

**EXPLORING CULINARY ARTS PROGRAMS AT
PUBLIC HORTICULTURE INSTITUTIONS**

by

Mackenzie Rose Fochs

A thesis submitted to the Faculty of the University of Delaware in partial fulfillment
of the requirements for the degree of a Master of Science in Public Horticulture

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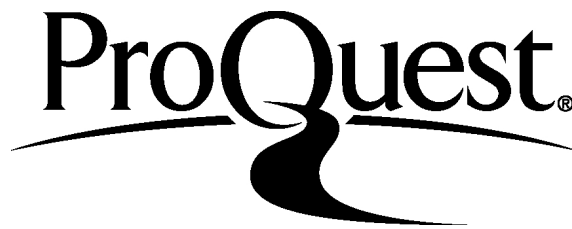
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PUBLIC HORTICULTURE INSTITUTIONS**

by

Mackenzie Rose Fochs

Approved: _____
Susan Barton, Ph.D.
Professor in charge of thesis on behalf of the Advisory Committee

Approved: _____
Janine Sherrier, Ph.D.
Interim Chair of the Department of Plant and Soil Sciences

Approved: _____
Mark Rieger, Ph.D.
Dean of the College of Agriculture and Natural Resources

Approved: _____
Ann L. Ardis, Ph.D.
Senior Vice Provost for Graduate and Professional Education

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DEDICATION

This thesis is dedicated in the memory of my aunt, Beth Walters, who encouraged and supported me in all my endeavors.

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ABSTRACT

Demand for food and beverages that are locally grown and made, organic, and nutritious has been on the rise in recent years, and many public gardens are recognizing the interest in and need for programming about these topics. Public gardens are also seeking to reach a diverse audience, and culinary programs may help accomplish this goal. This research sought to answer the question, “What do public horticulture institutions gain, if anything, from providing culinary event programs and culinary education programs?” Objectives to answer this question were: to define the variety of culinary arts programs offered at public horticulture institutions and understand how they fit with the mission of each institution; to define demographics of culinary arts program participants at five public horticulture institutions; to understand the difference between culinary programs and other education programs in their effect on membership and feeling of connection to the institution; to determine impact of culinary arts programming on the decisions participants make related to program topics; and to provide best practice recommendations for public horticulture institutions interested in developing culinary arts programs.

Interviews were conducted with 32 professionals involved in culinary arts programming at 21 public horticulture institutions across the United States. Surveys were sent to past participants in culinary programs and other education programs through five institutions from the interview group. Results indicate there is a distinct audience who specifically attends culinary arts programs. There are some statistical differences between culinary programs and other education programs in membership

and feeling of connection to the institution. Participants in culinary programs were inspired to grow vegetables, herbs, or fruit, to purchase locally grown food, and to try new things more after attending a culinary program. Best practices recommendations include considering factors such as available facilities, pricing and supply costs, volunteers, instructors, partnerships, and sponsorships.

Chapter 1

LITERATURE REVIEW

Like their museum counterparts, public gardens, including botanical gardens, and arboreta (henceforth public horticulture institutions), often offer education programs for a variety of age groups. Programs at public horticulture institutions generally include topics related to plants and horticulture and support the mission of the institution in some way. In recent years, however, public horticulture institutions have seen the need to become relevant to an audience beyond their core audience of “women ‘of a certain age’ with disposable income and a strong educational background” (Cole, 2011). Standard class offerings related to gardening do not necessarily appeal to non-gardeners, but classes with connections to “health, food, beauty, and art” as well as food production and vegetable gardening with cooking connections do (Cole, 2011).

Interest in all aspects of food and beverages is a trend throughout the United States (Rapuano, 2011). Public horticulture institutions have taken note and incorporated programs focused around culinary arts to educate and entertain, as well as enhance the experience of visiting the institution. These programs have been popular and provided an opportunity to expand the audience public horticulture institutions serve (Flanders, 2011). Limited research has been done to assess the value of offering culinary arts programs at public horticulture institutions or to create a guide for other institutions seeking to create this kind of programming. This research sought to determine what public horticulture institutions gained, if anything, by offering culinary arts programming, through the following objectives:

1. To define the variety of culinary arts programs offered at public horticulture institutions and understand how they fit with the mission of each institution;
2. To define demographics of culinary arts program participants at five public horticulture institutions;
3. To understand the difference between culinary programs and other education programs in their effect on membership and feeling of connection to the institution;
4. To determine impact of culinary arts programming on the decisions participants make related to program topics;
5. To provide best practice recommendations for public horticulture institutions interested in developing culinary arts programs.

Expanding Audience through Educational Programs

Education is fundamental to museums; the purpose of displaying objects is to expose visitors to things they have never seen or have not seen in a particular context. It is common for museums to have programming—tours, classes, events—that reinforces display themes to more deeply educate interested visitors. Public horticulture institutions are living museums, displaying plants outdoors or in a conservatory for the benefit of visitors, researchers, and professionals. Their educational programs parallel those offered in traditional museum settings.

Over the past twenty years, there has been a “tremendous proliferation” in the role programs play in museums (Falk & Dierking, 2013). Program growth is most evident with family and youth programming; however, many institutions, such as the Chicago History Museum (CHM), have also expanded their adult learning opportunities. CHM accomplished this by defining guiding principles for program development and making a

concerted effort to create “new experiences and exchanges between adults, the city, and its rich history” (McRainey, 2008).

With expanded programming, many museums and gardens hope to engage new audiences. The Fall 2011 issue of *Public Garden* dedicated an entire issue to this topic: demographic change and the future of public gardens. In a 2010 national study of core museumgoers by Reach Advisors, 23,923 respondents indicated interest in botanical gardens and arboreta (Wilkening & Chung, 2011). These respondents were surveyed further to obtain demographic information, and the garden visitors “differed from other museumgoers by most demographic markers” (Wilkening & Chung, 2011). These markers included age, gender, parental status, and race/ethnicity. Respondents who were more likely to enjoy visiting public gardens included those over 50 years of age, females, grandparents, those with adult children, and those who have never had children. “Latinos, American Indians, and those of mixed race were just as likely as whites to enjoy visiting gardens,” but less enthusiasm for visiting gardens was found among Asians and African Americans (Wilkening & Chung, 2011). With regard to race and ethnicity, the majority of most committed museumgoers (those who are engaged enough to be on an institution’s email list) are white. Diversifying audiences is thus an opportunity for public gardens and museums alike.

Several gardens have been successful in broadening their adult audiences through programming. Denver Botanic Gardens has reached new audiences in a similar way as the CHM by providing experiences with relevant subjects and marketing them to target demographics (Cole, 2011). A target demographic for the Atlanta Botanical Garden is

Millennials, and its “Cocktails in the Garden” and “Science Café” event series have proven popular with this audience (Flanders, 2011), attracting up to 2,000 and 100 guests, respectively (Levin Stevenson, 2013). “Cocktails in the Garden” is an event during extended hours, and the entire garden is open to guests. The “Science Café” events are designed to be engaging discussions about a relevant environmental topic led by a scientific expert (Levin Stevenson, 2013).

Longwood Gardens, near Philadelphia, opened an exhibition entitled “Nightscape: A Light and Sound Experience by Klip Collective” from July to October of 2015. This exhibition was designed not only to be interesting for the current audience, but also to attract a younger audience demographic. The experience itself was different from a typical garden visit, as it occurred at night and used the garden as a canvas for projected imagery to enrich the experience. Longwood Gardens also partnered with Victory Brewing Company, a local brewery, to create two Longwood-specific beers to be served in a beer garden created specifically for the Nightscape exhibition. Using web traffic as a measure of audience, online visitors ages 18-44 increased by 3.89% during the first three months of the exhibition compared with the baseline online visitation by the same demographic group the month before the exhibition. This age group made up 48.15% of all web traffic in June 2015 and this increased to 52.04% between July and September (Personal Communication, Nick D’Addezio, Marketing Manager, Longwood Gardens).

In 2012 during the redesign of *Nuestro Jardín*, a representation of a traditional Mexican barrio or backyard garden, Tucson Botanical Gardens engaged local Mexican-American senior citizens to connect Mexican-American culture better to the broader

Tucson community. As part of the programming, a “free Humanities series was created to highlight Mexican gardening traditions” (Levin Stevenson, 2013). The bilingual workshops were held in *Nuestro Jardín* and led by local senior citizens. There was a Day of the Dead celebration, and topics such as traditional crafts and storytelling were covered. *Nuestro Jardín* is one of the most popular areas in the garden, and provides a way for visitors who identify with a Mexican heritage to connect with the garden and horticulture (Levin Stevenson, 2013).

Interest in Food Sourcing and Systems

Since the late 1990s, there has been an increasing interest in “alternative food,” namely foods that are organic and locally grown and/or made (Miele & Murdoch, 2004). In Michael Pollan’s article *The Food Movement, Rising*, he articulates the history and complexity of the food movement and urges the public to take food issues—where it comes from, how it is grown, its cost—more seriously in the coming years (2010). The White House vegetable garden, created in 2009 at the request of First Lady Michelle Obama, has become symbolic of how important fresh, healthy food should be to the United States (Pollan, 2010).

Desire to know the source of one’s food is a continued trend in society today. Locally sourced and grown food has topped the National Restaurant Association’s Top 10 Consumer Trends list since 2009 (National Restaurant Association, 2014). Similarly, the National Restaurant Association’s “What’s Hot in 2015” report includes “hyper-local sourcing,” “farm/estate branded items,” and “house-made/artisan ice cream” in its Top 20

Food Trends (National Restaurant Association, 2014). The nearly five-fold increase in number of farmers' markets from 1,755 markets in 1994 to 8,268 markets in 2014 (USDA-AMS-Marketing Services Division, 2014) also indicates vitality of interest in access to local food. Seventy percent of consumers surveyed say their purchasing decisions are affected by how food is grown and raised, according to a 2011 survey conducted by the U.S. Farmers & Ranchers Alliance.

The farm-to-table, also referred to as farm-to-fork, movement is centered on understanding the seasonality of food and the processes involved with getting food from the farm to one's table. Restaurateurs and chefs passionate about sustainable, local food have capitalized upon this interest, with farm-to-table restaurants currently in cities across the United States from New York City to Cleveland to Seattle. Institutions like the International Culinary Center in New York and the Auguste Escoffier School of Culinary Arts in Boulder, Colorado offer programs to educate chefs and chefs-in-training about how food is grown and how to use seasonal ingredients effectively in their cooking.

Universities not specializing in culinary training are also educating their students with courses such as the Farm-to-Table class offered at the University of Delaware. Susan Barton, associate professor in the Department of Plant and Soil Sciences and Cooperative Extension specialist, co-developed the class with Melissa Melby, associate professor of anthropology. The class integrates understanding how to approach information about food and farming, hands-on experiences, guest lectures, and interviewing community garden leaders throughout the semester. Barton's goal for the course is "to show how complex the food industry is and to help the students make

informed decisions on what they eat and what they buy” (Thomas, 2014). The University of Vermont offers a course also titled “Farm to Table,” which focuses on exploring and understanding the contemporary food system and comparing it with alternative historical models (Trubek, 2015). A more immersive experience is offered by Bastyr University in San Diego, California. The weeklong Quillisascut Culinary Farm Experience takes place on a farm in northeastern Washington. The farm provides experiences in domestic arts, and the students at Bastyr University help with almost every farm chore and prepare three meals each day together.

Culinary and Food Programming at Public Horticulture Institutions

The connection between plants and food makes creating programming around culinary interests a natural choice for public horticulture institutions. According to Phipps Conservatory Executive Director Robert Piacentini, “There is no more important intersection of plants and people than what occurs in the way we produce and eat food, and there is perhaps no greater impact on the environment and our health than the way this intersection currently takes place” (Rapuano, 2011). These sentiments are echoed by John Forti, director of horticulture and education at the Massachusetts Horticultural Society, “Gardens illustrate some of the most basic interpretive points about health; access to fresh, whole foods; and the place-based eating traditions that connect us to season, climate, culture, and flavor” (Moon, 2016).

Many public horticulture institutions throughout the United States have recognized the interest in food and culinary arts. As a result, the current programming

ranges from chocolate, wine, and tea tastings to hands-on cooking with local chefs to cooking demonstrations to sampling fresh produce grown onsite.

For example, Cleveland Botanical Garden's programs such as "Gourmets in the Garden," "RIPE!," the "Farm to Table" evening, and the "Green Corps" are focused on both the culinary and agricultural world. These programs help Cleveland Botanical Garden accomplish goals stated in their five-year strategic plan adopted in 2009: "to expand and enhance opportunities for guests and members to enjoy and learn about plants; to improve the vitality of our community and urban environment; and to grow through socially, ecologically, and financially responsible practices" (Ronayne, 2010) and carry out their mission "to spark a passion for plants and cultivate an understanding of their vital relationship to people and the environment" (Cleveland Botanical Garden website, 2015).

In addition to fulfilling strategic goals and institutional mission, audiences are primed for programming related to food. Reach Advisors conducted a study of visitors to cultural institutions in the Atlanta, Georgia, metropolitan area and found that 51 percent "have some explicit interest in food" (Wilkening, 2011). As a 2013 market study conducted by Alexander Babbage for Atlanta Botanical Garden uncovered, a key future audience is young adults who are interested in food-related activities (Personal Communication, Sabina Carr, Vice President, Marketing, Atlanta Botanical Garden). Those who already grow their own food are also "deeply interested in learning how to cook with their own produce" and culinary programs "go a long way in keeping the food gardening community interested" (Vogel, 2011). Because of their location in proximity to

urban areas, public horticulture institutions are well positioned to harness the public's interest in food and food systems and to present information that “empowers visitors to understand the various systems of growing food so that they can make informed choices about the future of agriculture” (Miller, *et al.*, 2015).

Chapter 2

MATERIALS AND METHODS

Human Subjects Institutional Review Board

All research methods followed the guidelines and regulations set forth by the University of Delaware's Human Subjects Institutional Review Board. The researcher completed the required online training, "Human Subjects Protections - Social-Behavioral-Educational Focus," from the Collaborative Institutional Training Institute Program on April 27, 2015. The University of Delaware Institutional Review Board reviewed research protocol, questions for surveys, and case studies, and gave exempt status for studies numbered 749209-1 and 749209-2 (Appendix A).

Exploratory Discussions

In order to refine the topic and focus of research, gardens with existing culinary arts programs were identified for preliminary discussions. Gardens were identified via Internet searches and prior knowledge of programming from the researcher. Contact was made via telephone and email with staff at six public gardens, listed in Table 1. Additionally, an in-person meeting was held with staff at The Morris Arboretum of the University of Pennsylvania. Questions included in the discussions are included in Appendix B and revolved around current programs, interest in participating in the research, and understanding of areas in which research would be helpful. These discussions occurred between October 2014 and February 2015.

Table 1 Exploratory discussions were held with staff from six institutions.

Public Horticulture Institution	Interviewee	Job Title
Denver Botanic Gardens	Matthew Cole	Director of Education
Desert Botanical Garden	Luana Vargas	Program Director, Adult Education
Franklin Park Conservatory and Botanical Garden	Christie Nohle	Educator and Farmers' Market Coordinator
Missouri Botanical Garden	Tammy Palmier	Adult Education Supervisor
The Morris Arboretum of the University of Pennsylvania	Jan McFarlan	Assistant Director, Education and Internship Programs
The Morris Arboretum of the University of Pennsylvania	Miriam VonEssen	Assistant Director, Education and Penn Outreach
Powell Gardens	Eric Jackson	Director of Education

Program Information Request

To identify public horticulture institutions willing and able to participate in this research, a Program Information Request (PIR) was created using Qualtrics® (Qualtrics, LLC, Provo, UT), an online survey platform provided through the University of Delaware. The researcher and the thesis committee determined the questions included in the survey (Appendix C). A brief explanation of the research and link to the PIR (Appendix D) was posted in the American Public Gardens Association (APGA) Professional Section Discussion Forums for the Education Section and Marketing and Communications Section. The APGA is the primary professional organization for public gardens in North America and has a membership base of approximately 590 public horticulture institutions. These two Professional Sections were selected because culinary arts programming is offered through education departments and also offered as events,

which are generally overseen by special events and/or marketing departments. In addition to posting the PIR on the APGA forums, the exploratory discussion gardens were asked to complete the survey to be included in the research. Responses to the PIR were also solicited from gardens as a result of conversations during the APGA Annual Conference in June 2015.

Thirty responses were gathered between April 8, 2015, and July 30, 2015. Twenty-seven responses were from 20 different institutions that currently offer culinary arts programs, and three responses were from institutions that do not currently offer culinary arts programs: Dallas Arboretum & Botanical Garden, Mt. Cuba Center, and Tucson Botanical Garden (Table 2).

