases</td>
<td>1</td>
<td>2</td>
<td>31</td>
<td>81</td>
<td>21</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>0.7%</td>
<td>1.5%</td>
<td>22.8%</td>
<td>59.6%</td>
<td>15.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Safe pesticide use</td>
<td>0</td>
<td>4</td>
<td>19</td>
<td>67</td>
<td>44</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>3.0%</td>
<td>14.2%</td>
<td>50.0%</td>
<td>32.8%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

*Note: 1 to 6 respondents did not answer this question.*
Mean scores of respondents’ garden knowledge were also calculated for easier comparison of knowledge level prior to entering and after participation in the Master Gardener Program. As shown in Figure 7, the greatest differences in reported levels at time of completion compared to one year after the course were for landscape design and fruit production.

**Figure 7: Mean Score of Respondents’ Garden Knowledge in each Topic Area**

- **Prior to training**
- **End-of-Course**
- **One-Year Follow-Up**

Note: Response values: 1=None, 2=Very low, 3=Low, 4=Moderate, 5=High.
In addition to asking about students’ knowledge in each of the thirteen different topics, both the end-of-course and the one-year follow-up surveys asked respondents about their use and sharing of information for each topic. The end-of-course survey asked respondents to select from the list of topics any they believed they would use within the next year and any they believed they would share with others. In a parallel fashion, the one-year follow-up survey asked respondents to select topics they had used in the previous year and those about which they had shared knowledge with others. Table 6 shows the count and percentage of respondents who selected each topic out of the total number who reached these questions in the surveys.

**Table 6. Use of Master Gardener Training**

<table>
<thead>
<tr>
<th>Topic</th>
<th>End-of-Course (N=185)</th>
<th>One-Year Follow-Up (N=135)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Will use within the next year*</td>
<td>Will share w/ others</td>
</tr>
<tr>
<td>Plant growth and development</td>
<td>108</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>58.4%</td>
<td>56.8%</td>
</tr>
<tr>
<td>Plant propagation</td>
<td>98</td>
<td>97</td>
</tr>
<tr>
<td></td>
<td>53.0%</td>
<td>52.4%</td>
</tr>
<tr>
<td>Soils and fertility</td>
<td>109</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>58.9%</td>
<td>57.3%</td>
</tr>
<tr>
<td>Vegetable gardening</td>
<td>113</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>61.1%</td>
<td>61.6%</td>
</tr>
<tr>
<td>Fruit production</td>
<td>71</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>38.4%</td>
<td>50.8%</td>
</tr>
<tr>
<td>Woody landscape plants</td>
<td>84</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>45.4%</td>
<td>43.2%</td>
</tr>
<tr>
<td>Pruning</td>
<td>114</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>61.6%</td>
<td>55.1%</td>
</tr>
<tr>
<td>Herbaceous annual and perennial flowers</td>
<td>110</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>59.5%</td>
<td>58.9%</td>
</tr>
<tr>
<td>Lawns and turf</td>
<td>88</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>47.6%</td>
<td>47.0%</td>
</tr>
<tr>
<td>Landscape design</td>
<td>98</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>53.0%</td>
<td>46.5%</td>
</tr>
<tr>
<td>Identification of beneficial/pest insects</td>
<td>104</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>56.2%</td>
<td>50.3%</td>
</tr>
<tr>
<td>Preventing and managing plant diseases</td>
<td>101</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>54.6%</td>
<td>53.0%</td>
</tr>
<tr>
<td>Safe pesticide use</td>
<td>79</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>42.7%</td>
<td>45.4%</td>
</tr>
</tbody>
</table>

*In Fall 2014, the wording for this item was “I will put into practice soon.”
Across all topics a higher percentage of graduates responding to the one-year follow-up survey reported that they had used what they had learned in Master Gardener training compared to the percentage of respondents to the end-of-course survey reporting what they believed they would use (Figure 8). Conversely, with the exception of Plant growth and development and Herbaceous annual and perennial flowers, a greater percentage of respondents to the end-of-course survey reported intending to share their knowledge with others compared to the percentage of respondents indicating that they had shared knowledge with others a year after training (Figure 9).

Figure 8. Use of Master Gardener Training
New Practices

To gain a better understanding of the specific changes brought on by the Master Gardener Program, graduates were given a list of 20 different activities representing various types of practices encouraged by the program. Participants were asked to select the activities that they have adopted, changed, or increased as a result of taking the Master Gardener training. Figure 10 provides the percentage of respondents who selected each item out of the total number who reached this question in the survey. Although the end-of-course survey was taken only shortly after the class had ended, many students had already experienced changes in their practices, especially soil testing and management, increased volunteering, and using more native plants. As was expected, a greater percentage of respondents to the one-year follow-up survey indicated change in practice. Figure 10 is sorted from the most-selected to least-selected new practices on the one-year follow-up survey. A year after completion of the training, the three most commonly selected practices were increasing volunteer activities, using more native plants, and increasing physical activity.
Figure 10. New Practices

What practices have you adopted, changed, or increased as a result of the Master Gardener training?

- Increasing volunteer activities
- Using more native plants
- Increasing physical activity
- Mulching
- Trying new varieties
- Growing some of my own food
- Composting / reducing yard waste
- Soil testing / soil management
- Planting trees / shrubs
- Recycling garden-related materials
- Using pesticides in a smarter way
- Conserving water
- Using sustainable landscaping
- Controlling noxious / invasive species
- Reducing fertilizer applications
- Managing my lawn more ecologically
- Organic gardening
- Using companion plants
- Increasing economic benefits (employment, promotion, etc.)

Note: On the spring 2015 end-of-course survey, this question asked, “What practices do you intend to adopt, change, or increase as a result of taking Master Gardener training?” Therefore, in Figure 10 the End-of-Course results include only fall 2014 data when the survey wording matched that on the one-year follow-up survey asking respondents, i.e., “What practices have you adopted, changed, or increased as a result of taking the Master Gardener training?”
On a more general level, the end-of-course survey asked participants to rate how likely they were to make substantial changes in their practices. Eighty-two percent of respondents reported being likely or very likely to make substantial changes in the way they garden or landscape during the next three years based on what they learned in the Master Gardener training (Table 7). Whereas the end-of-course survey asked about the likelihood of substantial changes, the one-year follow-up survey asked graduates to rate the amount of change they had actually experienced. Twenty-eight percent reported they had, in fact, made substantial changes to their practices as a result of their training (Table 8).

Table 7. Plans for Substantial Changes to Current Practices (End-of-Course)

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Unlikely</td>
<td>24</td>
<td>12.1%</td>
</tr>
<tr>
<td>Unlikely</td>
<td>2</td>
<td>1.0%</td>
</tr>
<tr>
<td>Unsure</td>
<td>10</td>
<td>5.0%</td>
</tr>
<tr>
<td>Likely</td>
<td>54</td>
<td>27.1%</td>
</tr>
<tr>
<td>Very Likely</td>
<td>109</td>
<td>54.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>199</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 8. Change in Practices (One-Year Follow-Up)

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No changes</td>
<td>6</td>
<td>4.5%</td>
</tr>
<tr>
<td>Minimal changes</td>
<td>21</td>
<td>15.7%</td>
</tr>
<tr>
<td>Moderate changes</td>
<td>69</td>
<td>51.5%</td>
</tr>
<tr>
<td>Substantial changes</td>
<td>38</td>
<td>28.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>134</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Economic Value

Besides gaining knowledge and making practice changes, the Master Gardener Program is designed to empower participants to save money by being more mindful of their gardening practices and by having the confidence to do more tasks themselves. On both the end-of-course survey and the one-year follow-up survey, respondents were given a list of seven different benefits representing various types of economic value and asked to select the ones they had received since taking the Master Gardener training. Figure 11 provides the percentage of respondents who selected each benefit out of the total number who reached this question in the survey. The activities are ordered by percentage, so that activities that were selected most frequently on the one-year follow-up survey are listed first. Both the end-of-course and the one-year follow-up survey show similar patterns of economic benefits, with the most commonly selected benefit being “increased food grown for my family.”

Figure 11. Types of Economic Value

On both the end-of-course and the one-year follow-up surveys students were asked to estimate the economic savings associated with skills learned in Master Gardener training. From a list of monetary ranges, the end-of-course survey asked respondents to estimate the amount they expected to save in that year. On the one-year follow-up survey, respondents were asked to select the estimated amount they had saved the previous year based on what they learned in Master Gardener training. Figure 12 shows the comparative results from the two surveys. Both surveys elicited similar results, with 41% of
respondents on both surveys estimating that they would save/had saved over $100 in the year in question.

**Figure 12. Monetary Savings**

From what I learned in Master Gardener training, I estimate that I [will save / have saved]... this [past] year.

<table>
<thead>
<tr>
<th>Monetary Savings</th>
<th>Percent Will Save</th>
<th>Percent Have Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>14%</td>
<td>13%</td>
</tr>
<tr>
<td>$1 to $25</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>$26 to $50</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>$51 to $100</td>
<td>27%</td>
<td>25%</td>
</tr>
<tr>
<td>$101 to $200</td>
<td>18%</td>
<td>19%</td>
</tr>
<tr>
<td>$201 to $300</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Over $300</td>
<td>15%</td>
<td>10%</td>
</tr>
</tbody>
</table>

[Bar chart showing percentage of respondents saving various amounts]
Program Overall

Both surveys included questions asking participants to rate their overall experience with the Master Gardener Program. Specifically, they were asked about the helpfulness of the program, the overall quality of the program, and whether or not they would recommend this program to others. Almost all students completing the end-of-course survey gave the program high evaluations on all the items. Their overall positive ratings were confirmed by those respondents completing the one-year follow-up survey (Tables 9 and 10). As a final indication of the program’s success, 97% of the respondents in both surveys indicated that they would recommend Master Gardener training to others.

Table 9. Helpfulness of the Master Gardener Program

<table>
<thead>
<tr>
<th>How helpful was the program in providing you with new skills and knowledge?</th>
<th>End-of-Course</th>
<th>One-Year Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Not helpful</td>
<td>2</td>
<td>1.0%</td>
</tr>
<tr>
<td>Slightly helpful</td>
<td>4</td>
<td>2.0%</td>
</tr>
<tr>
<td>Moderately helpful</td>
<td>32</td>
<td>16.1%</td>
</tr>
<tr>
<td>Very helpful</td>
<td>80</td>
<td>40.2%</td>
</tr>
<tr>
<td>Extremely helpful</td>
<td>81</td>
<td>40.7%</td>
</tr>
<tr>
<td>Total</td>
<td>199</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 10. Overall Rating of the Program

<table>
<thead>
<tr>
<th>How would you rate the overall program?</th>
<th>End-of-Course</th>
<th>One-Year Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Poor</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>Fair</td>
<td>4</td>
<td>2.0%</td>
</tr>
<tr>
<td>Good</td>
<td>20</td>
<td>10.0%</td>
</tr>
<tr>
<td>Very good</td>
<td>77</td>
<td>38.5%</td>
</tr>
<tr>
<td>Excellent</td>
<td>98</td>
<td>49.0%</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Volunteer Hours

In addition to training, one of the key requirements for certification as a Master Gardener is to complete at least 30 hours of volunteer service in approved MU Extension activities. When respondents to the one-year follow-up survey were asked to report whether or not they completed the required 30 hours of volunteer service, 87% reported “Yes” (Table 11). Interestingly, this percentage corresponded with the 88% of respondents who indicated it “very likely” they would complete their 30 hours of volunteer time on the end-of-course survey.

