

## Old Tools for New Problems: Modifying Master Gardener Training to Improve Food Access in Rural Areas

### Abstract

Extension faces ever-changing problems, which can be addressed by modifying successful tools rather than inventing new ones. The Master Gardener program has proven its effectiveness, but the cost and time commitment can make it inaccessible to rural, low-income communities, where training in home gardening may address issues of food access and food related health. A modified Master Gardener program was developed, with emphasis on low cost, flexible training and service. At the conclusion of the program, clients perceived increased skill and confidence at levels comparable to Master Gardeners and completed 179 volunteer service hours, reaching over 4,000 clients.

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## Introduction

The Master Gardener program is a valuable tool for Extension throughout the U.S., providing horticulture and leadership training and recruiting volunteers that disseminate knowledge on behalf of Extension. The Master Gardener program could serve areas suffering from food-related health issues or low food access by providing home gardening training, but it is characteristic of volunteer organizations, primarily pulling from a higher-income, white, and older demographic (Rohs, Stribling, & Westerfield, 2002; Wilson and Newman, 2011). The barriers standing in the way of rural, low-income participants may include course fees, time commitment, and travel from rural areas to central locations where courses are taught. Altering the Master Gardener program to address these barriers may increase access to this highly successful program, using a proven tool for a new problem.

## Program Description

The Tuskegee University Cooperative Extension Program (TUCEP), in partnership with the Alabama Cooperative Extension System (ACES), designed and implemented a pilot program modeled after the Master Gardener program. The new program, titled the "Vegetable Gardener Certification" program, was designed to train a new group of volunteers in rural, low-income areas, filling a need for Extension outreach in underserved communities. The program was conducted in Macon County, Alabama, which is predominately rural with a population of less than 20,000, a high percentage of

Black or African American residents at 81.5%, and a high percentage of persons below the poverty level at 28.1% (U.S. Census Bureau, 2014). In addition, a large portion of Macon County is considered a "food desert," where access to fresh food is limited (USDA Economic Research Service, 2013). Although interest had been expressed by community members in having Master Gardener training specifically for the purpose of improving food access, previous attempts to organize a group large enough to justify offering the course locally were unsuccessful. In order to address the barriers for this high-need community to participate, the following alterations were made to the Master Gardener model:

- Topics taught in the course centered on vegetable production, eliminating topics like ornamental horticulture and thus reducing the coursework to a 4-week period.
- The volunteer hour requirement was reduced from 50 to 20 hours, with a focus on projects within Macon County.
- The course fee was reduced to \$20 (over \$100 less than current Master Gardener fees), made possible by reducing the coursework and pooling resources and expertise from TUCEP and ACES.

### Program Evaluation

The pilot program successfully recruited 10 participants from Macon County and surrounding rural communities. Participants were 80% African American and 20% white, reflecting the demographics of Macon County, Alabama. They ranged in age from 20s to 70s. The project was evaluated through participant survey to determine what skills were attained and what areas could be improved in the future. Questions used in previous surveys of Master Gardeners were intentionally included as a means of comparing the two programs (Rohs, Stribling, & Westerfield, 2002; Swackhamer & Kiernan, 2005; Wilson & Newman, 2011). Outreach potential of the program was also measured through participants' volunteer activities and clients reached. Participants were encouraged to continue recording their volunteer activities even after they met the requirements for certification in order to determine the full reach of the program.

### Results and Discussion

Half of the participants came from community organizations interested in creating community gardens. These organizations sponsored their time and course fees, which may have contributed to the low number of participants (20%) who considered cost to be a very important factor in their participation.

### Factors Affecting Participation

When asked to rank the factors that impacted their decision to participate in the program, cost and time requirement were the most important to participants.