Table 2 Public horticulture institutions interviewed and surveyed

Institution	Interviewed	Surveyed
Atlanta Botanical Garden	✓	
Brookside Gardens	✓	
Chicago Botanic Garden	✓	
Denver Botanic Gardens	✓	
Desert Botanical Garden	✓	
Fairchild Tropical Botanic Garden	✓	
Fellows Riverside Gardens	✓	
Franklin Park Conservatory and Botanical Gardens	✓	
Lewis Ginter Botanical Garden	✓	
Longwood Gardens	✓	
Los Angeles County Arboretum & Botanic Garden	✓	
Minnesota Landscape Arboretum	✓	✓
Missouri Botanical Garden	✓	✓
The Morris Arboretum of the University of Pennsylvania	✓	✓

Table 2 continued

Myriad Botanical Gardens	✓	
Naples Botanical Garden		
Powell Gardens		✓
The Scott Arboretum of Swarthmore College		✓
Smithsonian Gardens		✓
Trustees of Reservations		✓
University of British Columbia Botanical Garden		
Winterthur Museum, Garden & Library		✓

Case Study Interviews

Through exploratory research, it became apparent that culinary arts classes and events vary widely across public horticulture institutions. In order to get the broadest view of current culinary arts program offerings, staff were interviewed at all the institutions who currently offer culinary arts programs and who participated in the PIR. Email contact was made via the contact information provided as result of the PIR (Appendix E). If no contact information was provided, the APGA Membership Directory was consulted for the appropriate contact in education.

Upon reviewing the geographical distribution of institutions that responded to the PIR, it was apparent there was no representation from the west coast of the United States or the New England region. Two institutions were identified to represent these regions: the Los Angeles County Arboretum and Botanic Garden in California and The Trustees of Reservations in Massachusetts. The Los Angeles County Arboretum and Botanic Garden was selected for its “Fresh: Celebrating the Table” series and single classes. The Trustees of Reservations “care for more than 100 special places—nearly 25,000 acres—

all around Massachusetts,” including natural lands, historic houses and structures, gardens, and working landscapes (“Our Mission,” 2015). The Trustees opened The KITCHEN at the Boston Public Market in September 2015, “a 3,200 square foot, state-of-the-art demonstration kitchen that serves as a community teaching, learning, and gathering place at the market” (“The KITCHEN,” 2015). The Trustees of Reservations was selected for its programming at The KITCHEN, and a staff member from The KITCHEN was interviewed.

Winterthur Museum, Garden and Library in northern Delaware offered a food-related lecture in conjunction with its “A Colorful Folk: Pennsylvania Germans & the Art of Everyday Life” exhibition and an unrelated separate Botany Buffet workshop series in 2015. Because of the multi-dimensionality of the institution and accessibility of the lecture to the researcher, it was included in this research in November 2015.

Interviews were completed in person and via phone, and they were digitally recorded. Interviewees included education, event, and marketing staff at 21 public horticulture institutions, listed in Table 2. Interviews could not be conducted with Naples Botanical Garden or the University of British Columbia Botanical Garden. Interviewees were those who responded to the PIR and staff recommended by the respondents. All interviewees were provided with the written “Informed Consent to Participate in Research” developed for this research and approved by the University of Delaware IRB (Appendix F). Questions used to guide the interviews are included in Appendix G. Digital notes were taken from the recordings.

Four institutions provided written responses to the questions: Desert Botanical Garden, Fellows Riverside Gardens, Powell Gardens, and Winterthur Museum, Garden and Library. Follow up included phone interviews (Fellows Riverside Gardens) and

handwritten notes taken during a site visit (Powell Gardens). Desert Botanical Garden provided some answers regarding their culinary event programs.

Interview data was analyzed using Microsoft Word and Excel (Microsoft, Redmond, WA). Responses to questions were collated into single documents or spreadsheets by subject matter categories. Common words and themes were identified and tabulated to determine the range of qualitative data responses.

Surveys

To measure the impact of culinary arts programming quantitatively compared with programming unrelated to culinary arts, a survey was developed for past class and event program participants and distributed at five public horticulture institutions (Table 2). Survey questions were developed with the goals to obtain demographic information of participants; to discern the difference between culinary event and culinary education programs in their effect on membership, return visits, and feeling of connection to the institution; and to determine impact of culinary arts programming on decisions participants make related to program topics. The thesis committee provided feedback on questions and overall survey design.

The surveyed institutions were selected based on their willingness and ability to send out a survey to the identified group of past participants since January 2013. Surveying took place between July 2015 and November 2015. A pilot survey was sent in July (Appendix H) to past participants at the Minnesota Landscape Arboretum. The researcher and thesis committee reviewed and evaluated the results from this survey and made modifications to capture desired results better. This updated survey (Appendix I) was used for the second and third Minnesota Landscape Arboretum emails and emails to the other four institutions. The surveys sent to Missouri Botanical Garden and Powell

Gardens past participants also included questions regarding participation in culinary event programs. These were the only two surveyed institutions that offered culinary events programs. Appendix I includes the additional questions.

Minnesota Landscape Arboretum: The initial email survey was sent to 2,339 persons, which included subscribers to Adult Education, Food & Wine past participants, and other collected “food-interest” email addresses on July 22, 2015. It was part of an adult education quarterly update (Appendix J). The second email (Appendix J) was sent October 14, 2015 to 1,200 persons who had opted to receive emails about photography classes or who had previously taken a photography class at the Minnesota Landscape Arboretum. A third email (Appendix J) was sent on November 11, 2015 to 1,226 persons who had opted to receive emails about Adult Education at the Minnesota Landscape Arboretum.

Missouri Botanical Garden: An email survey was sent on September 20, 2015, to 4,330 persons, which included past participants in culinary-related events and adult education programs since January 2013. The survey used was the updated survey. A reminder email was sent on Sunday, November 15, 2015. These emails are in Appendix K.

The Morris Arboretum of the University of Pennsylvania: An email survey was sent on October 19, 2015, to 3,625 persons who were previous class participants since January 2013. The email sent is in Appendix L.

The Scott Arboretum of Swarthmore College: An email survey was sent on November 4, 2015, to 819 persons, which included registered participants for celebrations, festivals, workshops, classes, and lectures since January 2013. A reminder email was sent Tuesday, November 24, 2015. These emails are in Appendix M.

Powell Gardens: An email survey was sent on September 30, 2015, to 94 persons who were previous class participants since January 2013. A reminder email was sent Monday, November 16, 2015. These emails are in Appendix N.

Survey responses were combined by question and coded to indicate the institution from which they came. Responses were also coded to ensure equality of results across participant surveys. Survey respondents who indicated they had never participated in a culinary event or education program or other education program at an institution were removed from the results. Results were analyzed using JMP® Pro 12.1.0 statistical software (SAS Institute, Inc., Cary, NC) and Microsoft® Excel (Microsoft, Redmond, WA). A Chi-square goodness of fit test was conducted on contingency tables, and ANOVA, a difference of means levels analysis, was used when appropriate. The data was analyzed using a model of independence: the hypothesis that a null value for a test means there is no relationship between the variables. If the observed frequencies are different, there is a relationship between the variables. The Pearson p-value was used in determining if a relationship existed.

Site Visits

Site visits were conducted at the Chicago Botanic Garden, Franklin Park Conservatory and Botanical Gardens, Minnesota Landscape Arboretum, Missouri Botanical Garden, and Powell Gardens and Winterthur Museum, Garden, and Library. These onsite visits included interviewing of program staff (as identified by the PIR), taking digital photos of program spaces, and participating in programming, when available. Programming participation is reflected in Table 3.

Table 3 Programming participation at site visit institutions

Institution	Program	Type
Chicago Botanic Garden	Autumn Brews: Seasonal Beer Tasting in the Garden	Event
Franklin Park Conservatory and Botanical Garden	Winter Dinner Party	Class (demo/tasting)
Franklin Park Conservatory and Botanical Garden	Cooking with the Seasons: Winter	Class (demo/tasting)
Franklin Park Conservatory and Botanical Garden	Let's Bake: Gingerbread Cookies (Ages 4-6)	Class (hands-on/tasting)
Powell Gardens	Missouri Barn Dinner	Event
Powell Gardens	Garden Chef Series	Drop-In Demonstration
Winterthur Museum, Garden & Library	German and Pennsylvania German Foodways	Drop-In Lecture

Research Question and Purpose

This research seeks to answer the question, “What do public horticulture institutions gain, if anything, from providing culinary event programs and culinary education programs?” Objectives to help answer this question are:

- To define the variety of culinary arts programs offered at public horticulture institutions and understand how they fit with the mission of each institution;
- To define demographics of culinary arts program participants at five public horticulture institutions;
- To understand the difference between culinary programs and other education programs in their effect on membership and feeling of connection to the institution;
- To determine impact of culinary arts programming on the decisions participants make related to program topics;

- To provide best practice recommendations for public horticulture institutions interested in developing culinary arts programs.

Results from this research will provide public horticulture institutions with insight on the types of culinary arts programs peer institutions are offering, the logistics of offering these programs, and recommendations for both beginning culinary arts programming and creating spaces conducive to offering the programs. Additionally, the survey results will provide a snapshot of the effects of culinary arts programs and demographic information of culinary arts program participants as compared with typical education program participants.

Chapter 3

RESULTS

Participant Surveys

The response rate for the surveys varied widely from 0.21% to 21.88% (**Table 4**). The lowest response rate, from the Minnesota Landscape Arboretum (0.21%), could be attributed to: placement of the survey link within the email (Appendix J), focus of the email (the survey was not the main topic of any of the emails), or lack of interest in participating. Participating in the survey was the sole topic of the emails sent to the other four institutions (Appendices K, L, M, N).

Table 4 Response rate to surveys distributed by public horticulture institutions.

Institution	Participants Emailed Survey	Responses	Response Rate
Minnesota Landscape Arboretum	2,426	5	0.21%
Missouri Botanical Garden	4,330	273	6.30%
The Morris Arboretum of the University of Pennsylvania	3,600	286	7.94%
Powell Gardens	96	21	21.88%
The Scott Arboretum of Swarthmore College	819	132	16.12%

Of the total 717 responses, 632 responses (86.2%) were complete and fulfilled the criteria of indicating participation in a culinary event, culinary education program, or other education program, or some combination thereof. Only two of the gardens from which surveys were sent had culinary events (Missouri Botanical Garden and Powell Gardens). Figure 1 includes data from respondents to surveys from those two institutions only since they were the only gardens with the full complement of possible programming categories.

There were 261 respondents from Missouri Botanical Garden and Powell Gardens. Those who attended only culinary events account for 5.4% of the total (14 respondents, Figure 1). Respondents who attended culinary events and other education programs account for 14% of the total (36 respondents). Because only two institutions were surveyed with culinary event programs and the number of responses for these two areas was small, the data was not further analyzed. The 14 responses for participation in culinary events were added to the larger data set encompassing culinary education programs. This grouping is hereinafter referred to as “culinary programs.” Additionally, responses indicating participation in “culinary events and other educational programs” were recorded as having participated in “both types of programs” in the larger data set.

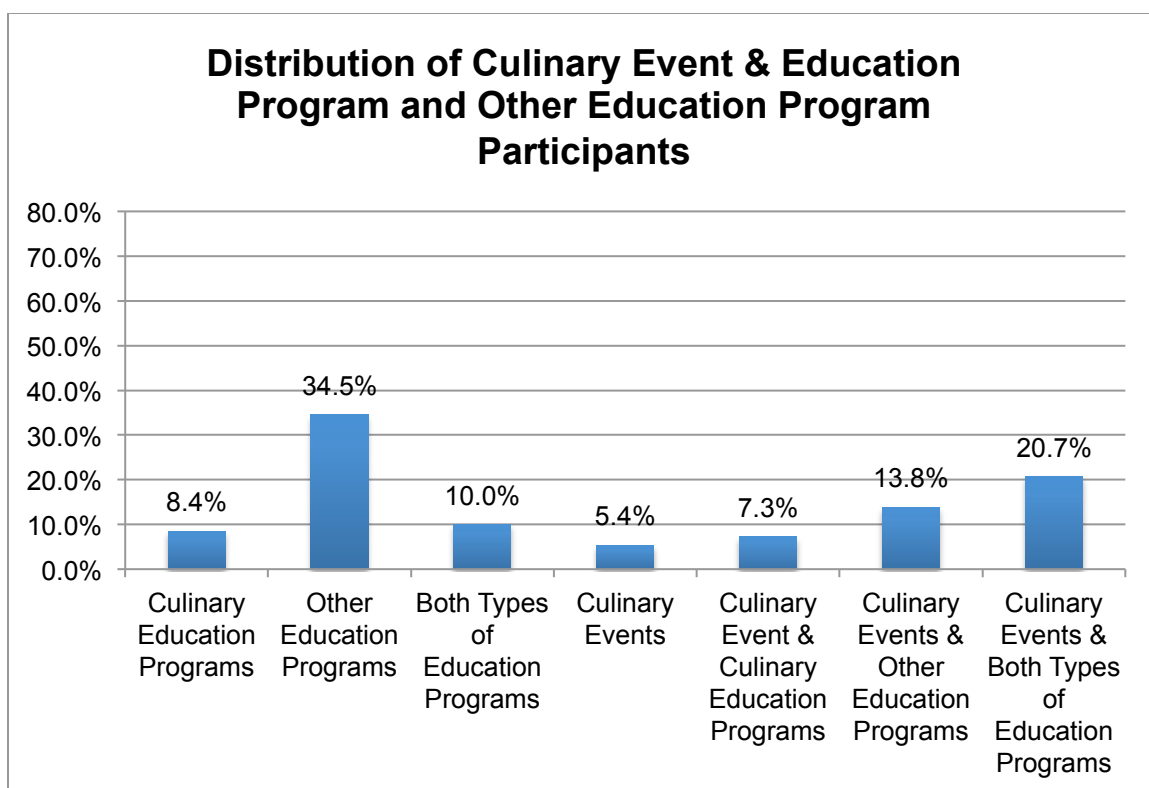


Figure 1 Responses from Missouri Botanical Garden and Powell Gardens by program type, as a percentage of the total responses (N = 261).

Types of Programs

A total of 32 interviews were conducted with individuals at 21 different institutions (Table 5).

Table 5 Public horticulture institutions, interviewees, and their position titles.

Institution	Interviewee	Title
Atlanta Botanical Garden	Abby Gale	Public Programs Manager
Brookside Gardens	Laura Vogel	Adult Education Programs Manager
Chicago Botanic Garden	Beth Pinargote	Adult Education Director
Chicago Botanic Garden	Kristen Webber	Director, Interpretive Programs
Chicago Botanic Garden	Mary Plunkett	Manager, Interpretive Programs
Chicago Botanic Garden	Jodi Zombolo	Senior Director, Visitor Events and Programs
Cleveland Botanical Garden	Jennifer McDowell	Director of Public Programs
Denver Botanic Gardens	Jennifer Riley-Chetwynd	Director of Marketing and Public Relations
Denver Botanic Gardens	Sarah Olson	Associate Director of Education
Denver Botanic Gardens	Larry Vickerman	Director of Denver Botanic Gardens Chatfield Farms
Desert Botanical Garden	Luana Vargas	Program Director, Adult Education
Desert Botanical Garden	Amber Hahn	Special Events Manager
Fairchild Tropical Botanic Garden	Mary Neustein	Manager, Lifelong Learning
Fairchild Tropical Botanic Garden	Natalie White	Director of Community Relations and Event Planning
Fellows Riverside Gardens	Mandy Smith	Horticulture Education Manager
Franklin Park Conservatory and Botanical Gardens	Christie Nohle	Educator and Farmers' Market Coordinator

Table 5 continued

Lewis Ginter Botanical Garden	Phyllis McLeod Laslett	Adult Education Coordinator
Longwood Gardens	Matthew Ross	Continuing Education Coordinator
Los Angeles County Arboretum & Botanic Garden	Ted Tegart	Education Manager
Minnesota Landscape Arboretum	Allyson Rudy	Arboretum Education
Minnesota Landscape Arboretum	Maria Klein	Interim Adult Education Program Coordinator
Missouri Botanical Garden	Tammy Palmier	Adult Education Supervisor
Missouri Botanical Garden	Molly Renken	Coordinator, Member Events
The Morris Arboretum of the University of Pennsylvania	Jan McFarlan	Assistant Director, Education and Intern Programs
Myriad Botanical Gardens	Ann Fleener	Director of Education
Powell Gardens	Eric Jackson	Director of Education
Powell Gardens	Karen Case	Marketing/Events Associate
Powell Gardens	Barbara Fetchenhier	Heartland Harvest Garden Interpreter
The Scott Arboretum of Swarthmore College	Julie Jenney	Education Programs Coordinator
The Scott Arboretum of Swarthmore College	Rebecca Robert	PR & Volunteer Programs Coordinator
Smithsonian Gardens	Cindy Brown	Education Manager
The Trustees of Reservations	Lee Miller	Resident Chef, The KITCHEN
Winterthur Museum, Garden & Library	Chris Strand	Brown Harrington Director of Garden & Estate

Four categories of culinary programming emerged as a result of interviews with professionals at public horticulture institutions: single classes/lectures, series programs, drop-in programs, and event programs. Single classes/lectures include programs that have a specific focus and are not promoted as a series in conjunction with other classes or

lectures. These classes or lectures may be offered more than once a year and require registration. Examples of single classes and lectures from this research are: “Cooking for One” and “Knife Skills” at the Franklin Park Conservatory and Botanical Garden, “Savory Summer Soups and Salads” at The Morris Arboretum of the University of Pennsylvania, and “Craft Beer and Food Pairing: Minnesota Brewers!” at the Minnesota Landscape Arboretum. Series programs are classes or lectures that have a similar theme or presentation style, are promoted together, and require registration. Examples of series programs from this research are: “Garden to Table” dinner series at Fellows Riverside Gardens and “Cooking Demonstrations” lunchtime series at Brookside Gardens. Drop-in programs include lectures, demonstrations, and tasting stations that do not require registration. Examples of drop-in programs from this research are the “Garden Chef Series” at Chicago Botanic Garden and “Fresh Bites” and “Chef Demonstrations” at Powell Gardens. Event programs are programs where the purpose is to expose participants to the public horticulture institution, with less of an emphasis on educating participants about a specific culinary topic. Examples of event programs are the Chocolate and Mango Festivals at Fairchild Tropical Botanic Garden and “Food in the Garden” at Smithsonian Gardens.