<table>
<thead>
<tr>
<th>Completed your required 30 hours?</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>115</td>
<td>87.1%</td>
</tr>
<tr>
<td>No</td>
<td>17</td>
<td>12.9%</td>
</tr>
<tr>
<td>Total</td>
<td>132</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

*Note: 6 respondents did not answer this question.*

Respondents to both surveys were asked to report how many hours they had volunteered in the past 12 months as part of the Master Gardener program. When asked on the end-of-course survey, a large share of students (43%) had not begun their volunteering. On the one-year follow-up survey, only 6% of respondents reported no volunteer hours (Figure 13). Graduates completing the one-year follow-up survey exceeded expectations for volunteer time, with most falling in the highest category (Figure 14).
Figure 14. Volunteer Hours in the Past 12 Months (One-Year Follow-Up)

The end-of-course and one-year follow-up surveys also asked respondents whether their enthusiasm for volunteering had increased since taking the Master Gardener training. Both respondent groups showed similar levels of increased enthusiasm. For both surveys, over 60% of respondents reported a moderate to large amount of increase in their enthusiasm for volunteering (Table 12).

Table 12. Increased Enthusiasm for Volunteering

<table>
<thead>
<tr>
<th>Has your enthusiasm for volunteering increased since taking the Master Gardener training?</th>
<th>End-of-Course</th>
<th>One-Year Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percent</td>
</tr>
<tr>
<td>Not at all</td>
<td>8</td>
<td>4.0%</td>
</tr>
<tr>
<td>A small amount</td>
<td>9</td>
<td>4.5%</td>
</tr>
<tr>
<td>Somewhat</td>
<td>60</td>
<td>30.2%</td>
</tr>
<tr>
<td>A moderate amount</td>
<td>73</td>
<td>36.7%</td>
</tr>
<tr>
<td>A large amount</td>
<td>49</td>
<td>24.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>199</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Experience with MU Extension

Extension faculty in every county of Missouri carry the benefits of MU research beyond the campus to the entire state through statewide offices, publications, and web-based services. Both the end-of-course and one-year follow-up surveys included questions about respondents’ experience with MU Extension.

The end-of-course survey assessed student attitudes toward MU Extension by asking participants the extent to which their attitudes had changed as a result of taking the Master Gardener training. Respondents’ mean scores for each area were calculated based on response choices ranging in value from 1 to 5 (1=Not at all, 2= Little extent, 3= Some extent, 4= Moderate extent, and 5= Large extent). Respondents reported their attitudes had changed from a moderate to a large extent in all areas, except “understanding of the mission of MU Extension.” On average, respondents reported the greatest attitude change in their appreciation for the information available from MU Extension (Figure 15).

![Figure 15. Attitude Toward MU Extension](image)

The one-year follow-up survey asked respondents whether they have taken other classes sponsored by MU Extension. Table 13 provides the count and percentage of respondents who selected each type of class out of the total number who reached this question in the survey (n=132).
Among those respondents who selected at least one class (n=55), the number of activities selected ranged from 1 through 9, with a mode of 1 class reported by respondents. About 14% of the respondents reported having taken an agriculture class with MU Extension. About 11% of respondents reported having taken a lawn and garden class or a nutrition and health class with MU Extension. Table 13 is sorted from the most-selected to least-selected types of classes.

Table 13. Taken Other Classes Sponsored by MU Extension

<table>
<thead>
<tr>
<th>Class</th>
<th>Number Selecting</th>
<th>Percent Selecting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>18</td>
<td>13.6%</td>
</tr>
<tr>
<td>Lawn and garden</td>
<td>15</td>
<td>11.4%</td>
</tr>
<tr>
<td>Nutrition and health</td>
<td>15</td>
<td>11.4%</td>
</tr>
<tr>
<td>Natural resources</td>
<td>11</td>
<td>8.3%</td>
</tr>
<tr>
<td>Other*</td>
<td>7</td>
<td>5.3%</td>
</tr>
<tr>
<td>Home and consumer life</td>
<td>5</td>
<td>3.8%</td>
</tr>
<tr>
<td>Business and workforce</td>
<td>5</td>
<td>3.8%</td>
</tr>
<tr>
<td>Community and leadership</td>
<td>4</td>
<td>3.0%</td>
</tr>
<tr>
<td>Families and relationships</td>
<td>3</td>
<td>2.3%</td>
</tr>
<tr>
<td>Emergency management</td>
<td>2</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

*Note: 132 respondents reached this question in the survey, including 77 who had not taken additional classes. Seven respondents selected “Other”, and their responses were: “Beekeeping”, “Computer Quicken”, “Grow your farm”, and “Plan to take other classes.”*
Open-Ended Responses

Both the end-of-course and the one-year follow-up surveys included open-ended questions that elicited a great deal of rich qualitative data. The two surveys included open-ended questions related to training highlights, opportunities for improvement, additional topics participants wish had been covered, and unexpected benefits. In addition to these specific questions, respondents were given the opportunity at the end of the survey to provide further comments. In the following sections, common themes are highlighted for each of the questions. Verbatim responses to each open-ended question are provided in the final Appendices. The sheer number and depth of open-ended responses give further evidence of the strength of impact this program had on participants.

Training Highlights

Both the end-of-course and the one-year follow-up survey each contained a question asking respondents to comment on highlights of the training; however, the focus of the questions was different on the two surveys. The end-of-course respondents were to comment on the best parts of the series, whereas, the respondents to the one-year follow-up survey were asked to comment on the parts that had been most valuable in their gardening, landscaping, or volunteering. (Verbatim responses to both these questions are included in Appendix A.)

When participants from the end-of-course survey were asked, “What was the best part of the series for you?” respondents provided the following key highlights:

- The ability to be with a lot of people who are interested in the subject.
- The ability to take the course work online, at student’s convenience.
- The speakers were well prepared.
- The information was well-organized and many sections had excellent photos and illustrations.
- The learning environment was conducive to discussion and questioning.
- The networking.

When participants from the one-year follow-up survey were asked, “What parts of the Master Gardener training have you found most valuable for use in your own gardening, landscaping, or volunteering?” respondents found the following aspects to be beneficial:

- Increased knowledge on specific topics (e.g., pruning, perennials, and landscape design).
- Increased confidence to share knowledge.
- Increased access to informational resources.
- Access to knowledgeable and experienced instructors.
- Opportunities for hands-on experience.
- Increased knowledge about sustainable practices.
- Discovery of new volunteer opportunities.
- Increased productivity with decreased waste.
- Increased skills in identification of insects, diseases, invasive plants, etc.
Suggestions for Improvement

The end-of-course survey asked students who had just completed the course, “What part of the course could be improved?” (Verbatim responses are included in Appendix B.) Respondents provided comments that suggested general changes to the course structure, course materials, instruction, and course activities, such as the following:

- Ability to ask questions of the experts days after processing the information.
- Having each section run Saturday through the following Sunday, for eight days, with each section overlapping on the weekends.
- Improved computer/technology issues (e.g., website, audio narration, microphone, PowerPoint) for both online and in-person training.
- Improve online instruction (e.g., more interaction, more enthusiastic voices in audio lectures).
- Improve course materials (e.g., proof reading, more pictures, updates, easier to follow, bigger font size).
- More hands-on activities and outdoors training.
- More in depth information for the topics.
- More practical information for home gardeners.
- Provide PowerPoint handouts of the lectures.
- Reduce the group size of the capstone project to work more effectively.

Additional Topics

Both the end-of-course and the one-year follow-up survey asked respondents to share any topics they wish had been covered in their Master Gardener training that were not included. (Verbatim responses to this question are included in Appendix C.) Respondents provided comments that suggested change to the current topics and included the following topic areas that they wish had been covered or taught:

- Bee keeping.
- Bonsai.
- Cooking with herbs.
- Design with Missouri native plants in the residential landscape.
- Gardening in areas with extremely high deer pressure.
- Gardening tools.
- Greenhouse management.
- Growing grapes.
- Growing mushrooms.
- Landscaping with animals and children in mind.
- Native butterfly information/education.
- Natural remedies for common ailments.
- Producing Maple syrup.
- Raised bed gardening.
• Square foot gardening.
• Vertical growing, harvesting, and storage.
• Water features and water plants.
• Water gardening and rain gardening.
• Weed identification.

Unexpected Benefits

The one-year follow-up survey asked respondents to list any unexpected benefits, personal or professional, from their Master Gardener training. (Verbatim responses are included in Appendix D.) Seventy-three respondents provided comments and included the following unexpected benefits they received from the training:

• A greater appreciation for the natural world.
• Better fitness.
• Companionship/Friendships.
• Confidence.
• Connections with professionals in a variety of fields.
• More family togetherness and interest.
• The ability to use the Master Gardener curriculum in their own teaching.
• Pride/status in having the title of Master Gardener.

Additional Comments

At the end of both the end-of-course and one-year follow-up surveys, participants were invited to provide further comments about the program. The majority of the open-ended comments on both surveys show the graduates’ appreciation for the program/instructors, but also provide valuable insights into potential areas for improvement. Their full, verbatim responses are included in Appendix D.

Summary

Over 200 students who attended training in the fall 2014 and spring 2015 Missouri Master Gardener Program completed an end-of-course survey at the time they completed the course. Approximately one year after graduation, 138 students from these same classes took a one-year follow-up survey. Respondents to these two surveys included residents of 45 different counties, taking classes in 36 counties all across the state of Missouri.

The results of these two surveys show that participation in the Missouri Master Gardener Program led to increases in gardening knowledge and skill. At the time of course completion, the majority of respondents reported moderate to high levels of knowledge in all thirteen topics covered in the core curriculum. This increase of knowledge was sustained one year after graduation, with only modest declines. Furthermore, a year after graduating from the program, at least half of respondents reported
having used their training in all topics except fruit production. Likewise, across all topics from 25% to 76% of respondents reported having shared their knowledge with others.

A year after attending Master Gardener training, 80% of respondents reported having made moderate or substantial changes to the way they garden or landscape based on what they had learned. Although the end-of-course survey was taken only shortly after the class had ended, many students had already experienced changes in their practices, especially soil testing and management, increased volunteering, and using more native plants. Graduates responding to the one-year follow-up survey reported increases in a variety of activities encouraged by the program, with the three most frequently reported activities being increased volunteering, use of more native plants, and increased physical activity.

Across both surveys, most respondents were able to identify one or more economic values they had gained from the Master Gardener Program and over one-third estimated having saved at least $100 this year. The most commonly reported economic value was increasing the amount of food grown for their family. Other commonly reported economic values that were experienced by at least 35% of respondents were increased landscape design, reduced yard maintenance costs, and reduced water consumption.

Students were asked on the end-of-course about the attitudes toward MU extension in a variety of areas. Results showed a positive impact of the training on their attitudes. A year later, when asked if they had taken other classes sponsored by MU Extension in a variety of subject areas, 42% of respondents had taken at least one other Extension class. The most commonly reported types of classes were in agriculture, lawn and garden, and nutrition and health.

When students were asked about their volunteer activities at time of graduation, over 40% had not yet started their required volunteering. Conversely, one year after completing their Master Gardener training, 87% of respondents reported that they had completed the 30-hours of volunteer service required to be certified by the program. In fact, 72% of respondents reported that they had completed over 30 volunteer hours in the previous twelve months.