**Table 1.**

Factors Affecting Participation in the Vegetable Gardener Certification Program

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Factor	Unimportant	Neither	Important	Important
Cost		30%	40%	20%
Hours required (either in training or volunteering)		30%	40%	20%
Time of day when training was offered		20%	40%	30%
New opportunity to serve community through gardening			70%	30%
Flexibility in volunteer service		30%	40%	20%
Attaining new knowledge related to vegetable gardening		10%	10%	80%

## Personal Benefits

Participants had a positive attitude toward the benefits of the program, similar to previous surveys of Master Gardeners (Rohs, Stribling, & Westerfield, 2002; Wilson & Newman, 2011). The most important benefit to participants was training from experts, followed by educational materials.

**Table 2.**

Personal Benefits of the Vegetable Gardener Certification Program

Benefit	Disagree	Neither	Agree	Strongly Agree
Excellent educational materials			30%	70%
Opportunity to conduct volunteer service		10%	70%	20%
Confidence in my ability to successfully grow vegetables and teach others			40%	60%
Productive relationships with Extension professionals		10%	30%	60%
Accomplishment related to achieving a certification in the area of vegetable production			60%	40%
New relationships with other community members			40%	60%
Accessible and cost-effective training			10%	90%

## Skills Gained

The skill and experience level of participants varied. Most (80%) considered themselves to have "some" gardening skill or experience, while 20% considered themselves to have "much" skill or experience. Similarly to findings of Swackhamer and Kiernan (2005), 80% of participants found their prior knowledge of gardening "much improved" after completing the course. Summarizing responses between topics provides insight into how the program might be improved in the future.

**Table 3.**  
Learning across Topics

<b>Benefit</b>	<b>No Improvement</b>	<b>Some Improvement</b>	<b>Much Improvement</b>
Planning and garden design		10%	90%
Irrigation		20%	80%
Soils and fertilization		10%	90%
Composting and crop rotation		20%	80%
Growth of vegetable crops (planting dates, harvesting, variety selection)		20%	80%
Insect and disease management		10%	90%
Overall skill improvement		20%	80%

In addition to skills gained, participants completed 179 hours of vegetable garden-related service, reaching over 4,000 clients through 17 different organizations and events over a period of 2 months. All participants stated that they would recommend the program to others.

## Conclusion

Although abbreviated, the course still improved the skills and confidence of participants. This proves that our "old tools" are still useful to solve modern challenges. Despite time and income constraints, participants had a great desire to serve their community. This is clearly shown by the volunteer service completed, which reached over 4,000 clients ages 3 to 80, predominately in rural communities designated as "food deserts." Initial success has led TUCEP and ACES to renew the program. Extension professionals may consider the following findings as ways to improve on this success.

- Offer classes on Saturdays or in the evening to accommodate more participants.
- Provide additional hands-on training or field trips.

Encourage local schools with gardens to sponsor teachers, or offer scholarships for schools or non-profit organizations.

- Include training on nutrition, a topic beyond the scope of the Master Gardener program, to better prepare participants to address food related health issues in their communities.

## References

Rohs, F., Stribling, J., & Westerfield, R. (2002). What personally attracts volunteers to the Master Gardener Program? *Journal of Extension* [On-line], 40(4) Article 4RIB5. Available at:

<http://www.joe.org/joe/2002august/rb5.php>

Swackhamer, E., & Kiernan, N. (2005). A multipurpose evaluation strategy for Master Gardener training programs. *Journal of Extension* [On-line], 43(6) Article 6FEA4. Available at:

<http://www.joe.org/joe/2005december/a4.php>

US Census Bureau. (2014). Alabama quick facts. 2014. Retrieved from:

<http://quickfacts.census.gov/qfd/index.html>.

USDA Economic Research Service. (2013). Food Access Research Atlas. 2014. Retrieved from:

<http://www.ers.usda.gov/data-products/food-access-research-atlas.aspx>.

Wilson, J., & Newman, M. (2011). Reasons for volunteering as a Mississippi Master Gardener. *Journal of Extension* [On-line], 49(5) Article 5RIB1. Available at:

<http://www.joe.org/joe/2011october/rb1.php>.

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