Of the 21 institutions, 18 offered single classes/lectures, 11 offered series programs, 8 offered drop-in programs, and 13 offered event programs (Table 6). Eight institutions have a dedicated garden to support their programs, meaning produce is grown in and used from the garden or a garden is specifically planted to support the programs (as with Smithsonian Gardens). Powell Gardens and Franklin Park Conservatory are two site-visit institutions that have garden spaces specifically to support their adult culinary arts programming (Figures 2 and 3). Chicago Botanic Garden’s Regenstein Fruit &

Vegetable Garden is a display garden, and though produce is harvested from the garden to use in the culinary programs when available, that is not the main focus of the garden.



Figure 2 Formal section of the Heartland Harvest Garden at Powell Gardens



Figure 3 An area of The Scotts Miracle-Gro Company Community Garden Campus at Franklin Park Conservatory and Botanical Gardens

The four institutions with an asterisk (*) in this category do not have a specific garden to support the adult culinary programs, but may use produce and plant material from other garden areas in their programs. Nine institutions have a dedicated indoor or outdoor kitchen to support their programs, meaning adult culinary programs are held in a kitchen space designed for culinary programs. The eight institutions with an asterisk (*) in this category do not have a dedicated kitchen but improvise with their existing facilities. Institutions with an asterisk either utilize a kitchen space that was not specifically designed for culinary programs (Desert Botanical Garden and Fellows Riverside Gardens), have a limited amount of kitchen equipment available outdoors (Cleveland Botanical Garden), or improvise with portable equipment in a multi-use space (Brookside Gardens, Lewis Ginter Botanical Garden, The Morris Arboretum of the University of Pennsylvania, Los Angeles County Arboretum and Botanic Garden, and Longwood Gardens). Fairchild Tropical Botanic Garden has a portable kitchen used outdoors for their festival events. Institutions with an indoor kitchen space or multi-use indoor space for culinary programs are able to offer culinary programs throughout the year, regardless of the weather.

Budgets were self-reported within the research and cross-referenced with information from the American Public Gardens Association. Seven institutions have a superscript letter associated with their budget. These institutions self-reported budgets higher than the category listed by the American Public Gardens Association (Table 6).

Table 6 Public horticulture institutions, the categories of programs they offer, facilities available, and their annual operating budget range (*Public Garden*, 2016). Dedicated garden: * = Institution uses produce from the garden, but there is no garden specifically for program use. Dedicated kitchen: * = Institutions use a multi-use kitchen not specifically designed for culinary programs (Fairchild has portable equipment they use outdoors). Budget: The following are self-reported budgets that differ from the budget listed in *Public Garden*, 2016, ^x = \$1M to \$2.99M; ^y = \$3M to \$9.99M; ^z = Above \$10M

Institution	Single Classes/ Lectures	Series	Drop-In	Event	Dedicated Garden	Dedicated Kitchen	Budget
Fellows Riverside Gardens	✓	✓		✓	*	*	\$400,000-\$999,999 ^x
Brookside Gardens		✓				*	\$1M to \$2.99M
The Scott Arboretum of Swarthmore College	✓						\$1M to \$2.99M
Los Angeles County Arboretum and Botanic Garden	✓	✓				*	\$1M to \$2.99M ^y
Myriad Botanical Gardens	✓	✓		✓	*		\$1M to \$2.99M ^y
Cleveland Botanical Garden	✓	✓		✓	✓	*	\$1M to \$2.99M ^z
The Trustees of Reservations	✓	✓	✓			Indoor	\$1M to \$2.99M ^z
Winterthur Museum, Garden & Library	✓		✓		✓		\$1M to \$2.99M ^z
Fairchild Tropical Botanic Garden	✓			✓		Indoor/*	\$3M to \$9.99M
Franklin Park Conservatory and Botanical Gardens	✓	✓	✓	✓	✓	Indoor/Outdoor	\$3M to \$9.99M
Lewis Ginter Botanical Garden		✓				*	\$3M to \$9.99M
The Morris Arboretum of the University of Pennsylvania	✓					*	\$3M to \$9.99M
Powell Gardens	✓		✓	✓	✓	Indoor/Outdoor	\$3M to \$9.99M
Smithsonian Gardens				✓	✓		\$3M to \$9.99M
Minnesota Landscape Arboretum ²	✓	✓			*	Indoor	\$3M to \$9.99M ²
Atlanta Botanical Garden	✓	✓	✓	✓	✓	Outdoor	Above \$10M
Chicago Botanic Garden	✓		✓	✓	✓	Outdoor	Above \$10M
Denver Botanic Gardens	✓			✓	*	Indoor/Outdoor	Above \$10M
Desert Botanical Garden	✓			✓		*	Above \$10M
Longwood Gardens	✓	✓	✓	✓	✓	*	Above \$10M
Missouri Botanical Garden	✓		✓	✓		Indoor	Above \$10M

With regard to expanding programs, 16 institutions indicated they were considering enhancing or adding culinary offerings. The types of programs these institutions mentioned include single classes or lectures (7), series programs (4), events (5), and drop-in programs (1). Five institutions indicated they were not considering adding or enhancing culinary programs. Six institutions, including five that were and one that was not considering adding or enhancing programs, indicated that not having a kitchen, not having a larger kitchen, or having to share kitchen space with other programs was a constraint for additional programs. Of these six institutions, three indicated that facilities might be added or expanded in the coming years, which would allow for more types of programs (Denver Botanic Gardens, Minnesota Landscape Arboretum, The Morris Arboretum of the University of Pennsylvania). Two institutions (Denver Botanic Gardens, Myriad Botanical Gardens) indicated the amount of garden space is a current constraint on the types or number of programs they offer. Three institutions who are considering adding or enhancing their programs mentioned staffing is a consideration for any additional programming (Powell Gardens, The Scott Arboretum of Swarthmore College, Smithsonian Gardens).

Connecting to the Mission

All the public horticulture institutions in this research (n=21) include plants or horticulture in their mission statement. “Education” is included in the mission statements of 16 institutions. Eleven institutions include the ideas of “enjoyment,” “enriching,” “delight,” and “beauty” in their mission statements. The concept of “inspiring” visitors is expressed in the mission statement of 10 institutions. The ideas of connecting people with plants, the relationship between people and plants, and appreciating plants are included in the mission statements of 9 institutions.

Culinary education programs are directly in support of the missions of the public horticulture institutions from which they are offered. All the institutions try to include a connection to plants in their programs:

“We try to offer programs that align with our mission with emphasis on the southwestern United States, so we pick topics that are pertinent to the culture and plants of this area,” *Luana Vargas, Desert Botanical Garden*

“We try to incorporate seasonal vegetables and fruits in classes and to grasp elements of seasonality,” *Mary Neustein, Fairchild Tropical Botanic Garden*

Using food as a relatable and different way to discuss plants and horticulture is a theme represented in responses from six institutions:

“Everyone eats. Indirectly or directly the food we eat comes from plants. There’s a direct connection and it’s a really easy “in,” especially with the

popularity of cooking shows, foodies, local food... It's something people think about," *Laura Vogel, Brookside Gardens*

"Connecting people with plants through food is one of the most obvious and direct ways for people to understand how the whole [food] system works," *Sarah Olson, Denver Botanic Gardens*

"Everyone needs to eat and Franklin Park Conservatory and Botanical Gardens helps the general public make a connection through educational classes with where their food comes from, how one can prepare food at home (instead of eating out, sometimes not knowing what you are really eating and how it affects your health) and creates a fun, social atmosphere in which to achieve this goal," *Christie Nohle, Franklin Park Conservatory and Botanical Gardens*

Culinary event programs have a broader connection to institutional mission.

Themes that emerged from the institutions that offer culinary event programs include: attracting different visitors to expose them to the institution and the other programs they offer (4 institutions), revenue-generation to support specific or general institution operation (3 institutions), and connecting visitors to the garden, plants, and/or community in a new way (6 institutions).

In addition to revenue generation, five institutions incorporate development into some aspect of their programs. Atlanta Botanical Garden offers attending their "Well-Seasoned Chef" series to their upper-category-level members before opening registration to the general audience. Chicago Botanic Garden has a corporate sponsor for their "Farm Dinner" events, in which the sponsor gets a designated number of registrations for the dinner. Denver Botanic Gardens offers supporting members of their Community Supported Agriculture program the opportunity to attend a Farm Dinner at their Chatfield Farms location. The Women's Board at Franklin Park Conservatory and Botanical

Garden is heavily involved in the culinary programs. Members of the Women's Board serve as volunteers during classes and host two culinary events with "celebrity" chefs, proceeds from which benefit the education programs. The Young Friends Council at Missouri Botanical Garden was involved with creating the "Adventures with Cocktails" and "Fest-of-Ale" events, which serve as fundraisers for the Doris I. Schnuck Children's Garden and also engage a young professional audience.

Programmatic Beginnings

The majority of institutions (15) in this research (n=21) indicated the impetus for beginning their programs was related to audience: trying to attract a new or different audience to their institutions or to serve the interests of their current audiences better.

“[The] idea was to get people exposed to the different areas of the garden, see some new faces” *Rebecca Robert, The Scott Arboretum of Swarthmore College, regarding their Sunset Sippin’ program (no longer offered)*

“In addition to attracting another audience, [we wanted] to provide another venue that people can enjoy the desert and participate in the education opportunities of the Garden” *Luana Vargas, Desert Botanical Garden*

Several interviewees could not address the original impetus for the programs because they had not worked at their institutions when culinary programs began; however, they answered to the best of their knowledge. Ten institutions indicated the impetus for having their current iteration of culinary programming is the result of expansion of, evolution of, or building upon previous programs.

“[My] predecessor had a strong drive for urban homesteading: knowing where your food comes from because you yourself grew it, and she came up with good drivers for programming. I was able to complement the work she already had done.” *Sarah Olson, Denver Botanic Gardens*

Less than half (8) of the institutions indicated the impetus for culinary programs was attributed to the addition of a new facility (garden or kitchen space) or trying to utilize current facilities better. Few institutions (3) indicated the impetus for some of their programs was to generate revenue for the institution and only two indicated it was to increase awareness of the institution itself.

Audience

Almost all (19) (n=21) institutions in this research indicated they were trying to reach a different audience by offering culinary arts programs. This “different” audience includes people interested in food or trying new things (10), younger people and/or Millennials (7), and people who have never been to the garden and/or people who are not members of the garden (7). Of the 19 institutions trying to reach a different audience, 18 indicated these different audiences were participating in their programs to some degree. The seven institutions trying to attract a younger audience and/or Millennials indicated this audience was attending events and single classes. Specific events this audience has been seen attending, as reported by interviewees, included “Hoppy Hour” at Cleveland Botanical Garden, “Be A Kid Again” and “Fest of Ale” at Missouri Botanical Garden, “American History (After Hours)” at Smithsonian Gardens, and the Chef Demonstrations at the KITCHEN at the Boston Public Market (Trustees of Reservations). The food truck and beer events at the Minnesota Landscape Arboretum attract a wider range of ages, and Desert Botanical Garden has seen a small increase in the young professional audience they are trying to attract to their “Agave on the Rocks” and “Seasonal Table” events, though these events are still attended by a primarily older audience. Single classes featuring niche culinary topics attract a younger audience at Denver Botanic Gardens. Several institutions also noted how loyal culinary program participants are in attending the programs:

“[Culinary program participants are] not interested in ornamental horticulture, though [they] are demographically the same. They are very

loyal to cooking classes [and will] take every one!” *Laura Vogel, Brookside Gardens*

“Many members will attend all 13 weeks in the Summer [for the Gourmets in the Garden series], and for the winter, out of 30 maximum participants, I would say at least 2/3 of them sign up for the entire six weeks.”
Jennifer McDowell, Cleveland Botanical Garden

Participant surveys were completed on a voluntary basis and distributed by the following public horticulture institutions to emails of past participants in culinary education and other education programs, and, if applicable, past participants in culinary event programs: Minnesota Landscape Arboretum, Missouri Botanical Garden, The Morris Arboretum of the University of Pennsylvania, Powell Gardens, and The Scott Arboretum of Swarthmore College.

The 632 responses for culinary program and other education program participation are divided into three groups: responses for Other Education Programs (387, 61%), responses for Culinary Programs (82, 13%), and responses indicating participation in Both Types of Programs (163, 26%) (Figure 4). “Both Types of Programs” will be shortened to “Both” in figures and tables. There is a distinct group of respondents who indicated participation in only culinary programs in the surveys. Jennifer McDowell (Cleveland Botanical Garden) also noted a distinction between participants who attend all types of programs and those who attend only culinary-related programs:

“I know some members who will come to the Hoppy Hours as well as other horticulture programs, but then I see some guests who attend the Gourmets series; they’ll [come] all summer and all winter. Any time there’s food related programs or events they’re here.”

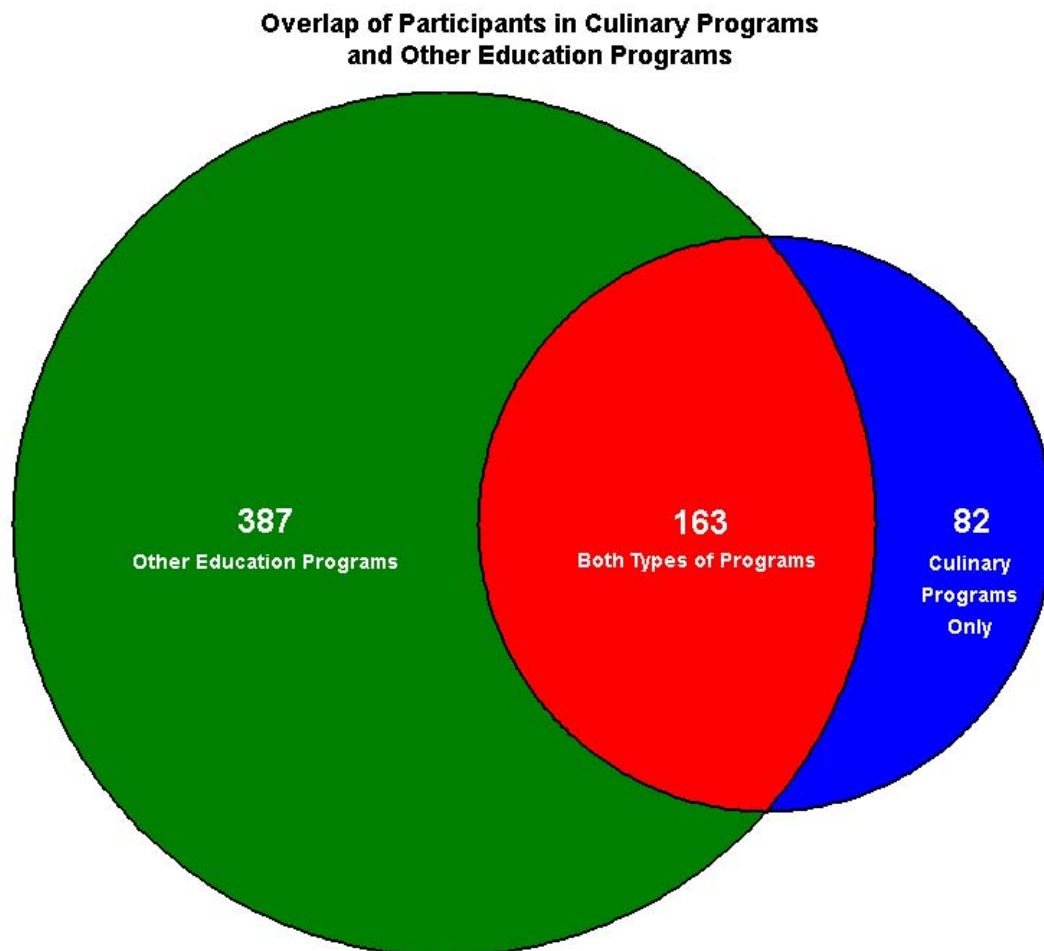


Figure 4 Proportional representation of the participants in culinary and other education programs (created with <http://jura.wi.mit.edu/cgi-bin/bioc/tools/venn.cgi>).

The majority of respondents participating in all programs are between the ages of 46 and 75 (Figure 5). The greatest number of respondents identified themselves in the 60–75-year age group: 53.3% for culinary programs, 55.8% for both types of programs, and 48.9% for other education programs (Figure 5). The second largest number of

respondents identified themselves in the 46–60-year age group: 25.3% for culinary programs, 25.0% for both types of programs, and 32.5% for other education programs (Figure 5). The age groups of 18–25 and 26–35 from the survey were small and have been combined (Figure 5). Sixteen percent of culinary programs respondents identified themselves between the ages of 18 and 45; whereas, 11.7% of other education program and 10.9% of both respondents identified themselves between the ages of 18 and 45. The relationship between age and type of program is not statistically significant (p-value = 0.4766).