Across both surveys over 80% of respondents rated the overall program as very helpful or extremely helpful and 97% responded that they would recommend the program to others. These positive responses to the survey items were further reinforced by the overwhelmingly positive comments provided in the open-ended portions of the survey. Respondents described their increased confidence in their gardening ability and in their ability to help others. Among the most commonly reported benefits was the development of social networks based on gardening that individuals could draw on for mutual support and encouragement. Respondents also commented on access to resources provided by University Extension that they continue to use even after the course has ended.
Appendix A: Verbatim Responses – Training Highlights

Q: “What was the best part of the series for you?” (End-of-Course Survey)

- All of it!!
- All the classes were very informative—the problem solving portions were the best (pests, soil & insects)
- Annuals/perennials, vegetable gardening, container gardening, composting, plant diseases
- As a new gardener, less familiar with flowers and trees in this part of the country, some good online reviewable resources might help me grow outside of the classroom. So possibly pictures with the perennial class at Burr Oaks, as an example.
- Beekeeping, urban buds, flowers in pots, tree identification
- Being with a lot of people who are interested in the subject. They bring a lot of info and good questions.
- Class discussion, sharing with instructors who shared their experiences
- Class room
- Class time, field trips, demo, hands on did not need the hand books at class as much as had feared! The instructors were soooo good, never got to point I was wanting to fall to sleep.
- Coming to know to burn infected plants rather than composting them. Also to sanitize the areas and to rotate plantings each year. I also liked to learn more about raised gardening and to learn that there was more to learn and make use of
- Composting, bug identification
- Currently, I am more interested in vegetable gardening. That portion of the training was the "best" for me. I also enjoyed the pruning section. I recently bought a cherry tree and an apple tree; learning the best pruning practices to ensure proper fruitin was interesting. I didn't know it really mattered that much.
- Don't remember well now. But will say advancement in knowledge about pesticides and lawn management. Also the warmth and friendliness of the two sisters who are MG which broke the ice and for them acting as an advocate with the instructors to help get us copies of the power pt as well as sharing ideas of how to get credit for activities and Informing us on upcoming classes.
- Enjoyed all of it.
- Enjoyed the online modules
- Every topic was interesting.
- Every week I learned something new, however, I felt a great deal of the information in the hand-outs were elementary and we basically just read the hand-out - which we could easily do on our own....I didn't need someone to 'read' me a hand-out.
- Excellent instructors. Good programs
- Field trips
- Flexible training schedule.
- Flower gardens and their care
- Flowers
- Flowers and landscape design. Seed saving.
- Flowers, landscape design, woody plants, pruning
- Flowers, landscape, soils
- Flowers, vegetables, fruits
- FRUITS
Q: “What was the best part of the series for you?” (End-of-Course Survey)

- Fruits and pruning.
- Fruits, woody plants and pruning. If felt like I learned a lot and will use most of this information on my own yard.
- Gaining knowledge in areas I have little or no experience in
- Getting new knowledge especially in areas I wasn’t familiar with
- Grafting, fruit, pruning, insects and diseases
- Having such dedicated speakers
- Hearing from a variety of presenters, each an expert in their own fields.
- Herbaceous plants and flowers. Landscaping.
- How could I pick? Probably vegetables and annuals/perennials because I am most interested in those and wanted to learn more.
- How to best work with nature
- I cannot state a favorite or best part. Each class offered a wealth of information.
- I can’t pick one class as the best. The best part of the program was the overall knowledge gained. Classes out in the field were best - Powell and Burr Oaks.
- I enjoyed all of it and found it extremely interesting. I live in the country and do not have a groomed lawn so I will not use that info as much as some of the other topics covered. It was fun getting to know other members in the class and learn from them, too! I look forward to working on some of the projects and continuing my education through workshops and classes! So glad to have resources to refer to and it’s nice to know I can contact others to help answer questions and give guidance :)
- I enjoyed learning about lawn care and learning how to manage crab grass and weeds
- I enjoyed the classes on soil, organic gardening, and vegetable production the most.
- I enjoyed the entire series. I guess vegetable gardening and flowers were my favorite topics but I enjoyed it all.
- I enjoyed the guest speaker and the tour of the tree farm the most.
- I enjoyed the opportunity of learning about a variety of garden topics. Particularly interested in lawn care and landscaping.
- I enjoyed the plant propagation and pruning sections, because those were things I really wanted to learn more about.
- I enjoyed the vegetable gardening section because I’ve been volunteering in a garden and wanted to learn more about that.
- I enjoyed the vegetables, plants, and soils
- I just wanted to learn more about gardening and flowers, and I feel we accomplished that task.
- I learned a lot more about insects and plant diseases.
- I liked having instructors that were down-to-earth knowledgeable practical people who did not talk down to us. It was a relaxed comfortable learning environment. Enjoyed the classes and profited greatly. Tim ran a very well organized and productive program. Met a lot of nice people.
- I liked it all!
- I liked the fact that our speakers were well prepared and the fact that we could follow their lecture by means of the accompanying handouts.
- I love learning and enjoyed every speaker. There wasn’t a single class that I didn't learn useful information which I am looking forward to being able to implement.
Q: “What was the best part of the series for you?” (End-of-Course Survey)

- I loved each chapter. Nearly all was interesting, useable information. The book and videos complemented each other very well.
- I loved Landscape Design.
- I loved learning about fruits and trees and proper care for them
- I really enjoyed the flower and vegetable module. I don't have a lawn, but have shared what I learned with two co-workers already
- I really enjoyed the insect and IPM.
- I really liked the landscape design class and went home and started to put into action what I learned. I liked the pruning and veggie class also.
- I really loved it all and thought all of the presenters were very knowledgeable and thorough. Mainly, though, I found out how much there was to know and wished we could have gone into more depth on each subject. I learned a lot, but have so much more to learn and feel like I am a long way from being a 'Master' gardener! Am looking forward to hands-on work at community sites, but also wishing there were a Level II training. In addition to the knowledge I've gained, I am very grateful for the chance to meet and get to know so many great people that share my passion for gardening and nature.
- I thought the entire series was very comprehensive. I now have access to tremendous resources which, when I can actually put them in practice, should help me immensely. The pruning, lawns and landscape design segments were of most interest to me.
- I was really interested in proper pruning, soil amendments, and flowers. There was good information in each chapter
- Improving my knowledge in many areas in which I had little prior exposure.
- Information I can use
- Information on fruiting trees and pruning
- Insects and about flowers
- Interaction with others who are wise in gardening ideas and techniques, especially the instructor.
- Interaction with others.
- It was all equally informative
- It was all good. It’s just a lot of information to consume.
- It was all very interesting and I think more could have been shared but because of time. For me personally, I love growing flowers and looking at flowers and the class on perennials and annuals was my favorite!!
- Just being with others with the same interests
- Just learning to appreciate everything that actually goes into planting, managing and harvesting vegetables, identifying the various plants and increasing my desire to learn more about gardening in general.
- Just to learn how to find out the answers to questions and being provided with those tools. Such a wealth of information!!
- Knowing that there are so many more classes, workshops etc. LOL
- Landscape and design
- Landscape design
- Landscape design
- Landscape design,
- Lawns and turf section
Q: “What was the best part of the series for you?” (End-of-Course Survey)

• Learning about horticulture and obtaining the knowledge I had always wanted to have.
• Learning about pruning, grafting, and selecting plants that will provide optimal production and hardiness for this area.
• Learning about soils, plants and ideas from others.
• Learning about the different types of raised beds for vegetable & flower gardening. Information about soil types & amendments. Field trip to local greenhouse and compost setup.
• Learning about the soil needed to properly grow vegetables, flowers and fruit. Learning more about Missouri native wild flowers that attract birds, bees, and butterflies.
• Learning how to manage lawns, trees, and flowers. The instructors were all very knowledgeable and I appreciated the quality of their presentations.
• Learning more in-depth info about my life long hobby & “love”. Learning of all the resources available to me. Learning more about the area I live in. Meeting new people with similar interests, making friends.
• Learning new and up to date information on gardening
• Learning the parts of flowers and how they adapt and grow. I also learned a lot about landscape design and enjoyed that chapter.
• Learning the why and how behind growing healthy plants and the environment and how to make a positive impact on the earth through using the correct techniques.
• Loved the landscaping class
• Loved the turf field trip, meeting new friends and our instructor, Sarah. Thank you to the MG club for providing our meals!
• Loved veggie production
• Meeting new people interested in gardening; learning lots of new stuff
• Meeting people of similar interests, learning from the speaker presentations and from talking to botanical center employees, learning from the helpful, friendly master gardeners, learning who I can contact with future questions. The whole experience was very positive. I’m very impressed with the organized, efficient running of the master gardener program.
• My favorite part was the plant propagation section. I had some knowledge coming into this class, but I did learn quite a bit from this section that will be very useful to me as a landscaper and in our greenhouse.
• Natives. That was interesting
• No one particular
• Online course
• Over all education in all areas.
• Perennials
• Plant diseases
• Plant diseases and pruning and worm farming, orchids
• Plant propagation
• Plant propagation was fascinating, especially grafting.
• Plant propagation, and insects.
• Plant propagation, pruning, plant diseases.
• Propagation, properties of plants, soil
• Pruning
• Pruning - planting times and processes
• Pruning and care
Q: “What was the best part of the series for you?” (End-of-Course Survey)

- Pruning, disease, flowers, design.
- Pruning, Fruit and Veggies, Plant diseases/propagation, Landscape design and Insects
- Quality of the instructors--all of the classes were very thorough and well-taught. The field trip/tour of the botanical gardens, the trip to Lake Ozark/the wildflower nursery, and the hands-on propagation workshop added a lot to the classroom learning.
- Relaxed personal atmosphere and group discussions
- Science of plant growth and chemistry of soil
- Shared information and resources
- So far it was the social part and learning new information.
- Soil
- Soil and plant propagation
- Soil class
- Soil composition and improvement
- Soil composition and nutrition.
- Soil composition, pruning, and plant growth and Development
- Soils
- Soils and plant growth
- Soils and vegetables
- Soils, learning how to landscape and plant plants in locations where they will grow best, how to prune, how to manage what I have and encourage me to redo and plant more in my yard. To learn about annuals, perennials, lawn, grasses for my pasture and to felt like I have the knowledge to share with others.
- Soils, woody plants, vegetables, pruning
- Soils/Lawn/Landscape Design
- Subject matter experts providing practical knowledge
- That there is so much information available. And so much more information that I need to learn to improve.
- The atmosphere of the classes and lessons.
- The best part of the series for me was learning the foundation of preparing soil and correctly selecting and preparing spaces for the types of plants and trees I wish to grow. Included with this is also the knowledge I obtained about selecting good quality seeds, plants and trees and how to nourish each so that they will flourish in Missouri by amending the soil, properly fertilizing and pruning each variety of plant.
- The best part of the series was being able to take the course work online, at my convenience.
- The best part of the series was visiting the onsite places: Burr Oaks, Powell Gardens, and the speakers who brought in materials to aid with their discussions.
- The best part was on beneficial insects. Other than butterflies and honeybees, I had not realized that there is a large population of beneficial insects. Also the pruning information was invaluable... Since tree trimmers work all seasons, it was useful to know that pruning is not appropriate during many months.
- The best part was the information to fill in the holes in each of the areas where I needed more information.
Q: “What was the best part of the series for you?” (End-of-Course Survey)

- The broad range of topics presented. I feel that I have been introduced to many parts of horticulture and am better equipped to find answers.
- The chapter on pests. Learned the most.
- The core manual along with the chapter questions that we had to research.
- The entire course was good.
- The entire experience has been great!!
- The examples and pictures used. The very friendly atmosphere and encouragement.
- The field trip to Springfield Botanical Garden and the class about fruit production there.
- The field trips to Powell Gardens and Burr Oaks so we could actually see and "touch" some of the plants that were part of the discussion.
- The forum questions were helpful, as well as the remarks the professor made.
- The information provided was great and the identification of sources for further research on the topics was wonderful future work. In particular the soil, pruning, lawn, insects and diseases area were very helpful to my own gardening. The online program is such a great idea because with my busy work schedule I would never have been able to attend the typical classroom program.
- The information was well-organized and many sections had excellent photos and illustrations.
- The lady from St Louis and the flowers and Cathy and her segment on rooting plants. My gosh they know so much.
- The learning environment was conducive to discussion and questioning.
- The networking.
- The number and variety of instructors and their knowledge and enthusiasm.
- The parts of gardening that I enjoy the most vegetables and flowers.
- The plant propagation and the flowers were the two favorite.
- The pruning section was outstanding. Soil section was also informative.
- The resources we received to find answers to questions and problems: book, handouts, websites, practical information, who to call. Learning from the experiences of the other class members now and in the future. The knowledge level of most of the instructors was exceptional. Of course it's always interesting to learn from and talk to others who share your interests.
- The speakers were great - well versed in their topics and enthusiastic. Q&A at break time and interacting with other participants and seasoned MG’s was an excellent learning experience in and of itself. I thought the speaker on insects/pesticides (Anastasa Becker?) was the most enthusiastic and engaging. I appreciated that one of our classmates presented the slides for a missing speaker - she did great - you'll have to make her a regular. Even though my answers as to my degree of knowledge in the various areas did not change, I definitely progressed in every area. So I had more knowledge at the end of the classes - I just didn't consider myself to have moved to a distinctly higher level of knowledge/experience.
- The Turf Management by Brad Fresenburg. He showed us what to use; and how to read the labels; and most importantly where to get the product. He actually had a list of the products and the venders and where to get them. That took the information and made it available to us as a gardener. Very well done.
- The variety of speakers who presented.
- The vegetable gardening & better understanding how to choose the proper plants for the area to be landscaped.
- Tree identification, soil.
Q: “What was the best part of the series for you?” (End-of-Course Survey)