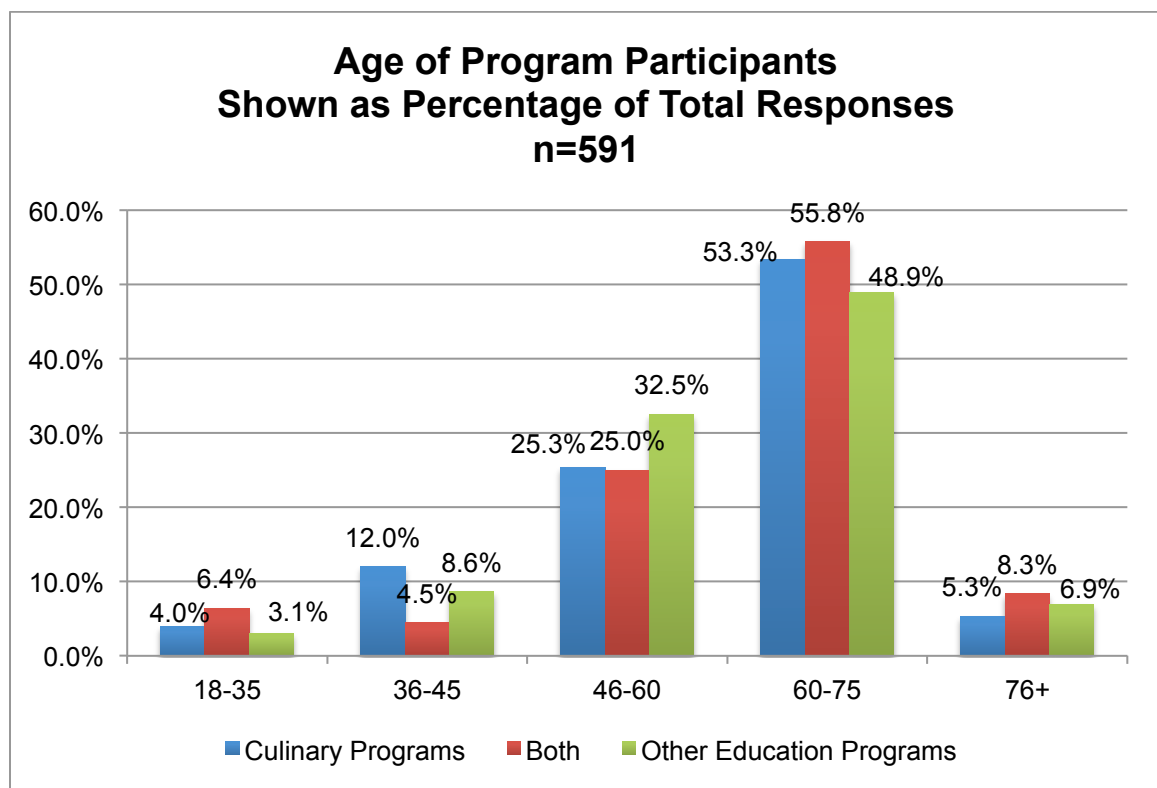


Figure 5 Age groups of participants in culinary programs, other education programs and both. Culinary programs (n = 75); other education programs (n = 360); both types of programs (n = 156).

Overall, females indicated participation in programs of all types more than males, and in each type of program, more females indicated participation than males (Figure 6). Of all program types, 75.3% of males indicated participation in other education programs, 14% in both types of programs, and 10.8% in culinary programs. Similarly, 57.9% of females indicated participation in other education programs, 29.2% in both types of programs, and 12.9% in culinary programs. The relationship between gender and type of program is statistically significant ($p\text{-value} = 0.0041$). Participants in culinary programs were 1.6 times more likely to be female than participants in other education programs.

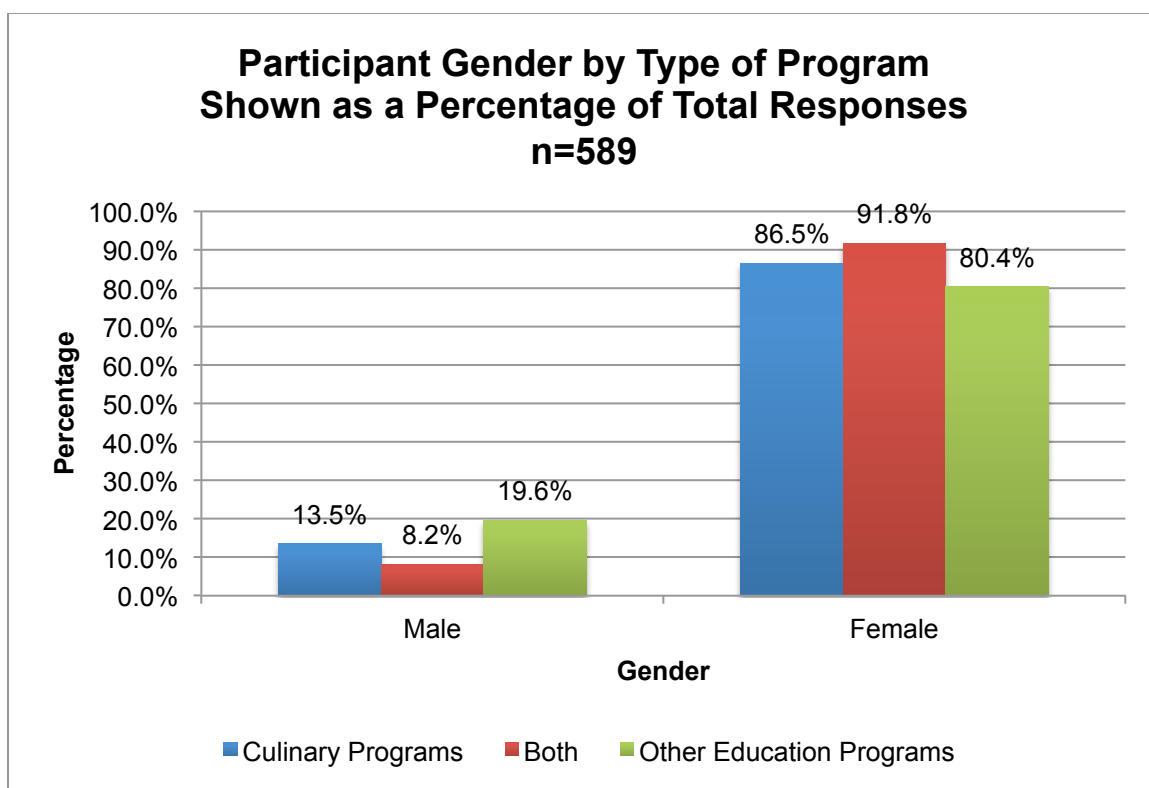


Figure 6 Gender of participants in culinary programs, other education programs, and both as a percentage of total responses. Culinary programs (n=74); both types of programs (n=158); other education programs (n=357).

The median household income in the United States in 2014 was \$53,657 (DeNavas-Walt and Proctor, 2015). Data from this survey is summarized into categories of less than \$60,000; \$60,000 to \$99,999; and \$100,000 or more to provide comparison to this statistic (Figure 7). The full distribution of responses is in Appendix O. The greatest number of respondents indicated combined annual household income of \$100,000 or more: 46.6% for culinary programs, 49.3% for other education programs, and 43.5% for both types of programs (Figure 7). Approximately twenty-two percent of culinary program respondents (22.4%) indicated a combined annual household income of less than

\$60,000, as compared with 19.4% of other education program respondents and 22.6% of both types of programs (Figure 5). The difference of 3.0% between culinary programs and other education programs is not statistically significant (p-value = 0.8565).

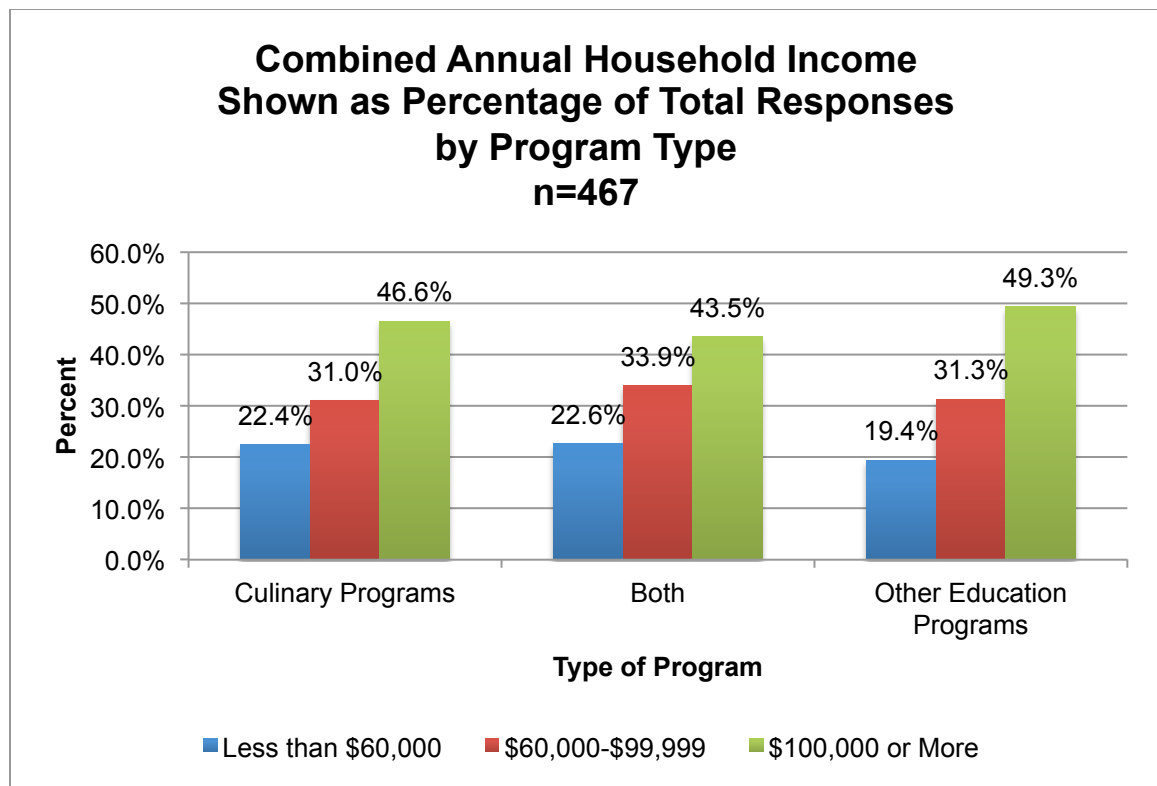


Figure 7 Combined annual household income of participants in culinary programs and other education programs as a percentage of total responses. Culinary programs (n=58); other education programs (n=294); both types of programs (n=115).

While 39.9% of respondents for other education programs and 38.6% of respondents for both types of programs self-reported having attained a Master's degree, a smaller percentage (23.7%) of culinary programs' respondents reported having attained a

Master's degree (Figure 8). Additionally, while 35.4% of respondents for other education programs reported having attained a 4-year degree, a higher percentage (47.4%) of culinary programs' respondents, and both types of programs' respondents (39.2%) reported having attained a 4-year degree. Approximately twenty percent of culinary programs' respondents (19.7%) indicated attaining a 2-year degree or less education, whereas 13.2% of other education programs' respondents and 12.0% of both types of programs' respondents indicated attaining a 2-year degree or less (Figure 8). Respondents who indicated attaining Doctoral degrees were similar across program types: 6.6% for culinary programs, 6.2% for other education programs, and 5.1% for both types of programs (Figure 8). Only 2.6% of culinary programs' respondents indicated attaining a Professional degree, which is less than respondents for other education programs (5.3%) and both types of programs (5.1%) (Figure 8). The differences in percentages between level of education and type of program attended are not statistically significant (p -value=0.2278). The distribution of responses for all levels of education is located in Appendix O.

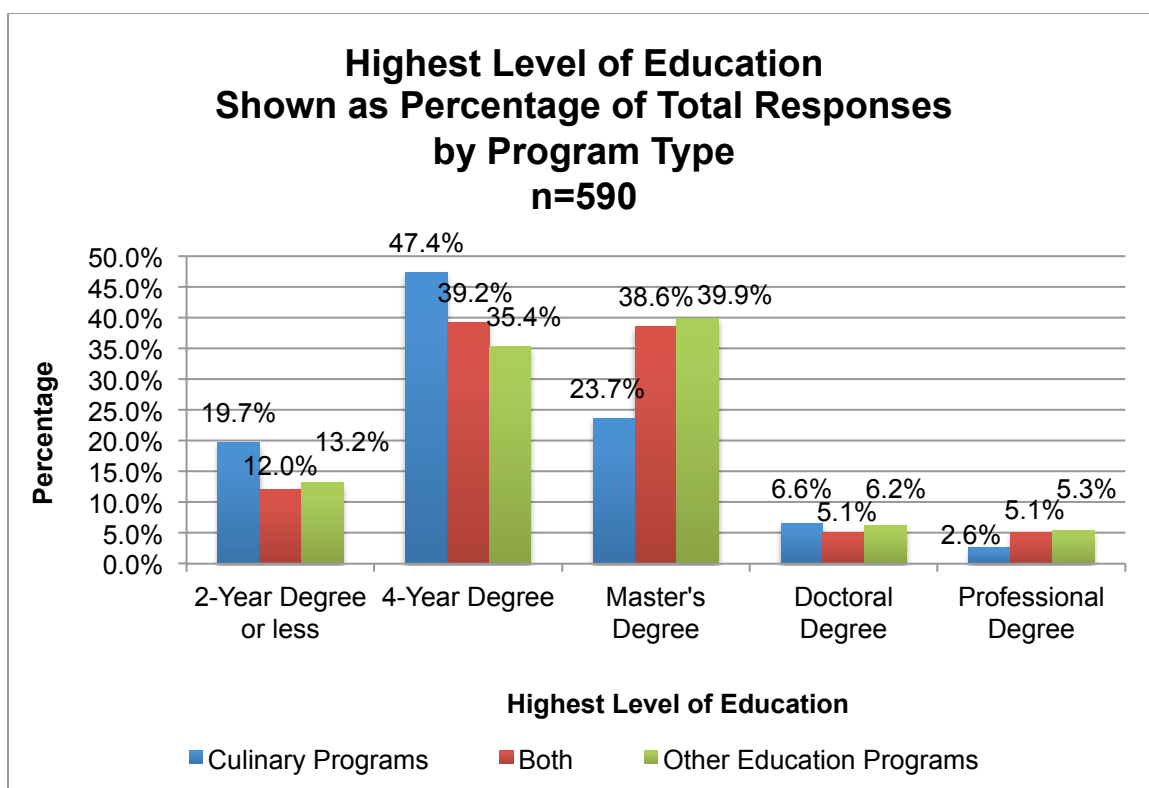


Figure 8 Highest level of education of participants in culinary programs, other education programs, and both as percentage of total responses. Culinary programs (n=76); other education programs (n=356); both types of programs (n=158).

The majority of respondents participating in all programs, including culinary and other education programs, identified as White/Caucasian. Approximately six percent of the respondents who participated in culinary programs (5.6%) identified as other than White/Caucasian; whereas, 3.1% of other education programs' respondents and 2% of both types of programs' respondents identified as other than White/Caucasian. There is no statistical difference between type of program attended and whether a respondent

identified as White/Caucasian or non-White/Caucasian (p-value=0.3551). For full distribution of race and ethnic identity responses, see Table 14 in Appendix O.

Membership

From the surveys, the majority of respondents for all program types indicated they were current members of the public horticulture institution (Figure 9). A greater percentage of other education programs' respondents indicated they were not members (25.3%) than culinary programs' respondents (16.7%) or both (6.9%) respondents (Figure 9). Membership is influenced by the type of program attended ($p\text{-value} = <.0001$): culinary programs' respondents were 1.2 times more likely to be a member than other education programs' respondents.

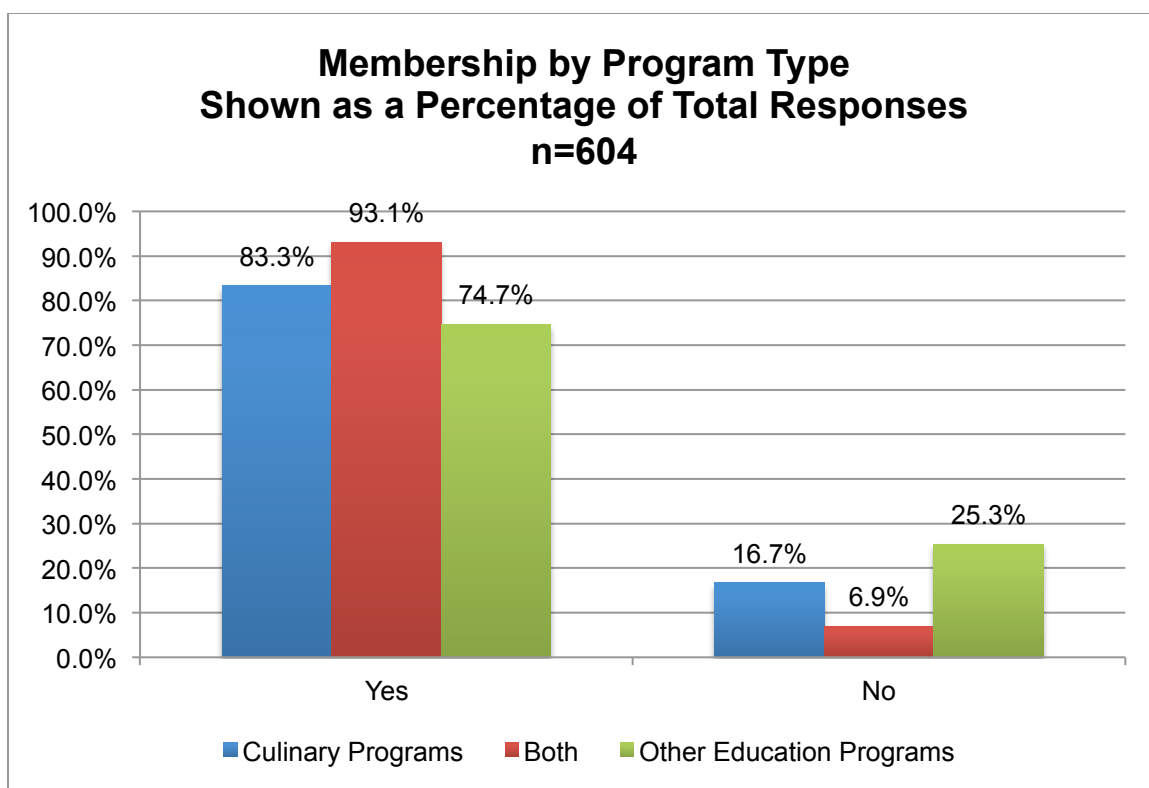


Figure 9 Membership of participants in culinary programs, other education programs, and both types of programs. Culinary programs (n = 78); other education programs (n = 367), and both (n = 159).

Only respondents who indicated they were current members of the public horticulture institution were asked when they had become members and how long they had been members. The majority of respondents who are current members indicated they became members before attending the program, regardless of program type: 89.2% for culinary programs' respondents, 91.8% for both types of programs' respondents, and 91.1% for other education programs' respondents (Figure 10). A small number, 8.2 to 10.2%, became members after attending a program (Figure 10). The relationship between

when a participant becomes a member and type of program is not statistically significant (p-value = 0.8273).

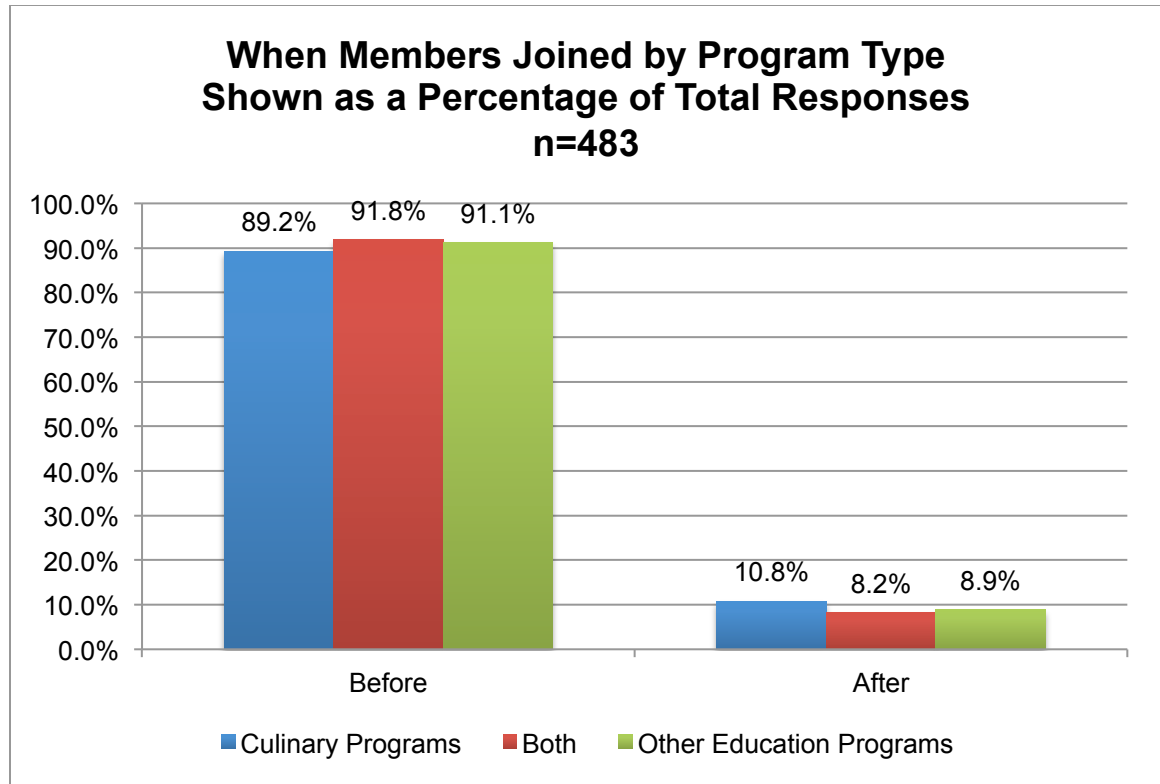


Figure 10 When member respondents joined the membership group by program type. Culinary programs (n=65); other education programs (n=271); both types of programs (n=147).

The greatest number of respondents indicated membership for 2–5 years and 11+ years (Figure 11). Approximately forty-one percent of respondents for both types of programs (40.8%) and 34.1% of other education programs' respondents indicated they had been members for 11+ years, which is the majority for these two groups (Table 7). The second largest percentage for both types of programs and other education programs is membership for 2–5 years, 21.1% and 27.8% respectively. The 2–5 year and 11+ year membership groups are equal for culinary programs' respondents, at 26.6%. A greater percentage of culinary programs' respondents (7.8%) indicate they have been members for less than a year compared to other education programs' respondents (4.8%) and both (3.4%) respondents (Table 7). The relationship between length of membership and type of program attended is not statistically significant (p -value = 0.5263).

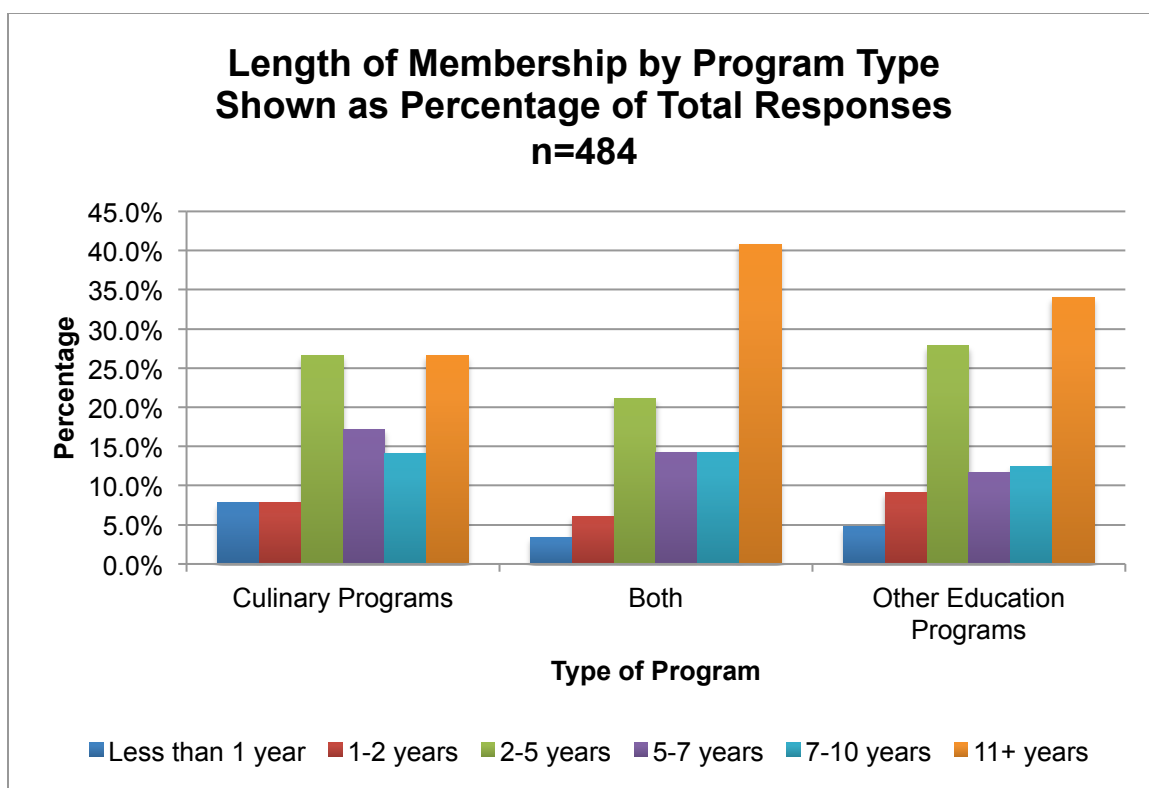


Figure 11 How long respondents in culinary programs, other education programs, and both have been members.

Table 7 How long respondents in culinary programs, other education programs, and both have been members, as a percentage of total responses. Culinary programs (n=64); other education programs (n=273); both types of programs (n=147).

Membership Length	Culinary Programs	Both	Other Education Programs
Less than 1 year	7.8%	3.4%	4.8%
1–2 years	7.8%	6.1%	9.2%
2–5 years	26.6%	21.1%	27.8%
5–7 years	17.2%	14.3%	11.7%

Table 7 continued

7–10 years	14.1%	14.3%	12.5%
11+ years	26.6%	40.8%	34.1%

Connecting with the Institution

“Feeling of connection to the institution” was operationalized in the participant surveys by asking questions regarding: how welcome participants felt upon arrival to the institution; how likely they were to recommend visiting the institution and attending an education program to a friend; how likely they were to visit in the next year, six months, and month; and if they were a current volunteer. If respondents indicated they were not a current volunteer, they were also asked how willing they would be to volunteer.

Responses to “how likely are you to recommend attending a culinary event to your friends” were included in the data for the question “how likely are you to recommend attending an education program to your friends” for culinary event participants at Missouri Botanical Garden and Powell Gardens. This is consistent with considering the culinary event participant responses as “culinary programs” responses throughout the data.

Responses to the following questions were treated as continuous variables: how welcome participants felt upon arrival to the institution; how likely they were to recommend visiting the institution and attending an education program to a friend; how likely they were to visit in the next year, six months, and month; and how willing they would be to volunteer. “Very unlikely,” “unlikely,” “likely,” and “very likely” responses were assigned values of 1, 2, 3, or 4, respectively. Responses on a sliding scale of 0 to 5 (for how welcome participants felt and how willing they were to volunteer) were reported with their original numeric values. The mean values of the responses to each question are different, though there is some overlap in type of program (Figure 12). The statistical

significance of these differences is indicated by the p-value for each question (Table 8), based on an F-test from ANOVA.

There is a relationship between the type of program attended and:

- How likely respondents were to recommend visiting the institution to their friends (p-value = 0.0420)
- How likely respondents were to recommend attending an education program to their friends (p-value = 0.0010)
- How likely respondents were to visit within the next six months (p-value = 0.0028)
- How likely respondents were to visit within the next month (p-value = 0.0037)
- How willing respondents were to volunteer (p-value = 0.0047) (Table 8)

There is no difference in the total mean for connectedness for culinary programs and other education programs. The total mean for connectedness for respondents who attended both types of programs is slightly higher than for the other two types of programs (3.6 compared with 3.4) (Table 8).

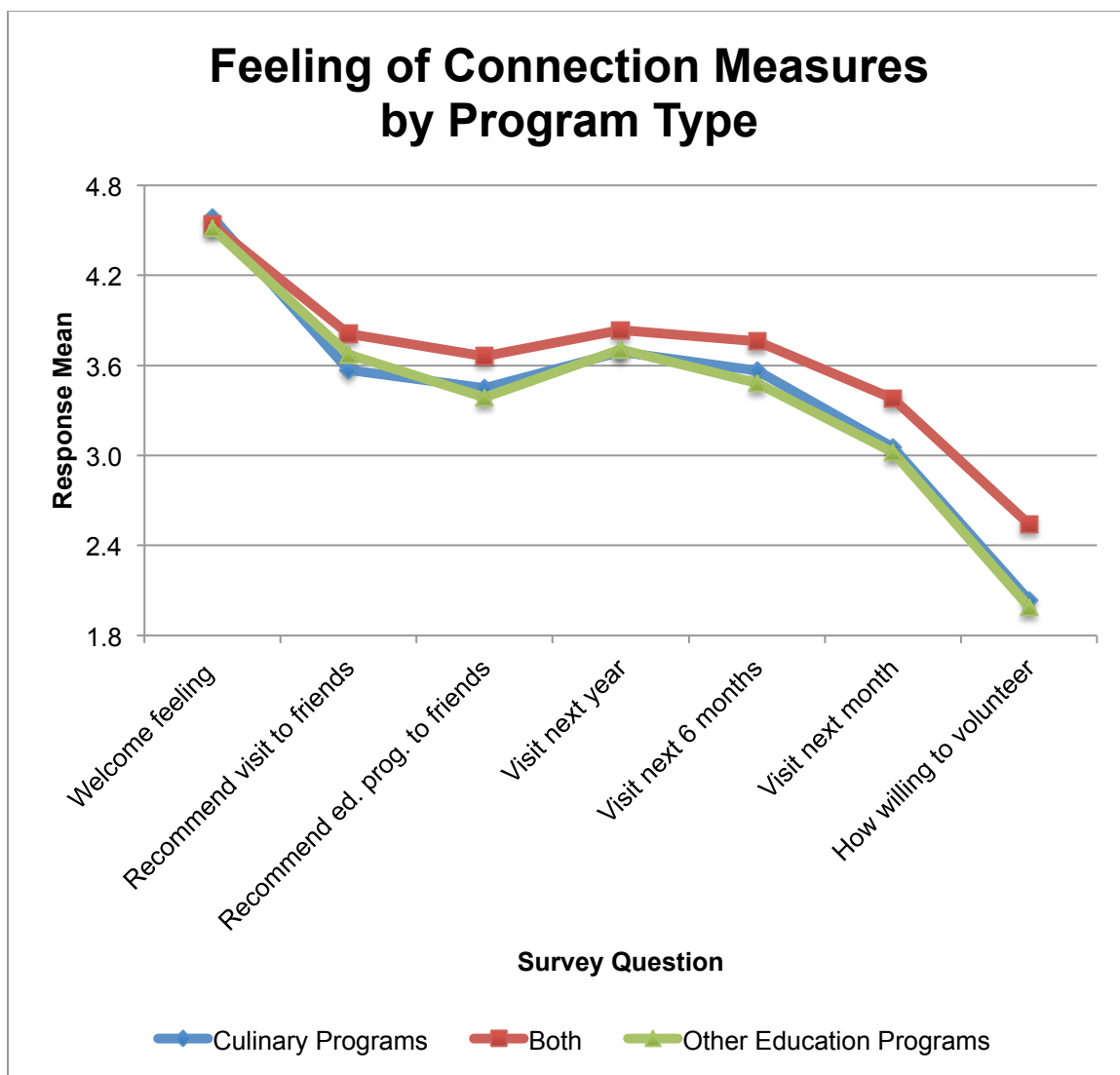


Figure 12 Means of responses to “feeling of connection to the institution” questions, by program type.

Table 8 Means of responses and p-values for “feeling of connection to the institution” questions, by program type. *Based on an F-test for ANOVA

Feeling of Connection Measure	Culinary Programs	Both	Other Education Programs	p-value*
Welcome feeling	4.6	4.5	4.5	0.8095
Recommend visit to friends	3.6	3.8	3.7	0.0420
Recommend education program to friends	3.4	3.7	3.4	0.0010
Visit next year	3.7	3.8	3.7	0.1051
Visit next 6 months	3.6	3.8	3.5	0.0028
Visit next month	3.1	3.4	3.0	0.0037
How willing to volunteer	2.0	2.5	2.0	0.0047
Total Mean	3.4	3.6	3.4	

The majority of respondents in all program types are not current volunteers (Table 9). Culinary programs’ and other education programs’ respondents are similar in percent of respondents who are not volunteers (82.1% and 83.8%, respectively) (Table 9). Respondents attending both types of programs had the greatest percentage of current volunteers, 24.1% (Table 9). The relationship between being a current volunteer and type of program attended is not statistically significant (p-value = 0.1018).

Table 9 Volunteer status of participants in culinary programs, other education programs, and both as a percentage of total responses. Culinary programs (n=78); other education programs (n=158); both (n=365).

Current Volunteer	Culinary Programs	Both	Other Education Programs
Yes	17.9%	24.1%	16.2%
No	82.1%	75.9%	83.8%

Impact of Programming

Of the institutions included in this research (n=21), 18 indicated they are trying to promote at least one of the following: healthy eating, growing or cooking one's own food, or eating locally sourced food. One institution is not explicitly trying to promote these ideas, though its instructors do communicate and support these ideas during the programs. Almost all of the institutions (17) communicate the message about these ideas by selecting instructors or chefs that discuss them during the program. Just over half of the institutions (10) communicate these messages through the types of ingredients or products they use in their programs, and almost as many (9) said these ideas are integrated into the topics of the programs they offer.