- Turf grass and lawns and landscape Design
- Tying together the different horticultural areas. I now understand the different specialties, but I also understand how they are interdependent. Now I notice things (horticulture-related) in the world I’d never paid attention to before, and I can now appreciate them.
- Urban Buds cut flower farm speaker was the best speaker - practical, hands-on advice and experience that was relevant to home gardener.
- Vegetable gardening
- Vegetable gardening
- Vegetable gardening, insects, and overall knowledge of a little of everything and knowing where to find the answers.
- Vegetables
- Vegetables
- Vegetables & Pruning
- Vegetables, flowers, plant propagation. Internet information quick reference, working at Kress Farm and Garden Preserve with knowledgeable volunteers who freely give wonderful information on how to make gardening successful.
- Wealth of information and the openness of the instructors, examples and having a connection with professional staff at the university...more of a comfort level if I can put a name with a face when calling for answers to questions.
- When the pregnant PhD taught the Fruits class.
- Wildlife problems
- Wonderful presenters - very generous with their time, interested and interesting, very knowledgeable.
- Woody Plants, Design landscape

Q: “What parts of the Master Gardener training have you found most valuable for use in your own gardening, landscaping, or volunteering?” (One-Year Follow-Up Survey)

- Additional pruning knowledge.
- All of the above.
- All the information that I received was beneficial. I mostly enjoyed talking/sharing information with my fellow gardeners & the instructors. I can’t think of anything that was not covered.
- Basic increase in knowledge on a variety of topics, along with increased confidence to share that knowledge.
- Basis of knowledge to further learn.
- Ben Chu on pruning. Diagnosis of plant disease vs. nutritional problem.
- Benefiting from the knowledge and experience of horticulture professionals and other Master Gardeners; access to MU extension and other state Extension web sites and literature.
- Broader knowledge base. People to ask when in doubt.
- Classes are taught by experienced, knowledgeable instructors, and open discussions are held. Questions are answered and handouts are given at each class.
- Companion planting, knowledge of what plants are well adapted and easy to grow in our climate and soil type, composting.
Q: “What parts of the Master Gardener training have you found most valuable for use in your own gardening, landscaping, or volunteering?” (One-Year Follow-Up Survey)

- Confidence to try new plants, to do things differently, knowledge to know when to do things. Garden Spade is a source of valuable information on timing of when to do stuff.
- Connection with experienced Master Gardeners in Randolph County. 2015 was a very bad year for gardening due to the weather so I look forward to 2016.
- Discussions on how best to water gardens; rotation of root, leaf, and fruit vegetables in the garden; soil testing; and careful pesticide use.
- Feel more confident in all areas.
- Fruits; pest management.
- General knowledge regarding help for lawns, insects, pruning and moles.
- Getting to know a community of other gardeners has been very beneficial! It’s always good to be able to trade knowledge with others, and to ask advice of more knowledgeable people.
- Hands-on experience through volunteering has been very rewarding.
- Hot line training - how to research answers to gardening questions via the computer.
- How mulching and soil amendment is critical. That MO natives are an excellent choice for great results with minimal care. That gardening and landscaping properly can really add benefit to the ecosystem and all our lives. There aren’t many shortcuts if you want to have a lovely yard and garden. Checking your yard regularly for pests and problems is important to prevent large issues later.
- I believe the initial training is only basic, due to the time restraints and the scope of content covered. The exceptional component of MG is the access to the experts from all over the state of MO whose resources we can tap into for answers.
- I can honestly say each has been equally beneficial in their own ways.
- I direct a community garden and spend many hours volunteering.
- I found the parts we had the opportunity to hands-on activities was the best, like when we visit the Branch Ranch.
- I have an increased interest in using native plants and shrubs and also using plants that are pollinator friendly. I am trying to design my landscape better instead of being a “plunker.” I also have a better understanding of insecticides and herbicides.
- I have established raised gardening beds with increased production of vegetables. Using companion plantings and less space resulting in less weeding and need for herbicides/chemicals. I am also composting my kitchen and yard waste.
- I have found the hands on learning at the community garden to be the most beneficial. The classes were very good also!
- I have gone back to the notes for several lectures to answer questions or address issues.
- I learned nothing that I did not already know.
- I love to talk with others about gardening - theirs, mine, what we wish for, etc.
- I now have the ability to easily search helpful resources when others have questions.
- I use most everything that I learned to teach kids at school and in the community garden.
- I’ve used every module of training in some form or another. I loved the class.
- Identification of insects
- Identifying and using more native plants and identifying and not killing off the beneficial insects. Making my own compost pile, thereby putting to use the huge amount of leaves we
Q: “What parts of the Master Gardener training have you found most valuable for use in your own gardening, landscaping, or volunteering?” (One-Year Follow-Up Survey)

had previously just gotten rid of and reducing the need to buy large quantities of wood chip mulch every year.

- Identifying insects and ailments.
- Increased knowledge of landscape design and proper methods of pruning.
- Increased knowledge of local natives, benefits of pollinators, pruning skills, soil testing, invasives control, and using less pesticides.
- Introduction of more native plants and wiser use of chemicals on my lawn.
- It helped me to improve production at Hope Farms.
- It is a wonderful educational program and the people involved are top drawer.
- It supported things I already knew from experience but didn’t realize that I knew.
- Just being generally more knowledgeable about gardening.
- Know more about organic gardening and how important it is to have prepared the soil before planting vegetables, annuals, or perennial. It has been a great experience in volunteering and meeting more gardeners with the same goals.
- Knowledge of small grower fruit and vegetable production including high and low tunnels.
- Knowledge shared by instructors and fellow classmates.
- Landscape design, vegetables.
- Learning how to grow perennials, hostas, & pollinator gardens & learning about monarchs & other butterflies.
- Learning more about indoor seed starting and the proper way to prune trees.
- Loved the vegetable gardening and flowers.
- Meeting new people who are like minded and have great connections.
- Meeting the other master gardeners and volunteering.
- More responsible lawn management, increased us of native plants.
- My own, especially working on figuring out fruit.
- Native plants in the yard and garden, avoiding use of non-native invasive plants, soil testing, volunteering opportunities.
- Need for research, correct soil for each plant, increased my desire for more knowledge, important details of landscaping, importance of pollinators.
- One of the most beneficial parts is the association with other gardeners and the opportunity to benefit from other’s knowledge.
- Own gardening.
- Perennials, lawn care.
- Perennials, vegetable gardening, landscaping and also, volunteering. Starting discussions with other people regarding the Master Gardener Program.
- Pest management - identification of insect pests and how to handle them, pruning, information on native plants.
- Pest management, volunteer time is good for the soul.
- Presentations by those who actually work in their field, who share real stories and answer questions from attendees.
- Pruning of plants.
- Required volunteer hours, if you’re lucky enough to work with someone who’s willing to share their knowledge of plants & gardening your MG studies are reinforced and used every day, which helps retain all that you had learned in class…otherwise “if you don’t use it, you lose it.”
Q: “What parts of the Master Gardener training have you found most valuable for use in your own gardening, landscaping, or volunteering?” (One-Year Follow-Up Survey)

- Resources available.
- Seed starting.
- Soil development, using different varieties, attempting to landscape the yard.
- Soil Management, landscaping proper plants for the space, lawn and turf care.
- Testing the soil for proper nutrients. Controlling insects without the use of pesticide.
- The ability to ask questions and get to know others in your area who have similar or expertise knowledge in areas I want to learn.
- The chapters on the fruits and plants. It motivated me to try species rather than the usual ones always used.
- The class increased my love for outdoor gardening and motivated me to experiment with plants, flowers, and shrubs.
- The different fertilizer schedules for cool and warm season grasses. Help to improve my knowledge of gardening as I am a professional landscaper.
- The extent of activities that I can volunteer for!!! I had NO idea how much was OUT there!
- The identification of insect pests.
- The information on disease and control.
- The opportunity to volunteer in the community.
- The soil information was most beneficial for my shady lawn. The soil test and aeration has helped us stop washing in parts of the lawn. Also composting is helping to continue to build up the lawn.
- The understanding of plant biology and water usage, compost and plant identification. It took the fear out of handling plants and gave me confidence that plants will grow. The statement of the right plant in the right place has proven itself true over and over.
- There are so many benefits! These include plant identification and selection, composting methods, increasing yields, plant propagation techniques, and pruning techniques. Mostly, I became even more enthusiastic about gardening and more comfortable in sharing my increased knowledge with others.
- Tree identification and composting.
- Trees, soil.
- Turf management, landscape design, importance of soil testing, pruning, conservation of water.
- Understanding how plants grow.
- Understanding soils, pruning.
- Using my resource manual to get optimal outcomes.
- Utilizing tried and true plantings.
- Validation of knowledge base and practice I have acquired through self-learning.
- Vegetable gardening, and annuals/perennials.
- Vegetable gardening...composting...sheet composting...using more native grasses...mulching and watering...soil conservation...
- Volunteering, working in the learning garden has been quite beneficial for me. There is such an experienced group of gardeners that have shared their knowledge with me.
- Volunteering in the xeriscape and at the demo garden.
- Volunteering time with older more knowledgeable gardeners. Its hands-on time that does it.
- Woody perennial growth.
Appendix B: Verbatim Responses – Suggestions for Improvements

Q: “What part of the training could be improved?” (End-of-Course Survey)

- Adding the topics below
- All of the power point presentation need to be updated. All speakers tended to speak straight from the presentation with little added information. Find a way for more hands on instruction.
- Although the session on insects was extremely interesting and the presenter very good, only the last 10-15 minutes was related to gardening -- last part of the presentation should either be shortened, or broken into two sessions. I found the session on landscape design disappointing - only half the class was devoted to it and even though the presenter was very knowledgeable, his presentation delivery was slow and disorganized -- shuffling back & forth through slides without talking about most of them. I would have liked him to show a slide, explain the challenges that the site presented and how the design addressed them. I also had a problem with the presenter for the session on trees at Burr Oak Woods -- he was extremely knowledgeable, but went way too fast for me so I left feeling frustrated.
- Better proofreading of the slides, sometimes the misspelled words caused confusion.
- Cannot think of anything, all information was useful.
- Can't think of anything
- Capstone project group is too big. It is very difficult for 6 people to coincide on a design, as the pushier people insist on their way. Since most people do not want to step on toes, they find it easier to just go along with the strong-willed ones. The overseer needs to be able to direct ideas and guide, as it may be very chaotic and/or extremely time consuming otherwise.
- Copies of power point presentations with note lines
- Couldn't hear the presenters that didn't use the microphone
- Gaining knowledge in areas I have little or no experience in
- Garden insects
- Getting out on time (good luck with that) :)
- Great
- Greenhouse
- Greenhouse and seed germination. I also thought that the turf presentation was more of a sales pitch than a learning experience.
- Greenhouse maintenance
- Greenhouse Session could be improved by focusing on "backyard" type, smaller greenhouses - less "commercial" info.
- Had a hard time linking the text material with the lecture I would rather see pages numbered in the traditional way rather than each topic numbered page-wise
- Herbaceous plants
- I actually thought it would be more in depth than it actually was. I did not feel well equipped to answer other peoples questions based on what was presented in class. The handouts are very hard to read when you go back to look at information. I know that we are trying to conserve paper, but six on a page is not user friendly.
Q: “What part of the training could be improved?” (End-of-Course Survey)