Responses to the question "If you have a café or dining area: how do these ideas relate to the café, its messaging, and the selection of food being offered?" were gathered from 13 institutions. Eleven institutions said they source food locally or from the institution's gardens:

"Our café is contracted through another company called Catering St. Louis and [they] try to offer healthy and local options whenever possible with fitting to our mission. They do use local produce from regional farmers when available through their food distributors to source local cheeses, mushrooms, onions, greens, tomatoes and lettuces. They have eliminated [the] food fryer, so they no longer [serve] fried foods like French fries and fish and make their soups from scratch..." *Tammy Palmier, Missouri Botanical Garden*

"Our café was certified in 2013 by the Green Restaurant Association as a Level 3 food service provider. That means that we follow ecologically

sustainable, energy-efficient practices that use local sources for food that are grown with no chemicals and are harvested sustainably.” *Jan McFarlan, The Morris Arboretum of the University of Pennsylvania*

“We have a new vendor in our café this year and they have brought along with them the culinary ethics of local, sustainable, and fresh sourced foods. The public has responded in wonderful ways, as the café has become a spot for lunches by professionals and other members of the public...” *Mandy Smith, Fellows Riverside Gardens*

Cleveland Botanical Garden has a unique program called “Pizza Thursdays” led by their café:

“In the summer our café presents Pizza Thursdays... They actually serve lunch in the outdoor Kitchen Garden because we do have the wood-burning pizza oven and a grill. This is a great opportunity because many times the chef harvests ingredients growing in the Kitchen Garden and uses them on that week’s specialty pizzas... We have people just from our neighboring area that will come specifically for lunch on Thursdays.”
Jennifer McDowell

About half (6) of the institutions have signage indicating the sources of the ingredients.

Chicago Botanic Garden is an excellent example of how to communicate the sourcing of products in their café (Figure 13).



Figure 13 Signage in the Garden View Café at Chicago Botanic Garden indicated the sources of products.

Three institutions indicated they offered what are considered healthy options. Three institutions also indicated there is not a strong connection with the café or dining area. A challenge cited by several institutions was the limited control over the café or dining area options and signage due to using an outside vendor or contractor.

Programmatic impact was measured in the participant surveys by asking the question, “Please indicate any lifestyle changes you made after attending the program” with the matrix of choices and level to which they made those choices. Only respondents who indicated participation in culinary education programs were prompted with this question. Culinary education programs’ respondents did make some lifestyle changes after attending the program, but the amount for each lifestyle change varied. The greatest changes were for “inspired to grow vegetables, herbs, or fruit;” “purchased locally grown food;” and “other.” For these changes, “somewhat more” and “much more” were selected by 47.5%, 48.6%, and 65.2% of respondents, respectively (Table 10). “Made healthier eating choices” and “prepared meals for myself/my family” are similar in the amount of changes made. The majority responded that their frequency of making these lifestyle changes were “the same” as before the program (73.1% and 70.9%, respectively), but 21.1% and 24.6%, respectively, made these changes “somewhat more” than they did before the program.

Table 10 Lifestyle changes participants made after attending a culinary arts education program.

Lifestyle Change	Selected	% of Total Responses
Made healthier eating choices		n=175
Much less	2	1.1%
Somewhat less	0	0.0%
The same	128	73.1%
Somewhat more	37	21.1%
Much more	8	4.6%
Prepared meals for myself/my family		n=175
Much less	2	1.1%
Somewhat less	0	0.0%
The same	124	70.9%
Somewhat more	43	24.6%

Table 10 continued

Much more	6	3.4%
Inspired to grow vegetables, herbs, or fruit		n=175
Much less	4	2.3%
Somewhat less	1	0.6%
The same	87	49.7%
Somewhat more	57	32.6%
Much more	26	14.9%
Purchased locally grown food		n=175
Much less	1	0.6%
Somewhat less	0	0.0%
The same	89	50.9%
Somewhat more	67	38.3%
Much more	18	10.3%
Other		n=23
Much less	1	4.4%
Somewhat less	0	0.0%
The same	7	30.4%
Somewhat more	11	47.8%
Much more	4	17.4%

A major theme in the text entry responses was trying new things, such as techniques, food dishes, ingredients, and beverages (Table 11).

Table 11 Text entry responses for the “Other” category in lifestyle changes.

“Other” Text Responses
cheaper if I make it
made ethnic dishes I didn’t know about before
Purchased food materials I had not previously used
redesigned garden
I have always enjoyed gardening and most always cook at home. There’s always more to learn
tried different foods
seek out wild edibles

Table 11 continued

more knowledgeable about the topic
none
Visited Random Tea Room and used their services
Preparing sauces w/meals
Started fermenting food
tried canning
Made different, not sure healthier or not, eating choices
became more open to trying seasonal and craft beers
improved baking techniques

Interviewees were asked, “Have you heard of any ‘success stories’ because of your programs?” Themes from responses to this question were having repeat participants (11 institutions) at culinary programs, participants trying new things either during the class or after (6 institutions), positive reactions during the program (5 institutions), and participants applying what they had learned and/or patronizing a chef’s restaurant after the program (4 institutions).

“We had a “Cooking for Diabetes” class and we had a kid who had been diagnosed the day before he came to the class. When he left he felt like he was empowered and he wasn’t afraid of food anymore.” *Lee Miller, The Trustees of Reservations*

Smithsonian Gardens did a successful program, “Food in the Garden,” with the National Museum of American History’s chefs in their Victory Garden:

“One of the reasons why [the National Museum of] Air and Space is interested [in doing a similar program]: [they] just opened up a staff cafeteria and their chef is interested in getting more of a reputation for serving good food instead of just regular cafeteria fair... If you have a café or something on grounds, if the chef creates excellent meals for programs, you will get more business in your cafeteria or café” *Cindy Brown, Smithsonian Garden*

Public Horticulture Institutions as a Resource

Only respondents who indicated their participation in culinary programs were asked to provide responses to the question, “How much do you view (institution) as a reputable resource regarding the following: cooking, food choices, plants, gardening, and agriculture.” Each topic had a sliding scale from 0 to 100, with “not reputable” on the 0 side and “extremely reputable” on the 100 side. Total responses (n) ranged from 225 for food choices to 232 for plants.

Culinary programs’ respondents view public horticulture institutions as extremely reputable resources for information about plants (mean value of 97, median value of 100) and gardening (mean value of 96.8, median value of 100). Public horticulture institutions are reputable resources for information about agriculture (mean value of 84.1 and median of 94.0). Public horticulture institutions are viewed as less reputable for information about cooking (mean of 69.1 and a median value of 73.5) (Figure 14) and food choices (mean value of 70.6 and median value of 76.0) (Figure 14).

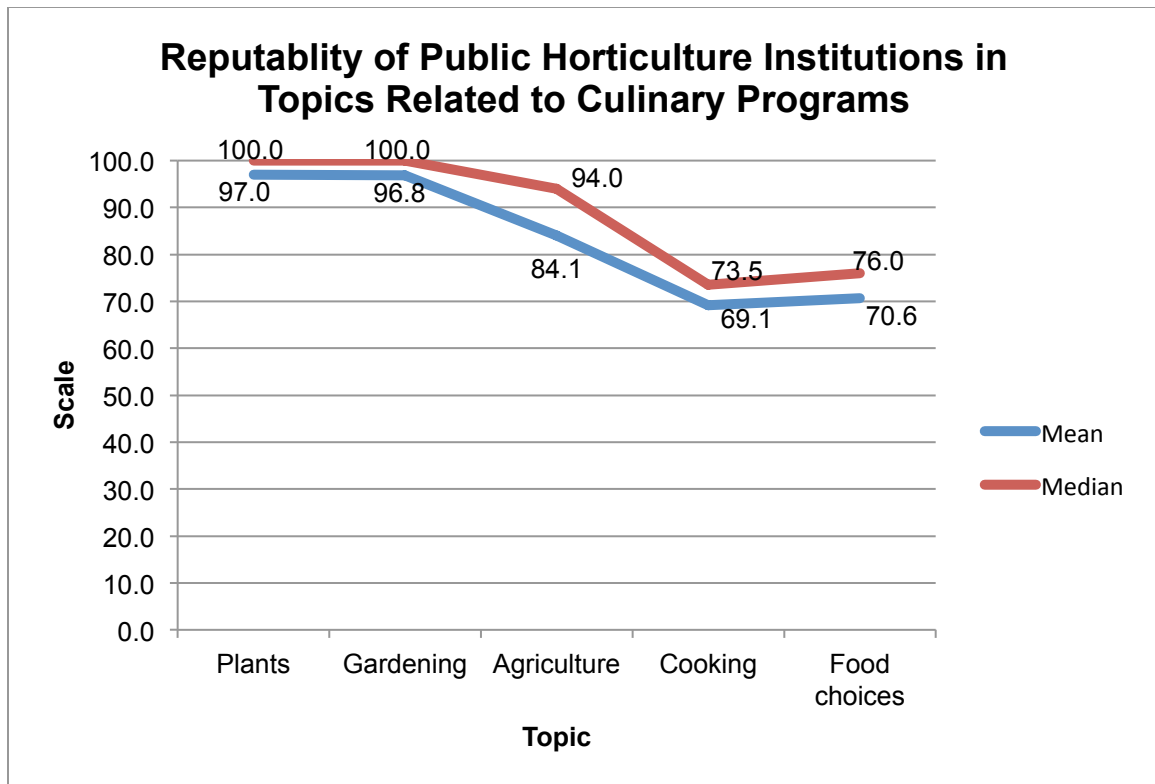


Figure 14 Median and mean of responses to how much of a reputable resource culinary programs' participants view the public horticulture institution regarding topics related to culinary programs.

Why Participants Attend Programs

Survey respondents answered the question, “What attracted you to the program(s) you attended? Select all that apply.” The options were: desire to learn more about the topic, instructor qualifications, prior knowledge about institution, time of program, price of program, location of program, opportunity to attend with friend(s), given as a gift, and other, which also allowed for a text entry. The greatest number of respondents in all program types indicated they were attracted to the programs because of a desire to learn more about the topic: 67.1% for culinary programs, 87.9% for other education programs, and 95.7% for both respondents (Table 12). The second and third choices were also the same for all programs: “prior knowledge about institution” and “time of program,” although, “opportunity to attend with friends” was equal to “time of program” for culinary programs’ respondents (31.7% for both). All respondents were least likely to select “Given as a gift” and “other”, with ranges of 1.0% to 6.1% for “given as a gift” and 2.5% to 8.5% for “other” (Table 12). The relationship between type of program and why respondents were attracted to that program is statistically significant for all reasons except for location of program and other (Table 12). Significant relationships are indicated by the bolded p-values in Table 12.

Table 13 in Appendix O includes all the text entry responses for “other.” Common responses included continuing education (5 responses), activity to do with/for a child (4 responses), and the food (2 responses).

Table 12 Why participants attended programs shown as a percentage of total responses for each group. Culinary programs (n= 82); both types of programs (n=163); other education programs (n=387).

Why Attend Program	Culinary Programs	Both	Other Education Programs	P-Value
Desire to Learn More	67.1%	95.7%	87.9%	<.0001
Instructor Qualifications	20.7%	28.8%	37.0%	0.0082
Prior Knowledge about Institution	46.3%	62.0%	40.3%	<.0001
Time of Program	31.7%	49.1%	40.1%	0.0243
Price of Program	23.2%	37.4%	25.8%	0.0119
Location of Program	28.0%	42.3%	36.4%	0.0880
Opportunity to Attend with Friends	31.7%	30.7%	12.9%	<.0001
Given as Gift	6.1%	4.9%	1.0%	0.0046
Other	8.5%	2.5%	4.1%	0.0828

Best Practice Recommendations

Eight themes emerged from case study interviews with regard to challenges and recommendations for culinary arts programming including: general considerations, garden space, kitchen space, non-kitchen spaces, volunteers, pricing and supply costs, partnerships and sponsorships, instructors, and culinary events. Not all institutions had suggestions for every category; the following is a summary of the responses.

General Considerations

Chicago Botanic Garden offered a variety of culinary arts programming in the early-2000s, including bringing in professional chefs, cooking classes in the fruit and vegetable garden, symposia, and lectures. Although there was a positive response to these offerings, there was significant staff time dedicated to class preparation and clean up. For example, “One two-hour cooking class could easily require eight hours of staff time to source and procure ingredients, prep for class, and restore the room” (Beth Pinargote, Chicago Botanic Garden). In consideration of the cost of staff time, Chicago Botanic Garden decided to focus on offering culinary education programs that did not require as much preparation and room restoration.

As the programming partner for the KITCHEN at the Boston Public Market, The Trustees of Reservations had a robust programming plan when the KITCHEN opened. Resources were spread thin and programming had been adjusted to focus on the specific audiences they wanted to serve. It is important to “establish a good, solid audience and expand from that” (Lee Miller, The Trustees of Reservations). Franklin Park

Conservatory and Botanical Gardens has “an 80/20 rule of 80% healthy cooking classes to 20% indulgent cooking classes” (Christie Nohle).

Local ordinances and conflicts between vendors are considerations for food- and beverage-related programming at public horticulture institutions. Depending on the locale and type of program, classroom and kitchen spaces may need to meet food safety standards and the instructors or volunteers may need to have a food safety certification (Laura Vogel, Brookside Gardens). Serving and pouring alcohol for programs may also require special certifications, which should be researched prior to beginning a program (Julie Jenney, The Scott Arboretum of Swarthmore College). Additionally, conflicts and competition between serving food for culinary programs and on-site catering vendors should be considered (Allison Rudy and Maria Klein, Minnesota Landscape Arboretum).

Garden Space

Garden space is often used both to display horticultural crops and to harvest crops in support of classes and programs. Balancing the needs of these two purposes can present a challenge with culinary programs. A horticulturist at Atlanta Botanical Garden has used “space behind the scenes to grow some things, such as tomatoes. We don't always have enough space in our display garden to grow enough; [for a class] you would need 15 rows” (Abby Gale, Atlanta Botanical Garden). Several institutions supplement what is harvested from the garden with locally sourced ingredients or ingredients from a grocery store such as Whole Foods.

Planning harvest time with class or dinner themes is another consideration for institutions wanting to utilize produce grown in their garden spaces: “The biggest challenge is planning classes when the harvest will be ready to utilize in the class. Sometimes the weather does not always cooperate!” (Christie Nohle, Franklin Park

Conservatory and Botanical Gardens). Barbara Fetchenhier from Powell Gardens recommend institutions grow “what does well in their zone/climate so they [horticulturists] are not fighting Mother Nature to keep it alive. Definitely plan it out to cover three seasons, so something is always coming into season to harvest and use.” Smithsonian Gardens tries to incorporate the theme of culinary events into the Victory Garden planting design and will also add plants to support the theme, *e.g.* plants used for making beer if discussing beer.

Theft and vandalism occur at public horticulture institutions that are growing produce for display and class purposes: “Visitors may not feel like they can pick the flowers, but if there is a tomato they seem to be more tempted to pick it” (Laura Vogel, Brookside Gardens). Christie Nohle at Franklin Park Conservatory and Botanical Gardens also mentioned this challenge regarding vandalism and the public’s harvesting produce. Powell Gardens has temporary signage in their Heartland Harvest Garden to remind visitors not to harvest from certain areas (Figure 15).



Figure 15 Temporary signage in the Heartland Harvest Garden at Powell Gardens

Staffing is a consideration mentioned by two institutions (Los Angeles County Arboretum and Botanic Gardens and Powell Gardens). It is important to have staff to maintain the gardens used for these programs; otherwise it can become a challenge. Winterthur Museum, Garden and Library has a children's vegetable garden, which is maintained by children and their families: "It is not a 'professional' job and is more about the experience of planning and planting a garden for the kids. This means that there are weeds, crop failures, and experiments that don't work" (Chris Strand, Winterthur Museum, Garden and Library).

Kitchen Space

The design of a kitchen facility impacts how classes are run and the amount of time it takes to prepare for and clean up after a class. There is a wide variety of facilities at public horticulture institutions, with the newest facilities included in this research being the KITCHEN at the Boston Public Market and The Wells Barn at Franklin Park Conservatory and Botanical Gardens. Both of these institutions have a “front of house” area and “back of house” area, which helps expedite preparation and clean up, including washing dishes (Figures 16 and 17).



Figure 16 “Front of house” area in The Wells Barn at Franklin Park Conservatory and Botanical Gardens. Allison Hendricks (left) and Christie Nohle prepare for a dinner demonstration and tasting class. Large TVs are located above the doors on each side of the kitchen area, which show video from the camera mounted on the ventilation hood.



Figure 17 “Back of house” area in The Wells Barn at Franklin Park Conservatory and Botanical Gardens. A commercial-grade sanitizer (on the right) expedites the dishwashing process. This area behind the kitchen also includes workspace on stainless steel tables.

Facility considerations include:

- **Flexible demonstration space:** Consider the room set up for different types of programs such as hands-on versus demonstration-only versus a dinner, adult versus children (Figure 18), accessibility for participants with a variety of abilities, and how many participants will be involved (hands-on classes are usually smaller than demonstration-only).



Figure 18 Classroom space at Powell Gardens is used for both adult and children's culinary programs. The colored tables can be adjusted for height depending on the audience.

- **Lighting and instructor visibility:** The Minnesota Landscape Arboretum uses a space originally designed for children's programs and the lighting is not ideal for dinner ambiance. Being able to see the instructor during demonstrations is important for participants. A demonstration mirror is a low-tech option that several institutions have. Franklin Park Conservatory and Botanical Gardens has a camera connected to TV screens that shows what the instructor is doing (Figures 16 and 19). Having technical support for this set up is essential.



Figure 19 The AEP Education Pavilion at Franklin Park Conservatory and Botanical Gardens set up for a demonstration and tasting class by Chef Mark Zedella (pictured). The two TVs mounted on the wall show video feed from a ceiling-mounted camera.

- **Audio:** A good sound system is necessary to ensure participants of all hearing abilities can participate. This can be considered with the type of space (outdoor versus indoor) and the number of participants. Chicago Botanic Garden cooking demonstrations take place in an outdoor amphitheater that can seat approximately 125—making it especially important to have effective audio equipment that all presenters use so everyone can hear. (Kristen Webber and Mary Plunkett, Chicago Botanic Garden). Participants themselves can also be loud during the class, which can make it difficult for instructors (Julie Jenney, The Scott Arboretum of Swarthmore College; Tammy Palmier, Missouri Botanical Garden).
- **Storage space:** Six institutions specifically mentioned their storage spaces and the importance of ensuring sufficient space. It is important to consider how much and what kind of space will be needed to store food in a pantry, refrigerator, or freezer, as well as other supplies such as appliances, utensils, cookware, flatware, dinnerware, glassware, and linens. Franklin Park Conservatory and Botanical Gardens has an outdoor Live Fire Cooking Theater space (Figure 20), where they use two different types of grills. These are stored in a secure outdoor shed. There are also locks on the kitchen cabinets and on one of the

refrigerators for security, as well as a locked basement storage area in The Wells Barn (Figure 21). Atlanta Botanical Garden rents glassware and napkins, which alleviates the need to wash, launder, and store these onsite.



Figure 20 Live Fire Cooking Theater at Franklin Park Conservatory and Botanical Gardens. The AEP Education Pavilion is the building in the background.



Figure 21 Locked basement storage area for culinary arts program supplies in The Wells Barn at Franklin Park Conservatory and Botanical Gardens.

- **Appliances:** Preferences for appliances depend upon the type of programs being offered. For example, “doing large scale canning operations in a home-sized kitchen helps translate [to] what most people are dealing with at home,” (Sarah Olson, Denver Botanic Gardens). The timeline for replacing equipment and appliances based on use should be considered (Luana Vargas, Desert Botanical Garden).
- **Sufficient appliances for program use:** There should be enough refrigerators for storage, ovens for heating and cooking, burners for cooking, and dishwashers for washing. The Minnesota Landscape Arboretum suggested 3-4 quiet dishwashers, 2 refrigerators and freezers, and 3 ovens. Suggestions for types of appliances from case study interviews are as follows:
 - Industrial-grade appliances and cookware in general, including stove, oven, and dishwasher/sanitizer
 - 6-burner stove top; gas is preferred by most chefs
 - Proper ventilation
 - Single-basin sinks

- Ice maker
- Wine cooler
- Washer and dryer for linens

Non-Kitchen Spaces

All of the above suggestions for kitchen spaces are applicable to culinary arts programs in non-kitchen spaces. Classroom and auditorium spaces accommodating 15 to 40 participants are used at institutions that do not have a specific garden and/or kitchen space for their culinary programming. Portable cooking devices are often used for classes, such as an electric range, convection oven, electric kettle (Brookside Garden), hot plates, and propane gas burners (Lewis Ginter Botanical Garden and Cleveland Botanical Garden). Laura Vogel (Brookside Gardens) said setting up for their cooking demonstration classes takes two staff members two hours, which is a consideration for staff time involved with these programs.

Several institutions indicated the ingredients are usually already prepared and ready for cooking. This eliminates the need to spend additional time preparing for the class. Other institutions, such as Chicago Botanic Garden, Myriad Botanical Gardens, and The Scott Arboretum of Swarthmore College, have limited or no cooking involved in their classes. Both The Morris Arboretum of the University of Pennsylvania and Cleveland Botanical Garden said their chefs or caterers are flexible or creative with the space available to them.

Volunteers

Volunteers are the cornerstones of culinary arts programs. One to six volunteers are used for culinary programs at the public horticulture institutions included in this research. Classes involving serving, additional preparation, and that generate a lot of

dishes generally have more volunteers. The Minnesota Landscape Arboretum has a volunteer dedicated to doing the laundry and emptying the dishwasher the day after their programs. Four institutions indicated they have a specific team of volunteers for their culinary classes, ranging from 12 to 40 active volunteers. As Christie Nohle at Franklin Park Conservatory and Botanical Gardens noted, having volunteers “keeps costs [of the programs] down because you don’t need to have as many staff members there.”

Pricing and Supply Costs

The pricing for culinary arts classes is dependent upon the instructor fee (either a flat fee or cost per student), material and supply costs, and administrative fees. Classes can range from the mid-\$20s for a discussion and tasting (Myriad Botanical Gardens) to upper-\$70s for a full meal (Minnesota Landscape Arboretum) for non-members.

Generally, members of the institution get a discount on classes and other programs that charge a fee. Three institutions specifically mentioned pricing their programs “reasonably” (Franklin Park Conservatory and Botanical Gardens, Lewis Ginter Botanical Garden, and Minnesota Landscape Arboretum). The cost of staff time may (Beth Pinargote, Chicago Botanic Garden) or may not (Brookside Gardens) be factored into the “cost recovery for the fiscal year” for culinary programs (Laura Vogel, Brookside Gardens).

Allison Hendricks at Franklin Park Conservatory and Botanical Gardens recently did a survey of institutions in the Columbus, Ohio area that offer culinary classes and found the classes at Franklin Park Conservatory were priced lower than their competitors. They have since increased their prices. The Trustees of Reservations have higher priced programs that are intended to cover some of the costs of their free or lower priced

programs. Other organizations also support the cost of some of these free or lower priced programs (see “Partnerships/Sponsorships”).

Ingredients for programs are sourced in several ways: directly from the gardens on site, chefs or instructors will purchase and bring them, staff will purchase from a grocery store, or a grocery store might donate ingredients. Powell Gardens asks their chefs to feature produce from the Heartland Harvest Garden and to bring any non-produce items for their free cooking demonstrations. Franklin Park Conservatory and Botanical Gardens and Fairchild Tropical Botanic Garden have small stores of pantry items for chefs to use in their classes. The Minnesota Landscape Arboretum gets a discount from a local, natural food co-op for their ingredients. Depending on the institution and program, chefs may donate the ingredients they bring. Many chefs donate their time and food from their restaurant to the weekday dinner series at Atlanta Botanical Garden.

Chefs and instructors for free, drop-in programs donate their time to Chicago Botanic Garden and Powell Gardens. Kristen Webber and Mary Plunkett at Chicago Botanic Garden shared, “Chefs participating in the Garden Chef Series are generous with their time and product—they really enjoy sharing their expertise, creativity, and commitment to cooking seasonally with others.” Chefs at Chicago Botanic Garden also “get an opportunity to promote their restaurant to a wider and different audience” (Kristen Webber and Mary Plunkett). Atlanta Botanical Garden pays the Garden Chefs who do the public (free) weekend and member event demonstrations an hourly rate and purchases compostable cups and spoons for tasting.

Partnerships and Sponsorships

Seven institutions in this research indicated having or having had sponsorship of their programs in some form or a partnership with another organization. Food Network Magazine is a sponsor of Chicago Botanic Garden's Garden Chef Series, which includes designated weekends for highlighting on-site tastings, themed recipes and gift bag distribution. (Kristen Webber and Mary Plunkett, Chicago Botanic Garden). Chicago Botanic Garden's Farm Dinners were sponsored by a bank, which received a set number of complimentary tickets. The bank used these tickets for their "high-wealth clients, instead of giving them tickets to a [Chicago] Cubs or [Chicago] Bulls game" (Jodi Zombolo, Chicago Botanic Garden). The Minnesota Landscape Arboretum has had grocery stores sponsor the cost of ingredients up to a certain amount for the "Saturdays in the Kitchen" program. Powell Gardens lists three sponsors for its culinary programs on its website: Vita Craft, which donated pots and pans and has replaced them as needed; Smoke n' Fire, Inc., which donated a Weber kettle grill; and Cosentino's Price Chopper, a local grocery store chain which has donated money to print promotional material. Beer distributors and breweries have donated money, staff time, giveaway items, and supplies to Cleveland Botanical Garden's "Hoppy Hour" event because alcohol cannot be donated in the state of Ohio. They also receive in-kind donations from businesses, including a local peanut company. A bank has sponsored the summer "Gourmets in the Garden" event at Cleveland Botanical Garden. Whole Foods Market sponsors Fairchild Tropical Botanic Garden's Chocolate and Mango Festivals by donating all the ingredients and a local seafood market/restaurant sponsors some of Fairchild's classes because of a connection through one of the chef instructors.

Whole Foods Market staff were instructors for classes at Franklin Park Conservatory and Botanical Gardens as part of a partnership between the two institutions.

These classes are, “really, really reasonably priced because they [Whole Foods Market] are doing it as part of a marketing tool for them” (Christie Nohle, Franklin Park Conservatory and Botanical Gardens). The Trustees of Reservations has several partners for programs at the KITCHEN at the Boston Public Market: Project Bread, Let’s Talk About Food, America’s Test Kitchen, and REI. Chicago Botanic Garden partnered with a local restaurant to hold a plant-themed dinner at the restaurant approximately six times a year for two years. The staff botanist worked with the restaurant chef to choose a plant to highlight. The botanist gave a presentation about the plant and the chef did a cooking demonstration using the plant. This lunch program was a way to expose the garden to patrons of the restaurant who had never been to the garden.

Instructors

Several institutions have chefs from local restaurants as instructors or chefs who have catering businesses for their classes and demonstrations. Personal knowledge and research is involved with selecting chefs and instructors for these programs. Research can include speaking with staff and volunteers, looking at menus, and checking food websites for trends.

“[You] can find people at farmers’ markets, even restaurants you go to. If you see that the chef comes out from behind closed doors and wants to talk with the patrons, it’s an opening when I say I work at Fairchild and they go, ‘I hear about your Mango brunch and can I be a chef there?’”
Mary Neustein, Fairchild Tropical Botanic Garden

“Look at your team: if you have a catering staff or if you have a restaurant on site, they can help guide a lot of your decisions. When I first started at Longwood, we created an informal task force on culinary arts and I asked for input from several different divisions. It was very helpful to include our Restaurant Associate partners and our Executive Chef in those

discussions because they had such great ideas”
Matthew Ross, Longwood Gardens

Ted Tegart at the Los Angeles County Arboretum and Botanic Garden expressed that it can be a challenge to find chefs from different restaurants. Jan McFarlan from The Morris Arboretum of the University of Pennsylvania also expressed a similar feeling, that “cooking connections are important” and that it can be hard to find the right person in a company to discuss its products with regard to horticultural connections. To determine if a chef is a good fit for its programs, Atlanta Botanical Garden requires a 20-minute audition.

Weekday evenings and Sunday afternoons are days and times that work well for getting chefs to participate in classes and events (Atlanta Botanical Garden, Denver Botanic Gardens, and Powell Gardens). Several institutions said chefs or instructors that have their own businesses will promote the classes and programs they are involved with at the institution, which can help reach a different audience.

Culinary Events

Chicago Botanic Garden, Denver Botanic Gardens, Desert Botanical Garden, and Powell Gardens all have dinner events featuring local chefs. Atlanta Botanical Garden’s “Well-Seasoned Chef Series” is considered a series program in this research, but is similar to the dinner events at these other gardens in set up and price (\$115 per session or \$650 per series). These events range in price from \$75 per person (Denver Botanic Gardens) to \$220 per person (Chicago Botanic Garden). Dinner events are costly to hold because of the labor and logistics involved with preparing and cleaning up the event spaces. Costs include wait staff (which can be a combination of staff/volunteers from the

institution and the chef's team), other staff time, and renting dinnerware, linens, serving dishes, and any other equipment. Through several of the dinner events at Powell Gardens, Karen Case has learned about "kitchen beer." As long as the head chef is okay with it, they will provide beer with a lower ABV content for the kitchen staff working and/or volunteering their time for the event.

Jodi Zombolo (Chicago Botanic Garden) said they do the Farm Dinner program only if there is a sponsor because of the expenses involved. Their sponsor (BMO Harris Bank) is given a set amount of complimentary tickets for their clients: "This is a one-on-one, purposeful type of engagement with their clients. They like our mission because it supports the Windy City Harvest green program. It is a win-win for everybody" (Jodi Zombolo, Chicago Botanic Garden). The clients using the complimentary tickets may or may not have previously been to the gardens before.

During dinner programs, the chef will discuss the menu with the participants and answer questions, which participants enjoy. Chefs feature items from the gardens at Powell Gardens and chefs doing the Farm to Table dinner at Denver Botanic Gardens' Chatfield location will utilize locally sourced produce and products.

Molly Renken at Missouri Botanical Garden expressed the challenge of shifting spaces for their Fest of Ale and Be a Kid Again events: if there is inclement weather, the events need to move inside. This shift requires effective communication to ensure the indoor spaces are prepared for the event.

Chapter 4

DISCUSSION

Furthering the Mission

Culinary programs can be a fun, engaging, and direct way of educating people about plants (Rapuano, 2011) and can encompass many of the elements included in public horticulture institutions' mission statements. Plants or horticulture are specifically mentioned in the mission statements of institutions included in this research, with most also including "education," and some incorporating the ideas of connecting people with plants, the relationship between people and plants, and appreciating plants. The range of culinary programs in this research includes single classes/lectures, series programs, drop-in programs, and event programs. Each of these programmatic types can fulfill the institution's mission in a different way, though connecting the program topic to plants and using food as a relatable way to discuss plants and horticulture are common themes (Vogel, Personal Communication, 2016). It makes sense for public horticulture institutions to offer culinary arts programming because plants are central to both an institution's mission and to the field of culinary arts.

Culinary events can fulfill an institution's mission in a broader sense. Some gardens offer these programs to attract different visitors to expose them to the institution and the other programs offered, generate revenue to support specific or general institution operation, and/or to connect visitors to the garden, plants, and/or community in a new way. By attracting different visitors, public horticulture institutions have the opportunity to expand their support base and further connect with their community.

Since having culinary programs requires significant resources, having a large budget provides the opportunity to offer a wider range of programs. However, even gardens with a smaller budget can offer simple culinary programs such as a single class, lecture, or series. Drop-in programs usually require more resources, such as a specific garden or kitchen space (Table 6). Having an indoor kitchen space or multi-use indoor space for culinary programs allows institutions to offer culinary programs throughout the year. When using non-kitchen spaces for culinary programs that involve cooking, interviewees emphasized the importance of additional staff and volunteer time needed to prepare and restore the space in the total “cost” of the programs.

Audience

More than half of the institutions (15) studied indicated the impetus for beginning their programs was related to audience, either trying to attract a new or different audience to their institution or to serve the interests of their current audiences better.

Culinary arts programs are attracting a distinct audience to the institution that may not otherwise attend programs and are better serving the interests of current audiences. This is evidenced by both the survey respondents who attended only culinary programs and who attended both culinary programs and other education programs. Some institutions indicated they were successfully reaching people who have never been to the garden and/or people who are not members of the garden.

The results from the surveys show the majority of respondents in both culinary arts programs and other education programs are age 46 and older and female. Participants in culinary programs are 1.6 times more likely to be female than participants in other education programs. This supports previous research by Wilkening and Chung (2011), which showed adults over age 50 and females are more likely to enjoy visiting public

gardens. Between 94.4% and 98% of survey respondents for all programs indicated they were White/Caucasian, which supports previous research by Wilkening and Chung (2011). The majority of survey respondents for all program types is earning more than the median household income for the United States, with between 77.4% and 80.6% of respondents earning an annual household income of \$60,000 or more. Results from the surveys also show the majority of respondents across all programs is well educated, with most respondents having attained at least a 4-year college degree. Given the survey results, culinary arts programs are not attracting an audience that is distinct from the typical public garden audience in terms of age, gender, race/ethnicity, household income, or level of education.

In addition to people who have not visited the institution or are not already members, the “different audience” institutions are trying to attract with culinary arts programs includes a younger audience and those interested in food. According to research interviews with 18 institutions, these groups are attending culinary programs. Younger audiences, including Millennials, are an audience seven institutions are trying to reach with culinary programs. Six of the institutions interviewed specifically referred to their success in attracting younger audiences, primarily with culinary events. Survey results did not show a significant number of Millennials (ages 18–33, Pew Research Center, 2014) who attended culinary programs. Only two institutions offering culinary event programs were surveyed, one of which indicated they were seeing a younger audience at their events. This could account for some of the difference between survey results and interview results. Although Millennials are “more frequent users of email than any other age group” (Naragon, 2015), the ease of reading the email on a mobile device, how often they receive emails from a brand, when they receive emails, and how visual the email is all affect the likelihood of an email being read (Naragon, 2015). Therefore, it

is likely that Millennials were underrepresented in the surveys sent out by the five institutions. How much or how little an institution has optimized its emails for engagement could also account for the discrepancy in the survey and interview results. There is a distinct group of people (13% of survey respondents) who are attending culinary programs; however, their demographic characteristics are no different than participants in other education programs.

Culinary programs are also serving a group of members who may not otherwise attend programs at the institution. Most of the culinary program survey respondents were members (83.3%), with a small percentage (10.8%) of these respondents having become members after they attended a program. Additionally, 84.5% of the culinary program member respondents had been members for two or more years, which is slightly less than for other education program respondents and those who attended both types of programs. Culinary arts could be seen as a more approachable topic for those who are non-gardeners than classes and events centered on gaining plant knowledge and gardening.

While the survey results show the majority of participants in culinary programs are members, Allison Hendricks at Franklin Park Conservatory and Botanical Gardens, in a survey of their culinary program attendees, found there was approximately a 50/50 split between members and non-members attending their culinary programs between 2013 and 2015 (Hendricks, Personal Communication, 2016). This suggests there is an opportunity for public horticulture institutions to analyze the membership status of culinary program participants to understand their unique audiences better. Knowing that participants in culinary arts programs have a higher income level, have been members for at least two years, and are dedicated to specifically attending these programs, there is potential for continued engagement both with other culinary programs and in providing philanthropic support.