- I am extremely upset by the quality of information provided during the "Garden Insects" training. I would even like to redo the class with proper materials.
- I can't think of anything. I thought it was very professional and Max was just about perfect!
- I enjoyed the vegetable gardening section because I’ve been volunteering in a garden and wanted to learn more about that.
- I felt like the fruit section could use a little work. It was informative, but there were so many subtopics that it was hard to discern specific information about each plant individually.
- I felt that looking for information in the book was frustrating. To find answers to questions, you have to look in too many different chapters. Maybe arrange the topics so the information needed can be found where it makes sense for someone who knows as little as I did. I.e., tomatoes. Insects common to tomatoes, diseases common with tomatoes, how much sun is necessary to grow tomatoes, season for growing tomatoes. Rather than having the diseases common with tomatoes in the disease section, insects in the insect section, etc. All the answers could be found in the “tomato” section. Maybe that is not logical or doable but it makes more sense to ME.
- I liked all of it.
- I loved each chapter. Nearly all was interesting, useable information. The book and videos complemented each other very well.
- I loved Landscape Design.
- I think more focus should be placed on pesticides their safe use and effects on humans/environment. We own an organic farm and are very concerned about the chemical use and its long term effects. Since we started using chemicals we have seen better than a 10 fold increase in amounts applied and almost doubled insect damage to plants 7% without and 13% now.
- I think the training was excellent and while I’m sure there is always room for improvement I can think of none.
- I thought it was fine as is.
- I thought it was good.
- I thought the woody plants focused too much on trees at the expense of shrubs.
- I was left feeling unsure if I knew enough to actually serve as a master gardener. I learned a lot but there is so much to know I feel somewhat ill prepared to help others.
- I was really interested in proper pruning, soil amendments, and flowers. There was good information in each chapter.
- I would have liked to see more emphasis on perennials, but it was still great training.
- I would like it if the course material would be available after the course is complete as a reference when gardening after the class is completed.
- I would like to see more detailed presentations on composting.
- If the people giving audio lectures sounded enthused or interested in their subjects.
- Improving my knowledge in many areas in which I had little prior exposure.
- Inadequate discussion about insects and how they affect the MG; handouts and slides are poor quality and need to be upgraded, more discussion about landscape design; loved the session on trees and site visit to Powell Gardens.
- Insects.
- Insects. Plant diseases.
- It is impossible to assimilate all the information at once! Only experience using the knowledge will improve my training!
Q: “What part of the training could be improved?” (End-of-Course Survey)

- It was all excellent. The speakers were very knowledgeable and engaging. An improvement would be to have the type of technology (such as a document reader) available to hook to the projector so that real items could be shown and manipulated on the screen in real time. (For example, everyone could see the pruning techniques, the diseased plant parts, etc.)
- It would have been nice to be able to work ahead of schedule. I ran out of time at the end of the course but would have had more time earlier in the year to work ahead.
- It would help if the power point slides on our handouts were a little larger. Some of them are too small to read.
- Landscape design
- Landscape design left some to be desired. I still don’t feel that I know enough to develop a successful landscape design.
- Lawns
- Learning more of the individual plants
- Maybe more detail about landscape design.
- More actual examples...instead of slides. I.e. Prune some plants, bags of soil w/ labels to study. Pesticide, fertilizer examples
- More detailed information on perennial gardening
- More details on pruning.
- More hands on in class.
- More hands on stuff would be nice but I think we are supposed to learn first and then use what we learned in the gardens.
- More hands on. It really helped to see the actual disease, way to plant etc. There was almost too much detail for me. I would have liked a much simpler approach first and then this course.
- More in depth on topics
- More of the pictures of what was being discussed.
- More on the pruning and some tips on herb gardening
- More seating in classroom
- More time could be spent on pests and pesticides. Most people in this class are more homeowners than farmers or commercial growers.
- More time with difficult subjects: soils and insect diseases.
- Most speakers gave information that was impractical for home gardeners - I do not need to ever be able to identify trees be examining 4" twigs. Sometimes I thought I was in a botany 101 lecture class.
- No complaints
- None
- Not sure, because I learned something in every class.
- Not sure, but it was easy to get sleepy sitting in the dark. Maybe spend some time in small group discussion?
- Nothing at this time
- Nothing, loved it all
- Online access to materials: blackboard. Small groups to train outdoors.
- Pesticides
- Plant Disease  Have more show and tell
- Plant growth, soils and pesticides. I felt like back in Junior High with plant growth and the soils we could have had different examples of clay good soil, maybe an example of the
Q: “What part of the training could be improved?” (End-of-Course Survey)

different layering. Pesticides maybe some different labels to look at and have questions regarding the different ingredients. On the plant propagation maybe some different techniques the gardeners use of their own.

- Plant propagation
- Please buy a cordless microphone
- Pruning
- Pruning - more on how and when. Lawns - not such a seller’s market and more about how to use it and when it is advantageous
- Pruning would have been great to have some hands on activities. I was wanting more on landscaping and information on the placement of plants.
- Pruning, disease, flowers, design.
- Screens were hard to see at the beginning.
- Seed saving, composting
- Several times the info in the paper materials did not match with the on-line materials on various facts.
- Soil composition and improvement
- Soil session was long to me.
- Soils/Lawn/Landscape Design
- Some of the presenters' handouts were very sparse and there was not enough time to jot down the pertinent info.
- Some of the speakers (few) spoke for commercial (Hummerts) at an advanced level (too in depth)
- The ability to always have the programs work.
- The best part was the information to fill in the holes in each of the areas where I needed more information.
- The capstone project may need to be structured more.
- The class about pruning was kind of boring because of the monotonous talking of the teacher. The topic itself was interesting though.
- The entire course was good.
- The greenhouse class was way too technical
- The insect guy, way too much information.
- The landscape class seemed out of date. The instructor knows the topic, but the handouts and slides were not very good.
- The modules were VERY dry. The speakers were mostly monotone and it was boring to listen to, especially if it was information I already knew. I also found myself wanted more detailed information and images than the modules offered.
- The narration was rather boring. I know these are professors and not professional narrators, but it was kind of hard to follow along without zoning out. Secondly, as a Master's Degree student in Instructional Design and Technology, the series didn't follow best practices for sound instructional design. I understand your budget may be restricted, but looking into more interactivity with the course may increase retention. Master Gardener Training is rich with opportunities to inject interactivity into your learning modules. Maybe you could have three soil tests and a bag of each type of nutrient. Based on the soil test, what should the learner do? Or maybe you could have three pictures of a disease or pest-ridden plant and have the learner drag the name of the disease or pest to the appropriate picture. Finally, you could have a tree and have the learner "prune" it appropriately. I can offer any assistance in
Q: “What part of the training could be improved?” (End-of-Course Survey)

regard to this. I would love to help! If it could count toward my 30 hours of volunteer requirements that would be great too! :)

- The one with the makeup of the plant structure.
- The overall knowledge.
- The parts of gardening that I enjoy the most vegetables and flowers
- The pathology of plants was a little dry (hard to follow at times) and long.... Could maybe be a little shorter
- The quality of the notes could be better. Some of text in (most of) the slides was either grainy or too small to read or both. I think perhaps the slides should be larger/fewer per page.
- The SCORM’s need to be proofed. Most have grammar/typo errors. Many presenters were dull and hard to listen to, sorry!
- The sections on Lawn and Turf Management was very long and covered so much information. Perhaps it could be divided into 2 (or more) sections.
- The soil sampling and lawn information seemed to drag
- The videos weren’t always accurate as far as what was written
- The website was a little unwieldy at times
- There was one section that was very long that was difficult to complete in a week, although at the moment I cannot recall what section that was. The training could be improved by having each section run Saturday through the following Sunday, for eight days, with each section overlapping on the weekends. It was difficult to answer the discussion questions by Wednesday, so perhaps consider a later time.
- Unknown
- Vegetable gardening is more than one day, and the training is second to trying to get people out to do work.
- Vegetable gardening, insects, and overall knowledge of a little of everything and knowing where to find the answers.
- Woody plants
- Would be nice to have a way to ask questions of the experts, days after having a chance to process the huge amounts of information.
- Would like to have spent more time on pruning, pesticides, and landscape design. I realize that would have required more classes.
Appendix C: Verbatim Responses – Additional Topics

Q: “If there are topics that you wish had been covered in the Core Training, please list them here.” (End-of-Course Survey)

- ?? Sorry, too new to all this to know how to answer this as yet. I hope to learn by associating with those in the know and watching and doing. Sometimes sitting and listening to lectures are not the best way for me to learn. I am a visual, hands-on learner.
- A little more on growing in shady areas. It’s always a problem.
- A lot of focus on plant identification, possibly a whole class
- A lot was covered and lots of hand outs to read, sure there was plenty!
- Aquaponics
- Beneficial insects, like goats or sheep and how to keep them harmoniously with a garden/landscaping.
- Bonsai
- Cactus and succulents
- CANT THINK OF ANY
- Can’t think of anything.
- Companion planting in vegetable gardens - urban gardening and plant selection for growing in small places. Creating green houses and rain barrels.
- Composting
- Composting needs to be addressed more intensely with hands on and an active compost area to start at beginning of class to show how it progresses
- Composting was covered in my training, I think it should be its own unit in the core training.
- Comprehensive list. What this course did for me was to see where I was weak and know where to investigate the content and also have more questions to ask.
- Cooking with herbs
- Cooking with herbs.
- Core Training was pretty thorough. Can’t think of anything more needed since we are just getting started and I am already operating on information overload.
- Early sections covered many scientific pieces of information better broken into smaller segments. Interaction from instructors in forum.
- Fewer computer glitches.
- Fruit trees
- Gardening tools
- Had technical trouble with a few chapters but Steve Giesel was very responsive to problems
- Hands on propagation would have been good.
- Herb gardening
- House plants, water gardens
- How about some information on water gardening and a little less on tomatoes.
- I don’t know.
- I had a very difficult time with the technical aspects of the training in the beginning. Some of the material needed to be proof read
- I have contacted the extension office for assistance in obtaining my hours it’s been 8 days and I have not received a response to my emails or phone messages
- I liked the ability to take the core training online, but it would be helpful to perhaps have a workshop day, with hands on activities to reinforce the learning.
Q: “If there are topics that you wish had been covered in the Core Training, please list them here.” (End-of-Course Survey)

- I think it covered a broad base and it allowed us to delve deeper in subjects that were of greater interest. So I think it works well as is.
- I wish there was a better introduction to your coordinator. I didn’t know you could be volunteering during the course. I had to go thru 3 different people to find his name.
- I would have like nite in depth on perennials
- I would have liked the landscape design portion to have been more than it was. I would also have liked more on Missouri natives, and designing with Missouri natives to the residential landscape. Also...water gardening, and rain gardening...sustainability
- I would have preferred a classroom instead of online training; it wasn’t available to my county.
- I would like some training in greenhouse management, but realize there is a limited amount of material that can be covered in one period
- Identification and control of garden insects as they relate to plants, see pest diagnostic work sheet in MP928 pg.60 & 61
- If there are sources of inexpensive mulch, compost, etc. It would be a great help to know what they are...
- It was so great. I felt the experts did a great job of teaching. I did not have trouble with the technology as some did.
- It would be nice to have more info on plants native to Missouri as these are a popular topic right now. Composting is also a common topic.
- Just more time needed on annuals, perennials and native Missouri wildflowers.
- Landscaping with animals and children in mind.
- List of various seed companies: variety of seeds (gmo, coated seeds, patented seeds) etc.
- More about container gardening and more about landscape related issues like edging, fencing, trellises, etc.
- More about greenhouse design, and gardening by the moon phases
- More design & how to utilize plants to create different looks/styles. The Landscape speaker we had was a waste.
- More direct information about organic gardening, though there was a lot of indirect references (Sustainable practices)
- More info on specific flowers such as roses, daffodils, iris, day lilies, peonies
- More knowledge of native mushrooms when they grow, how to cook them. What plants can help with your income. Oh and knowledge of bonsai trees.
- More on actual landscaping with plants for the area. It would have been nice to have had a landscaper teach one class
- More on different ways to improve and amend the soil.
- More on landscaping and not only the art but the process. More info on what are woody plants and how to incorporate them - how to successfully prune - anything - bugs - what damage they do to each particular plants
- More on native plants.
- More on organic methods for vegetable and fruit production.
- More on properties of plants
- More on woody ornamentals, perennials, annuals, trees which thrive in Missouri, along with more on deer resistance.
Q: “If there are topics that you wish had been covered in the Core Training, please list them here.” (End-of-Course Survey)

- More plant propagation
- More specifics about vegetables ... Specifically, starting with seeds
- Native butterfly information/education. I would also like to see more in depth info on local flower and vegetable diseases with organic/chemical solutions. Class given was great - maybe expand to 2 class sessions.
- Natural, organic ways to control disease and pests.
- No suggestions
- None
- None
- None
- None that i can think of at this time.
- Not that I can think of.
- Ornamental grasses are a big thing now in landscapes. It would be nice to have more info on the types of grasses and the care of grasses. More instruction on Native plants
- Out of 14 videos, perhaps 3 were taught by instructors who had a long way to go before they should be released to the public...
- Perennials
- Permaculture for sure.
- Plant groupings
- Practical guide to the most common annual/plant diseases and what to spray or how to correct; this discussion was not clear or connected.
- Proper Planting techniques.
- Researching problems, information
- Seems that most everything was covered and we can always call you if we want more info.
- Stop changing the delivery method in the middle of the course. More than once it became un-useable due to changes made that were not tested sufficiently.
- The chapters that were done by the woman instructor were a bit cumbersome to follow the lectures
- The organic pesticides for fruit trees and lawns.
- The topics covered a broad range of important gardening knowledge and i am satisfied with the selection provided.
- The written materials and the written words used with the audio need much help with editing and spelling.
- There could have been MUCH more information on garden design, bed design, landscaping, composting, mulching and issues specific to St. Louis region.
- True Organic lawn, fruit and veggie production. I believe it would increase awareness and also help the Master Gardeners when answering questions to the public. Home organic production is on the rise and it would be nice to increase the knowledge base of our Master Gardeners and the public.
- Use of native plants in the landscape
- Use of natives in the home landscape; problem of invasive species and what we should not be planting
- Water management/conservation/harvesting.
Q: “If there are topics that you wish had been covered in the Core Training, please list them here.” (End-of-Course Survey)

- We covered a lot of basic information on a lot of subjects. More experience will uncover what I need to learn in addition to the core information.
- We covered so much I can't think of any.
- Weed identification
- When to prune/propagate perennials
- Wish the instructor had handouts of their presentation to follow along with better than feeling along with the manual.
- With the economy/health concerns and questions asked would like more info about vegetable growing. This could include vertical growing, harvesting and storage.
- Would like more information on native plantings and organic gardening.

Q: “Please share any topics you wish had been covered in your Master Gardener training that were not included.” (One-Year Follow-Up Survey)

- ??? Need so much more knowledge. Training was good but I need so much more. Understand the lifelong journey of acquiring knowledge and skills.
- Again... we skim over a huge amount of content.... My wish would be “refresher” 1/2 hour video segments for each area that we, especially in the rural areas, could access for club use. You could have experts in each area explain in detail. Perhaps you could provide YouTube links that you feel are valid and worthy of satisfying our training requirements. We have access to Wi-Fi in the church basement we meet in that would be more convenient than trying to schedule a face to face presentation.
- All were included.
- Bee keeping.
- Break-out classes: specifics on the specifics, i.e., we learned about fruit but didn’t really LEARN about fruit. We learned so much in class, but questions came after some processing time. There were no follow-up sessions to ask those questions. This course is a perfect “jumping off” course.
- Can't think of any.
- Can’t think of any at this moment.
- Can't think of anything at this time.
- Can’t think of anything that was omitted.
- Can't think of anything.
- Classes were random, unrelated and few were taught by educators. Very disappointing overall.
- Doing things in small groups to build teamwork.
- Gardening in areas with extremely high deer pressure.
- Greenhouse management.
- Growing Grapes.
- Growing mushrooms, bees, chicken.
- Growing perennials.
- Hands on. Hands on. Hands on. Watching someone graft a tree is different than actually doing it. More hands on needed in growing vegetables etc.
Q: “Please share any topics you wish had been covered in your Master Gardener training that were not included.” (One-Year Follow-Up Survey)

- How to share your excitement about gardening with everyone you come to know. The experience of growing purple cotton plant in the back garden and have it produce blossoms, cotton balls, and finally cotton and watching the native cardinal plant grow and bloom to attract monarchs.
- I believe the use of native plants in landscapes should be integrated across the entire curriculum rather than a stand-alone session.
- I cannot think of any topic that was not covered in the training class.
- I think it would be fun to follow the progress of a newly dug, soil tested garden through the 12 week class.
- I think the course pretty much covered a bit of everything. I did research hoop houses on my own and put one in this fall.
- I wish that more emphasis would have been placed on landscaping and using native plants.....in our class it seemed we just skimmed the subject and didn’t learn “how” to make things cohesive.
- I would have liked more focus on flower gardens & perennial plants. Would like to see resources such as on line videos about garden/flower topics that could be used for further training/information.
- Insects, pests that are most troublesome in the home vegetable garden. I would have liked a bee presentation.
- Invasive GOOD plants! And there are several I’m learning.... sadly ...
- Landscape design should be removed. It is too broad of a subject. Keep the training on horticulture.
- More about growing fruit and veggies, since that is so widely applicable.
- More basics of flowers/veggie and identification of flowers and how the parts work, I think we were all gardeners and knew pretty much what they were teaching. Wanted something more about the basics. But I enjoyed every class.
- More economic side of fruit and vegetable production.
- More focus on native plants, butterfly gardens.
- More hands on plant ID, problems, planting problems, all the everyday questions locals call the answer center about. How to grow and maintain plants in St. Louis. More pest knowledge. Lots of great info provided in a short time.
- More in depth on fruit production - specifically disease control and varieties of trees.
- More info about successful houseplants...preventing problems and how to make them as healthy as possible. Also, I would like to learn more about houseplant propagation.
- More information on plant families and plant identification.
- More information on the identification of plants, more information on landscape design.
- More on landscaping maybe a hands-on design activity.
- More on natives.
- More organic, sustainable, biodynamic methods.
- N/A.
- Native Plants.
- Natural remedies for common ailments.
- No.
- None.
Q: “Please share any topics you wish had been covered in your Master Gardener training that were not included.” (One-Year Follow-Up Survey)

- None. The training was comprehensive.
- Not sure there is room for any more topics in the training, maybe permaculture?
- Producing Maple syrup.
- Raised-bed gardening.
- Square-foot gardening, managing small areas (8 x 8 garden example nets ___ tomatoes, peppers etc.
- The class on composting was cancelled, and replaced with one on turf. I would’ve preferred the composting class!
- There is so much to cover I am not sure how you could fit more into the class.
- Vermiculture.
- Water features and water plants.
- Would like to learn more about starting my own shrubs from cuttings/grafting.

Appendix D: Verbatim Responses – Unexpected Benefits

Q: “Did you receive any unexpected benefits, personal or professional, from your Master Gardener training?” (One-Year Follow-Up Survey)

- Amazed regarding some of the members did the training but that really helps with expenses and if need to ask questions we could after and anytime at meetings or etc.
- Being a master gardener definitely gives me more credibility in the community when seeking volunteer opportunities.
- Being able to be listen to when talking about landscaping.
- Better fitness.
- Companionship and working with friends.
- Confidence. The “Master Gardener” label gives me immediate credibility when speaking to others. In turn, I have more confidence in what I am saying or recommending (even if it is the same thing I would have said before completing the program).
- Considering flower farming.
- Enjoyed the people who had the same interests. People seem to ask me more about gardening problems.
- Friends seem impressed by the title “Master Gardener” I have to keep reminding them that the more you know, the more you know you don’t know!
- Friendships.
- Great friendships!
- Great people. Enjoy the monthly meetings.
- Have met wonderful people.
- Husband starting to understand...yay!!
- I am able to answer questions from others in the community and give tips for growing better.
Q: “Did you receive any unexpected benefits, personal or professional, from your Master Gardener training?” (One-Year Follow-Up Survey)

- I did not expect the respect, almost adulation, that people give Master Gardeners. It is sort of like being an Eagle Scout. I thought the Master Gardener training was for my own personal growth and it was. I just didn’t realize how others viewed the certification.
- I find I study more and more now that I have completed the program.
- I have made friends with wonderful people who share my passion for flower gardening. This was always on my list of things to do when I retired. It keeps me mentally and physically active.
- I learned how to garden here in Missouri which has unique challenges to be taken into consideration if you want to be successful.
- I liked being able to use the curriculum for the classes I teach as an Ag Teacher.
- I love the friendships and continuous learning that comes from volunteering with other Master Gardeners.
- I really enjoy associating w/other Master Gardeners who are so willing to share their expertise.
- Just a general appreciation for how food is grown and how seeds and soil work together to create food.
- Made good new friends who share my interests.
- Made new friends & developed a network of people to consult about flower/garden/tree/lawn issues.
- Made new friends & enjoy sharing information and plants with fellow gardeners.
- Made new friends. Proud that our demonstration garden donates produce to local food bank.
- Meet some great people.
- Meeting a number of gardeners has been a very nice unexpected benefit.
- Met a group of people in a new community.
- Met a lot of like-minded people who are willing to share information and plants!
- Met many fellow Master Gardeners.
- Met new people. Expanded my knowledge base. Personally utilize more gardening ideas in my own yard and those of my friends and family. My yard has become picturesque.
- Met people with similar interests that helped to increase my knowledge.
- Met some great new people both as a volunteer and from the class.
- More family togetherness & interest.
- Most of the information verified what I knew already.
- My volunteer time at the plant doctor desk is a great opportunity for me to learn some new every week.
- New friends.
- New friends.
- New friends with common interests.
- New friends! But that wasn’t exactly unexpected!
- New friends! Lots of people have asked me to manage their flowerbeds.
- Nice connections with professionals in a variety of fields! I wouldn’t hesitate to contact some of the lecturers with questions.
- No.
- No.
Q: “Did you receive any unexpected benefits, personal or professional, from your Master Gardener training?” (One-Year Follow-Up Survey)

- No. However, this is my 3rd MG class. I am also certified in Tennessee (2002) & California (2007)
- Nothing unexpected. I expected to learn a lot - and I did. Great program!
- Of course! New friendships, endless resource of knowledge!
- Personally have made new friends felt connected to the organization.
- Personally - New groups of friends. Also, working w/ organizations involved w/ community gardens.
- Really enjoy our club meetings with other gardeners. We have bonded together to do several volunteer community betterment projects and attended some garden/greenhouse tours together. Continuing my own education/knowledge of plants has kept me active in both mind and body.
- Received pretty much what was expected.
- The class covers a lot of material so I now have the tools used in the class for reference and also know more about the extension website that is full of information. I would like to take additional training classes if they become available.
- The gift of knowledge about a subject so important to me personally and more importantly to share with others.
- The joy of being outside and working with other gardeners.
- The training offered opportunities to meet new people and volunteer on different projects.
- The tree identification amazed me. It was the basics of trees. I was amazed how you could identify trees from even a twig. I loved learning about this.
- The volunteer friendships are wonderful!
- The volunteer hours gave me a good sense of community and helping others.
- Training has added credibility in the gardening community.
- Volunteering.
- While I have always loved gardening and nature in general, I find I am so much more aware of everything I see. I’m much more confident now about how to go forward in landscaping, adding new plantings, gardening and sharing with others what I learned. Thank you for offering such a wonderful program.
- Yep, confidence.
- Yes, most definitely I was recovering from an ischemic stroke and enjoyed the learning as well as the social aspect.
- Yes, a broader knowledge of the many topics involved in gardening.
- Yes, a greater appreciation for the natural world.
- Yes, I made many new friends and I also enjoyed the food pantry on Saturdays.
- Yes, much more confidence in working my gardens.
- Yes, professionally. I have started a cutting garden for use in floral design. Very excited.
- Yes! I enjoy gardening even more and have been to some great places I would never have known about and met some really interesting people.
- Yes! I learned so much more than I expected!! Having the handouts to refer to and receiving newsletters and local updates is very much appreciated.
- Yes. I have increased my knowledge as a landscaper as I am a lawn care operator.
Appendix E: Verbatim Responses – Additional Comments

Q: “If there are further comments you would like to make about this program, please do so before submitting your responses.” (End-of-Course Survey)

- A very worthwhile and beneficial program. Benefits the individual and the community.
- A wonderful program!!! So well organized! I am extremely thankful that I participated in this training! I learned a lot and look forward to volunteering and gaining hands-on knowledge!
- As I continue my volunteering/enjoyment w/gardening, my knowledge will increase - I plan to keep and use my course book often.
- As I was a fall class participant, have not really fully gardened yet. (and as a new resident to Missouri). Some of the questions seemed out of place in that view. And I've not yet had any opportunity to volunteer. Loved the program, though, and am excited to be a new gardener here.
- As we are now starting our own restaurant we will be using my new skills for landscaping, growing our own tomato product, herbs, edible flowers, and beautifying the property. I would like to thank everyone involved in the program- my fellow students and Steve Stacy, Mary and Bill Williams, the directors of the greenhouses, and all staff and the CMMG's for their kindness and support. This is the best group of people I have ever had the pleasure of being associated with. This program was a God send for me and my family. Sincerely David and Jenny Worley
- Enjoyed immensely
- Enjoyed the Master Gardener training program. The group did a great job.
- Great program! Look forward to use what I’ve learned and getting involved in community gardening. Would like to have more details on perennials - how to divide, prune, etc.
- Handouts were hard to read and a huge waste of paper! PLEASE IMPROVE.
- Having a variety of instructors helped because most were extremely knowledgeable in the area they covered and liked the area they covered which helped to keep the classes interesting.
- Having an online program makes it more convenient and doable for those who cannot attend a classroom situation. Thank you for offering an online course.
- HIGH PRAISE for Janet Lafon & Robert Balek. Not only are they very knowledgeable but they made the class smooth & fun. They were flexible with whatever direction our class went in, always answering our questions & meeting each of us at the level we were at, as we progressed together. I value the time spent learning & growing, & would do it again.
- High praise for the program and the local coordinator Carrie Williamson, looking forward to continuing with the Master Gardener training and volunteer work.
- I am looking forward to volunteering with like-minded people.
- I am so glad that I chose NOT to take the class on-line, as I had considered doing because it was not offered in my own county. I had been inquiring about taking the training for the past 3 years in the county where I live, and it was never available. The benefits of interacting with the instructors and other participants in the class were very important to the overall positive experience. I highly recommend it.
- I am so impressed with the folks from Extension who taught this course. In particular, I was impressed with their eagerness to answer questions and to be helpful, even when questions must have seemed obvious or out of left field. What dedication! They were also very knowledgeable, and able to communicate well.
Q: “If there are further comments you would like to make about this program, please do so before submitting your responses.” (End-of-Course Survey)

- I am so impressed with the way Tim Schnakenberg helped us in every phase of the training...and also how much help Tim gave to each speaker that came. He worked very hard to have all the material and name badges put out, and organized every meeting so well. It will be a pleasure for me to pass on the Master Garden program to my friends and help with the projects this next year. I am anxious to "dig in the dirt". Thanks to the university and all those like Tim and Joetta who were instrumental in making this possible for me.
- I am so pleased Barry County hosted this class. I have been pressing for it to be offered in the area for about 4 years, as I am a member of the MU Extension advisory board. I was having no luck until Reagan Bhuel came on the scene. She is great.
- I am very disappointed that there is no Master Gardener program/group in Bates County. I had to travel over 30 miles to Nevada to find a group that meets. I put my name down to help with one of the projects but then was never contacted by the person who was supposed to be in charge of that project. The coordinator, Pat Miller, is AWESOME but the rest of the group is not very friendly.
- I am very thankful for the trainers we were provided the information was wonderful.
- I do not like the greenhouse presentation. I would like to have heard from an individual about their greenhouse, not a company.
- I do think there is some unrealistic demands during the week to make the timelines required. I would like to see that all requirements would be completed all on the same day or at the end of the week.
- I enjoyed some excellent speakers with lots of knowledge to impart. Only a couple were over my head with their content.
- I enjoyed the class and appreciate the knowledge I have gained from taking it. I will look for more online courses offered by the UM Extension Center.
- I enjoyed the class setting and the information. I am a gardener and grow food every year, it must be fun. We need a community garden. Not everyone has a plot of land to work. Also kids need to be more involved.
- I enjoyed the classes very much! I’m so excited to be part of this wonderful group!
- I enjoyed this experience. I appreciate the speakers, however, some were stronger than others. I personally had a great deal of difficulty understanding and gleaning information when Lala taught the class. Please do not misunderstand my opinion - I truly like Lala, it is just difficult to sit there for 3 hours a day and stay focused on what he is saying.
- I found out about MU Extension and its helpfulness to Missouri residents through the Master Gardener program. I plan to volunteer as much as possible so that others will know where to go for gardening help.
- I found the program good and I think it is excellent for those who have moderate or less knowledge and experience in gardening and plant growing. For me it was a good refresher course for most topics.
- I have thoughts about the capstone project. I think it is a great idea to get certain things done in the gardens. However, I have encountered a group that is not fully engaged in carrying out the tasks involved. There is no incentive to participate as member of the group. I have been around the block enough times to know that in some groups there are workers and some who will take advantage. I did not need Master Gardeners to give me a life lesson in how groups operate. I don’t want that to sound as negative as it probably sounds, but it does bother me when we are expected to operate as a group and some members don’t cooperate or
Q: “If there are further comments you would like to make about this program, please do so before submitting your responses.” (End-of-Course Survey)

- I have truly enjoyed the program and begun my volunteer work. My favorite speakers were Kara Dunnan, Teresa Morris & Scott Moser. These people seemed very passionate and knowledgeable about their topic. Thank you for making this program available.
- I love this class and I’m really pumped to get started with master gardeners. Thank you so much for letting me take this class and partaking in this.
- I really appreciated how Carrie Williamson went out of her way to accommodate everyone.
- I received my course completion certificate and my last name was spelled CONNOR. It should have been CONNER. Would you please see that this gets corrected? Thank you. Pam Conner
- I think it's a very extensive and complete program. Once I can put into practice what I've learned, I believe it will become an invaluable resource for me.
- I think the speakers should use more of their personal experience in the audios and use a more interested, excited tone in their voice...like talking to a classroom of students!
- I think this course should be offered for college credit. Also, I was very familiar with the benefits of the county extension organization before I took this training.
- I thoroughly enjoyed this program.
- I thought this was a great class. I had been wanting to take it for years but couldn’t commit to the weekly classroom time so I was happy when it became available online. I look forward to my trainee time.
- I truly appreciate the very kind and helpful attitudes of Patrick Byers, Kelly McGowan and all the other instructors and leaders who made this training a very positive, rewarding experience. Thank you so much!
- I truly enjoyed attending the classes, I learned a lot of new information and look forward to putting it to use through volunteering. The guest speakers were all wonderful and Joni Harper is a delight. She has done a very nice job of presenting the Master Gardener Program. Thank you!
- I was able to absorb more info when we had a couple of topics in one evening. One topic for several hours was too much for me to sit through. I look forward to future classes.
- I was first certified as a MG in 2002 by Tennessee Extension. I was certified again in 2008 by California Extension. After moving to an unfamiliar environment, I felt the need to fill the gaps in my knowledge base. The Missouri program did just that. Thanks to everyone who helped make this happen.
- I was privileged to be able to take the class with my mother of 86 years and my husband. We all enjoyed it very much. Brought my husband and mother closer. I must take the time to thank those at the Cole County office for their support. We will be having our daughter in the next class.
- I was so excited about this course and it did not disappoint. The instructors were wonderful and very approachable. I am so excited to put into practice what I have learned. I would recommend this class to anyone!
- I will miss the Tuesday meetings, where I learned so much about how to take care of my lawn, flowers and vegetable garden!!
- I work a full-time job and a couple of part-time positions. I felt learning more about plants would be beneficial in one of my part-time positions simply to help beautify the area where I live and work. The building on my property is used for events such as weddings, prom
Q: “If there are further comments you would like to make about this program, please do so before submitting your responses.” (End-of-Course Survey)

pictures, etc. It has not been properly maintained for a few years and I thought I might be of some help if I could learn more about flowers, mulch, lawns, etc. I have enjoyed it although I feel there is still much for me to learn - but I need to learn by doing and I plan to volunteer and learn more from the current Master Gardeners. Thank you!

- I would like to thank Mr. David Trinklein Associate Prof. Plant Sciences and staff for an outstanding course!
- I’m very grateful to have all your research knowledge available for just a phone call. I call the local office all the time. THANK YOU!
- It was a great course. Can’t wait for spring to get back to the 18th and Broadway garden in Kansas City.
- It was a wonderful experience and I learned invaluable knowledge. Our instructor was highly educated and very motivated.
- I’ve enjoyed the class. Everything was very informative. Maybe restructure the notes system and make the text bigger. That would make it perfect.
- Janet and Robert were most helpful during this training time. The teachers were also willing to answer questions, so it was very helpful.
- Kelly and Patrick were so helpful that they made this class fun and extremely helpful. I emailed Kelly all the time with questions and she always got right back to me, I was very grateful for all the extra help.
- Like to see more classes (not necessarily MG part) such as drying (to preserve) for food and/or crafts. Disaster prepping, home prepping for hot summer/cold winter, some of the other things judges at county fairs and 4H
- Loved the class, instructors & group in general! Lifetime involvement planned - thanks for all you do!
- Loved the program and feel very privileged to have participated. Thank you!
- Master Gardeners that set up tables, equipment, brought cookies etc. were very kind and helpful.
- Max Glover is a very competent and knowledgeable teacher!! I will value the knowledge I received and lessons he taught for the rest of my life!!
- Max was a knowledgeable instructor and made the class enjoyable. As a former teacher, I appreciated his preparation and ability to adjust to changing needs of his class.
- Max was very good at answering questions. He was very knowledgeable.
- Overall excellent program and a great benefit.
- Really enjoyed the effort the core coordinators put in and all the speakers who were willing to give presentations.
- Simply, THANK YOU FOR PROVIDING ME WITH THIS AMAZING OPPORTUNITY! I am very proud to be a part of the Master Gardener Program and will work very hard to be the very best representative of the program that I can be!
- Since I started the training in August and just finished classes last night (Dec 3), I haven’t yet been able to volunteer very much or implement many new practices, so haven’t yet realized all the economic or other benefits of the training. I’m looking forward to the next growing season when I’ll have a chance to apply more of what I’ve learned. I’m sure this training has changed my life forever and look forward to sharing the benefits with others in the years to come.
- Thank you for a good program.
Q: “If there are further comments you would like to make about this program, please do so before submitting your responses.” (End-of-Course Survey)

• Thank you for continuing education. I have always been an avid learner. As long as it continues I will continue. I volunteer my hours in Desoto for Farmers Market, community gardens both vegetable and herb as well as public library beautification.
• Thank you for making this class easy to attend by the hours involved and the class room size.
• Thank you for this MG program. It is great.
• Thank you for your time and all the instructors. The Audrain Master Gardeners did a lot of organization and helping out on this program instruction. Thank you for the great learning.
• Thank you so much for the expertise and guidance of great staff! Again, if I can be of further assistance to you or your team in making the course more interactive, I would be more than happy to help. I have 6 years of experience in education and am pursuing my Master’s Degree in Instructional Design. The delivery of training and learning is absolutely essential to retention. I believe retention would be increased if the course was more interactive.
• Thank you to all of the instructors, thank you for sharing your wealth of knowledge. It is so wonderful to see the pure excitement and joy the presenters have while speaking of their specialty!!! Great, great Job!!! Thank you!!!
• Thank you to Cathy, LaLa and assistants in providing place, time and instructions for the 2014 MASTER GARDENING PROGRAM. You demonstrated that you practice what you teach and have shown your passion for gardening and horticulture through this program.
• Thank you!
• Thank you.
• Thanks for everything.
• The class started in August and ended in December so some of the questions were not really applicable at this time. A lot of the activities are done in the spring and continued into the summer and fall but not done a lot in the cold weather so they could not be answered yet. We will not go to the extension center and work the hot line in March so we do not know what is available at the extension office yet.
• The classes were not only knowledgeable but were fun and entertaining at times. Enjoyed the classes and hope I can be half the master Gardener that Billie Long is.
• The faculty and staff of MU Extension of Jasper County are a great group to work with.
• The only issue I had with the class had to do with a couple of the presenters. I am unsure which, but two or three of them were very hard to listen to and follow along. I found my mind wandering on multiple occasions because the presenter had gone off on tangent or was talking in such a droll, monotone voice. Other than that, I loved this course. Thank you MU for offering such a wonderful class to Missouri residents!
• The pesticide Roundup was mentioned in multiple classes. Almost like it’s a good thing. It’s not in any way. It’s one of the worst pesticides that farmers and homeowners use. I don't think the University of Missouri or any Missouri Master Gardener Program should promote its use.
• The program is an excellent service to the community and I am thankful that it is offered on line.
• The questions about economic benefit this year, changes made since taking the courses, etc. would seem to be more appropriate after a growing season when we've had the opportunity to implement ideas. Right now I've made no changes because of the season, not because I don't plan to. The classes didn't significantly influence my opinion of what the extension service has to offer, etc., not because it wasn’t a positive experience, but because I already
Q: “If there are further comments you would like to make about this program, please do so before submitting your responses.” (End-of-Course Survey)

had a high opinion and therefore wanted to participate in the MG program. I tried to make honest answers based on a literal interpretation of the questions, but I think some of the questions wanted to find out something different than what they were asking.

- The staff who worked with us were knowledgeable in their areas of expertise, open to helping with understanding the material and solving problems we might have with our yards, and very available.
- The variety of presenters added to the value of the class core materials
- The volunteering portion of the program is problematic. I had trouble getting in touch with the liaison for that, and I am still unsure how to go about logging or actually participating in any volunteer opportunities that qualify
- There needs to be a way to make it much easier to get volunteer opportunities to get the hours in. We are not all retired!
- This is a strong program for any level of experience or knowledge. I would like to see more visuals in the online course. PowerPoints with heavy dependence on text which is voiced over is less effective than photos. Some instructors did a better job than others deviating from on-screen text to enhance information with examples.
- Tim Schnakenburg was our coordinator and he was very good. He has a very easy manner which is pleasant, engaging, and fun. He is very knowledgeable as were all of the teachers. I would definitely recommend this class to anyone who is interested in gardening.
- Tim was an excellent facilitator. I like that he brought in other volunteers at the beginning of each class to introduce their favorite projects. I do hope we get email notification for any and all work days so we can try out a variety of projects. JUST WISH IT WAS SPRING ALREADY!
- Training was conducted in a very professional manner. I would highly recommend Max.
- Very worthwhile program. I’m glad I’m part of it.
- We need beer or wine socials.
- We need to let more people know about the hotline and services available. Until I took this course I didn’t know what was available.
- While the material was very good, the online method of delivery leaves a lot to be desired. There was NO interaction with instructors, even when specific questions were asked. There was also no feedback on our posts. I also find it interesting that you are abdicating certification to the local chapters. When Lala was asked about the fact that the course says 30 hours are required and the MGGKC require 45, his solution was to change the wording so each chapter can make the decision. How does this make it a statewide program? Are the inmates running the asylum?

Q: “If there are further comments you would like to make, please do so before submitting your responses.” (One-Year Follow-Up Survey)

- Additional options for volunteer hours would be good. All of my hours were spent cleaning up rather than making better or working on new gardening projects. I’m not sure what makes someone an expert to teach others in the program or the public. The program appears to have a heavy reliance on Big Ag and Big Chemical. MGs can and should change how we use natural resources without always using chemicals as a first response. I’m glad I was able to participate in the program, but I feel I didn’t get much out of it or what to do with my knowledge.
Q: “If there are further comments you would like to make, please do so before submitting your responses.” (One-Year Follow-Up Survey)

- As chair of our local chapter, I’m concerned with obtaining training for our group to fulfill the requirements.
- Demographics of Missouri MG should be made public.
- Enjoyed the class very much. Am now enjoying doing volunteer work.
- Fabulous program! I look forward to the time when I’m not working full time and getting more involved w/ gardening on a personal level and w/ community gardens!
- For the online training, interaction with instructors as part of the chats would have been beneficial. Rather than just responding to others in the class, feedback about responses to questions from teachers would have been appreciated. This part of the program was helpful, but could use further improvement.
- Great program!
- Great program! I recommend to all homeowners.
- I appreciate having a very knowledgeable teacher. Max was a great instructor who is an expert at gardening skills!!
- I became a double amputee in May 2015 am now more mobile and looking forward to contributing more volunteer hours. And this training and program will make this possible. Thank You.
- I can’t answer what county I live in because I live in Illinois (Madison county IL). After attending the Illinois Master Gardener Conference in Belleville last year, I became an Illinois Master Gardener too. I volunteer at The Gardens at SIUE as part of that and I love it.
- I just wish I had the opportunity when I was younger.
- I live in Johnson County, Kansas.
- I only wish I had more time to give to this program.
- I ruptured a disk in my back and had to have back surgery. This has prevented me from doing volunteer work as I am still recovering from the surgery.
- I thoroughly enjoy and appreciate the service.
- I very much enjoyed the class. I need to go back and review the material to refresh before the next gardening season. I would like to take additional classes in the future.
- I volunteer with several people who completed Master Gardener training through the MO Botanical Garden. I have asked them and a board member why the requirements are different for ‘in-class’ and online participants. In-class students are required to lean and are tested on their knowledge of Latin terminology and are required to complete 40 hours of volunteer work - why the difference? I think the standards should be the same. Due to my work and travel schedule the in-class option would not have worked for me so appreciate that I was able to take the course online. I thoroughly enjoy my volunteer activities (Flora Conservancy and Green Center) and look forward to resuming them in February.
- I was enthused to attend every class. Most all classes included participation. The staff and presenters were knowledgeable and friendly and appeared excited to share their skills.
- I wish someone would have followed up with me. I had a hard time finding the right people to volunteer with to get my hours in. There needs to be more info with names and numbers and benefits available for Master Gardeners. I hadn’t know about the continuing ed. hours needed either, although I was told about an all-day seminar and attended it late last year. A Parks and Rec employee was the person who told me about the seminar.
- I wish that the required hours (10) in the master gardener’s two gardens were reduced so that we could have those hours to volunteer in more gardens throughout the community. I would
Q: “If there are further comments you would like to make, please do so before submitting your responses.” (One-Year Follow-Up Survey)

like to see more emphasis on gardens at public buildings, like libraries fire & police stations, helpful to government agencies and beautifying our cities. Good PR for Master Gardeners.

- I would encourage anyone to take the class.
- I’m very proud to be a member of this organization.
- If you want better participation in other MU Extension classes they need to be advertised in a better way. I am not really sure what the extension office offers. The extension office does let us know about guest speakers and when and where their classes will be held and the cost of the class. These classes usually relate to the topics covered in the MG Program, but MU offers other classes.
- In today’s fast-food-crazed world, programs like this are critical to the fabric of sustainable gardening and the localvore food scene. Thanks for all you do to bring this program to people and their communities.
- Just that I thoroughly enjoyed the program! I haven’t gotten better because I don’t have the time yet. When I retire, I plan to become more involved!
- Love the class.
- Thank you for having this program. It’s very important to continue learning.
- Thank you for this program. As in most areas of life, the more I learned, the more I realized how little I knew! In spring 2015 my husband and I built raised beds for a shelter in the town where I work (we received training in Cole, live in Boone, and I work in Randolph). I planted them and visited weekly for maintenance. Sometimes residents would be in the yard, and we’d talk about the gardens. I felt more confident approaching the shelter staff about the proposed project because I could say I was a “MG, not just an avid gardener. I have several coworkers who love hearing about the information I learned in the formal classes in fall 2014 and at my monthly meetings, so there’s a ripple effect to the training - it goes beyond those in the classroom.
- The Master Garden Program is ideal for people like me who have enjoyed their own yard but always wanted to know more. The program is presented in a learning atmosphere. It is also a place to meet new people interested in gardening.
- The notes we had were not acceptable. The print outs of power point slides were so small no one could read them and we’re effectively useless after class. I wish I could have helped set up the notes I am a computer engineer. I have very little reference information now. If I could get a digital copy of the notes and print them out to a readable size that would have been amazing. Otherwise I loved the course, thank you for providing such an important learning environment.
- The staff at the MU Extension office did a wonderful job! Thank you.
- This is a great program! Because of this program and Grow Your Farm classes I am now pursuing a career in farming. Debi Kelly has been extremely helpful in providing direction and resources!
- This is a very good program to increase one’s knowledge in gardening. I enjoyed taking the class very much.
- This is a wonderful program. I waited five years for Webster County to offer this training and finally gave up and drove to Springfield to get it. More effort should be put into training new people in some of the smaller counties. Greene County’s program is fabulous, but it is a long way to drive for the training.
- This is the best decision I have made since retiring! THANK YOU!
Q: “If there are further comments you would like to make, please do so before submitting your responses.” (One-Year Follow-Up Survey)

- Tim was a fantastic facilitator of the master gardener program at Ozarks Technical College in Hollister Mo. If you know Tim you are his friend. I can’t imagine he has any enemies. He is a great guy and promotes the Master Gardener program 110%
- Very enjoyable and worthwhile program. I have met many new friends with whom to share the interest in gardening!
- We are so blessed to have Tim Schnakenburg as our county extension agent. He is the epitome of what an extension agent should be: knowledgeable, approachable, and helpful.
- While attending classes for the MG garden would be preferred, the on-line class worked well for me since I work full time. It has allowed me to learn...volunteer in gardening venues, meet other MG’s...and be involved in the KC gardening community. It is a great option for some folks and I trust you will continue it. The weekly MG updates are very helpful.
- You need to get the various MG groups to be more consistent in their requirements for inclusion. Some require the 30 hours of volunteer work as advertised. Some require much more. Some have hours by category. Is this program part of the University or is it meant to run wild? As much as I enjoyed the training, I doubt that I would ever become part of a Master Gardener group based on my experience with MGGKC. They are running people off as fast as you can train them.