The research suggests participants in culinary programs may be attracted to culinary programs for the social aspect more than other education programs' participants. More culinary program respondents (31.7%) and respondents who attended both types of programs (30.7%) indicated they were attracted to the programs because of the opportunity to attend with friends than respondents for other education programs (12.9%). Attendees at other education program are more interested in learning about the gardening topic and the qualifications of the instructors. While 67% of culinary programs' respondents indicated they were attracted to the programs because of a desire to learn more about the topic, this was less than the percentage for other education program respondents (87.9%). Instructor qualifications attracted only 20.7% of culinary program respondents, as compared with 37% of other education programs' respondents and 28.8% of respondents for both types of programs. Food and beverages are subjects that are relatable and lend themselves well to a social class or event atmosphere, so it is reasonable that participants would be more likely to use a culinary class or event as a reason to spend time with friends rather than to learn more about the subject matter. Culinary programs offer an opportunity for participants to socialize while also learning about a fun topic, such as beer or wine.

Connecting to the Institution

Participants in culinary programs are likely to feel just as connected to an institution as participants in other education programs. The total mean values for responses to questions measuring "feeling of connection to an institution" for both culinary programs and other education programs were equal, at a value of 3.4.

Culinary programs' respondents were slightly more likely to visit again in the next six months or in the next month than those from other education programs'

respondents. Participants in culinary programs are 1.2 times more likely to be members than participants in other education programs and free admission is a common benefit of membership to a public horticulture institution (Kuniholm, 2016). This member benefit could account for the slightly higher likelihood to visit the institution again in the short-term. The increased likelihood of culinary programs' participants to be members might also mean that they are more "bought in" to the institution and its mission than those who attend other education programs.

Participants who feel connected to an institution can serve as ambassadors to potential participants and visitors not familiar with the institution. Having past participants engage in word-of-mouth promotion and recommending the institution to their family and friends is a valuable marketing tool (The Nielsen Company, 2013). The best ambassadors for an institution are participants who attended both culinary and other types of education programs. Overall, they had a higher average for responses to the "feeling of connection to the institution" questions. They are most likely to volunteer of all the respondent groups, which could be considered the ultimate connection because they are donating their time. Respondents who attend both types of programs are experiencing the institution's programmatic offerings more thoroughly, thus it makes sense that they feel more connected to the institution. This group also comprised slightly more than a quarter of the respondents to the voluntary participant survey, which shows yet another level of connection.

Programmatic Impact

There is strong, continued interest in culinary topics (Wilkenning, 2011 and National Restaurant Association, 2014). The research supports this through the fact that

culinary programs are being offered at institutions throughout the United States and culinary program participants repeatedly and loyally attend culinary programs.

The data suggests public horticulture institutions have an opportunity to advance how they are viewed as a resource in the areas of agriculture, cooking and food choices, particularly if the institution wants to promote specific messages or ideas. Institutions could leverage their reputation in the area of plants to better communicate the connections between agriculture and horticulture. These institutions have an opportunity “to present many possible routes to a future of more sustainable agriculture,” and empower culinary program participants to make informed decisions (Miller, *et. al.*, 2015). The banner Chicago Botanic Garden uses for its cooking demonstrations (Figure 22) is an interesting juxtaposition of messaging and programs because the background image of multi-colored carrots evokes a sense of healthy eating or eating fresh fruits and vegetables.



Figure 22 A banner hanging in the Regenstein Fruit & Vegetable Garden's open-air amphitheater.

In terms of lifestyle choices made after attending culinary arts education programs, the greatest impacts were in two categories most related to plants and horticulture. Nearly half of culinary programs' respondents were inspired to grow herbs, fruit, or vegetables or purchase locally grown food somewhat or much more after they attended the program. The high regard respondents have for public horticulture institutions as a resource for information about plants and gardening may contribute to these results. The majority of respondents to the "other" category indicated they made other lifestyle changes that focused on trying new things. People considered "foodies" tend to be seen as more adventurous, which could partially explain the theme of trying new things seen in the text entry responses for other lifestyle choices.

Most of the institutions included in this research already integrate ideas of healthy eating, growing one's own food, or eating locally sourced food into their programs. Institutions accomplish this by selecting instructors or chefs that discuss these ideas during the program, selectively sourcing their ingredients or products used during the programs, and choosing topics for the programs that relate to these ideas. Many institutions also incorporate these ideas into their dining options through sourcing food locally or from the institution's gardens, having signage indicating the sources of the ingredients, and offering healthy options. By integrating these ideas into an institution's café or dining experiences, there are more collaboration opportunities between the institution and its restaurant/catering staff to offer unique culinary event and education programs that are unique to the institution.

Institutions also have the opportunity to promote ideas of eating healthy, growing one's own food, and eating food that is locally grown or produced by fully integrating these ideas into their general operations. Several institutions cited the limited control they have over café or dining options when working with an outside vendor or contractor as a challenge to accomplishing this goal.

Limitations and Opportunities for Future Research

There are limitations with the two methods of collecting data in this research: surveys and interviews. Surveys were sent directly by the institution without any contact from the researcher and response rate varied greatly. There was no incentive on the individual level for participating in the survey, only knowledge that this would help the institution with its programming. This could contribute to the large percentage of members having participated in the survey. While emails were sent to program participants, members are more likely to read emails from the institution and are more

connected and supportive of the institution. The survey respondents are not necessarily representative of past participants in all programs; surveys were only sent to past participants for which the institution had email addresses. Additionally, the logistics of surveying an institution's past participants as a third party requires a high level of communication and coordination between the third party and the institution, and may not be as effective as an institution's internally-driven survey. There is an opportunity for institutions to utilize the survey instrument created for this research to conduct their own research on their constituencies and discover important information about their audience.

Interviews were conducted with a limited number of staff from each institution, which varied from one to four people. Interviewees provided as much information as possible; however, specific interviewees may not have known all the detailed information about culinary programming at their institution. This research also focused on adult programs, and many institutions that have resources for culinary programming also offer programming for children and young adults. Future research could focus on understanding how programs aimed at different age groups are conducted to contribute to a more complete understanding of culinary arts programs.

Best Practice Recommendations

Public horticulture institutions are creative with using their spaces to accommodate various culinary programs, which is evidenced by the 12 institutions offering culinary programs that do not have a specific kitchen space to support the programs. Though this creativity is helpful for beginning programs, it can become a challenge if there is a desire to expand programs beyond the realistic use of multi-purpose spaces given the additional staff time needed for the programs. This research shows that not having a suitable kitchen space or not having a garden to support programs is a

constraint on creating additional programming. Effective and thoughtful planning is critical for designing facilities to be most useful for culinary programs. Researching food safety requirements and alcoholic beverage serving protocols during the planning process is important for minimizing the risk of offering these programs (Vogel, 2011). In the state of Delaware, public horticulture institutions may not need to apply for a Food Establishment Permit if they have a “clearly visible placard at the sales or service location that the food is prepared in a kitchen that is not subject to regulation and inspection by the Division of Public Health” (Delaware Health and Social Services, 2015).

With data collected through interviews and site visits, the following are suggestions for creating or expanding culinary programs at a public horticulture institution:

- **Determine the specific goals to be achieved through offering culinary arts programming.** Both short-term and long-term goals are important to consider because of potential space accommodations. Be realistic with the timeframe in which the programs will be offered; going from no programming to a robust schedule can be difficult, as evidenced by the KITCHEN at the Boston Public Market.
- **Decide upon the types of programs that will best achieve these goals.** For example, if a goal were to enhance the visitor experience, a drop-in tasting program like Fresh Bites at Powell Gardens or an event such as the Mango or Chocolate Festivals at Fairchild Tropical Botanic Garden would be a better choice than a single class requiring registration.
- **Assess available resources and facilities with regard to what will be needed for the programs.** This includes budget, staff (both from the institution and external instructors), volunteers, physical spaces (including kitchen, classroom, and garden areas), partnerships, and sponsorships.
- **Create a plan to fulfill the resources needed.** It is highly recommended to leverage partnerships and sponsorships with local

organizations and businesses to assist with the financial costs of these programs.

Also based on interviews in this research, the following guidelines are recommendations for each type of culinary program. For all the programs, having a garden space that in some way supports the programs is a valuable educational tool.

- Single classes/lectures and series programs:
 - Seek dynamic instructors, either experts in a specific culinary area or chefs, depending on the program.
 - Use produce from the institution's gardens or source ingredients/products with regard to the desired message to be communicated (from a farmers' market, natural food store, etc.).
 - Ensure that what instructors are doing is clearly visible to the students, and that what they are saying is clearly heard.
 - Ask instructors to promote participation in the institution's programs to their audiences.
- Drop-in programs:
 - Understand these programs will likely not generate revenue. Sponsorships and donated chef/instructor time is valuable for these programs.
 - Have a garden and/or kitchen demonstration space to allow these programs to be most successful.
 - Ask instructors to promote participation in the institution's programs to their audience.
- Event programs:
 - Leverage the institution's unique spaces and collections to create an experience specific to the institution.
 - Work with a sponsor or multiple sponsors to ensure events are financially sustainable, including supply costs and staff time.

- Use events as a way to cultivate and/or thank donors to your institution

This research provides a starting point for institutions who are interested in creating culinary arts programs, or who would like to refine and/or expand their current offerings. It is important to note that culinary programs are closely tied to the missions of public horticulture institutions and do engage another audience (13% of survey respondents) that does not attend traditional education programs. The Millennial audience is not well represented in the survey research; however, the type of programs they appear to attend are culinary events and there is opportunity to engage them in single classes with niche topics. Participants in culinary programs are likely seeking a different, more social experience than participants in other education programs. Participants who attend both culinary and other educational programs can be the institution's best advocates and a valuable asset for philanthropic gifts. Through culinary programs, institutions are moving the needle slightly when it comes to influencing actions of participants related to food choices. Successful programs require strategic and thoughtful planning to ensure classes and events can be adequately supported.

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Appendix A

**UNIVERSITY OF DELAWARE INSTITUTIONAL REVIEW BOARD
APPROVAL LETTERS**



RESEARCH OFFICE

210 Hüllihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE: April 23, 2015

TO: Mackenzie Fochs
FROM: University of Delaware IRB

STUDY TITLE: [749209-1] Quantifying and Justifying Culinary Arts Programming at Public Horticulture Institutions

SUBMISSION TYPE: New Project

ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: April 23, 2015

REVIEW CATEGORY: Exemption category # (2)

Thank you for your submission of New Project materials for this research study. The University of Delaware IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office. Please remember to notify us if you make any substantial changes to the project.

If you have any questions, please contact Nicole Farnese-McFarlane at (302) 831-1119 or nicolefm@udel.edu. Please include your study title and reference number in all correspondence with this office.



RESEARCH OFFICE

210 Hullihen Hall
University of Delaware
Newark, Delaware 19716-1551
Ph: 302/831-2136
Fax: 302/831-2828

DATE: July 27, 2015

TO: Mackenzie Fochs
FROM: University of Delaware IRB

STUDY TITLE: [749209-2] Quantifying and Justifying Culinary Arts Programming at Public Horticulture Institutions

SUBMISSION TYPE: Amendment/Modification

ACTION: DETERMINATION OF EXEMPT STATUS
DECISION DATE: July 27, 2015

REVIEW CATEGORY: Exemption category # (2)

Thank you for your submission of Amendment/Modification materials for this research study. The University of Delaware IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will put a copy of this correspondence on file in our office. Please remember to notify us if you make any substantial changes to the project.

If you have any questions, please contact Nicole Farnese-McFarlane at (302) 831-1119 or nicolefm@udel.edu. Please include your study title and reference number in all correspondence with this office.

Appendix B

QUESTIONS ASKED DURING EXPLORATORY DISCUSSIONS

1. Do you track demographic data of event and class participants? What information do you collect with surveys?
2. Do you offer alcohol-related classes?
3. Do any alcohol related classes have different demographics than the other classes?
4. Have you noticed different demographics coming to culinary classes and non-culinary classes?
5. What is the rate of members taking your classes?
6. What is your philosophy on offering culinary classes to your audience?
7. For distributing the survey, would I be able to have access to emails or would it have to go through you?
8. Do you have a list of classes that have been offered for the last 2-3 years?
9. How do the culinary classes relate to the mission of (the institution)?

Appendix C

PROGRAM INFORMATION REQUEST QUESTIONS

1. What is the name of your institution?
2. What is your contact information or the contact information of a staff member who can be contacted for further information?
3. Does your institution offer culinary arts programming such as a dinner series or classes using fresh fruits, vegetables, or herbs to make a meal, food, or beverage?
 - a. If not, have you considered offering these types of programs?
 - i. If you have considered offering these programs, what has kept you from doing so?
 - b. If so, when did you begin offering these programs?
 - c. If so, do you have a dedicated garden to support these programs?

Appendix D

PROGRAM INFORMATION REQUEST POST IN AMERICAN PUBLIC GARDENS ASSOCIATION DISCUSSION FORUMS

Dear Colleagues,

My name is Mackenzie Fochs and I am a first year Fellow in the Longwood Graduate Program in Public Horticulture. For my thesis research, I will be looking at culinary arts programming at public horticulture institutions and I am currently trying to determine which institutions to use in further case studies. Further information about my research is below.

Even if you do not offer a culinary-related program, it would be a great help for you to take 2-3 minutes to fill out the following [Program Information Request](#). It consists of the following questions:

What is the name of your institution?

What is your contact information or the contact information of a staff member who can be contacted for further information?

Does your institution offer culinary arts programming such as a dinner series or classes using fresh fruits, vegetables, or herbs to make a meal, food, or beverage?

If not, have you considered offering these types of programs?

If you have considered offering these programs, what has kept you from doing so?

If so, when did you begin offering these programs?

If so, do you have a dedicated garden to support these programs?

I will send results from my research to all who submit contact information in this request, which will be done in spring of 2016. If you have any questions, feel free to contact me at mfochs@udel.edu.

Program Information Request Link: [Submit information now](#)

Summary of research:

I will be focusing on two different kinds of culinary arts programming: *event programs* where the purpose is to expose participants to the public horticulture institution

and *education programs* where the purpose is to educate participants about a specific culinary topic. An example of an event program is a dinner series featuring a local chef. An example of an education program is a class that demonstrates how fresh fruits, herbs, and vegetables can be used in cocktails and cordials.

The objectives of my research are as follows:

- 1) To define the variety of culinary arts programs offered at public horticulture institutions and understand how they fit with the missions of each institution.
- 2) To define demographics of culinary arts program participants at ten public horticulture institutions.
- 3) To understand the difference between culinary event programs and culinary education programs in their effect on membership, return visits, and feeling of connection to the institution.
- 4) To determine impact of culinary arts programming on the decisions participants make related to program topics.

Thank you in advance for your help!

Mackenzie

Appendix E

EMAIL SENT TO PROGRAM INFORMATION REQUEST RESPONDENTS

Dear Name and Name,

Thank you for responding to my Program Information Request regarding culinary arts programs at public horticulture institutions. I would like to include INSTITUTION as a case study for my research.

When would you or another staff member have availability to do a phone interview regarding the education culinary arts programs at INSTITUTION?

I look forward to speaking with you further and hope you have a nice week!

Best,
Mackenzie

Appendix F

INFORMED CONSENT TO PARTICIPATE IN RESEARCH

INFORMED CONSENT TO PARTICIPATE IN RESEARCH

Title of Project: Quantifying and Justifying Culinary Arts Programming at Public Horticulture Institutions

Principal Investigator(s): Mackenzie Fochs

You are being invited to participate in a research study. This consent form tells you about the study including its purpose, what you will be asked to do if you decide to take part, and the risks and benefits of being in the study. Please read the information below and ask us any questions you may have before you decide whether or not you agree to participate.

WHAT IS THE PURPOSE OF THIS STUDY?

The purpose of this study is to determine what public horticulture institutions gain from providing culinary event programs and culinary education programs.

This research will look at two different kinds of culinary arts programming at public horticulture institutions (places where the public can view gardens): event programs where the purpose is to expose participants to the public horticulture institution and education programs where the purpose is to educate participants about a specific culinary topic. An example of an event program is a dinner series featuring a local chef. An example of an education program is a class that demonstrates how fresh fruits, herbs, and vegetables can be used in cocktails and cordials. Programs with an additional component, such as planting an herb garden, will not be included in this research. Events such as Breakfast with Santa or the Easter Bunny will also not be included. Objectives to fulfill the purpose of this project are:

1. To define the variety of culinary arts programs offered at public horticulture institutions and understand how they fit with the missions of each institution.
2. To define demographics of culinary arts program participants at ten public horticulture institutions.
3. To understand the difference between culinary event programs and culinary education programs in their effect on membership, return visits, and feeling of connection to the institution.
4. To determine impact of culinary arts programming on the decisions participants make related to program topics

You will be one of approximately 10 participants in this case study. You are being asked to participate because you responded to the Program Information Request that your institution provides culinary arts event or education programs.

WHAT WILL YOU BE ASKED TO DO?

As part of this study you will be asked to answer several questions regarding your institution and culinary arts programs provided.

WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?

Your participation in this study will not expose you to any risks different from those you would encounter in daily life.

WHAT ARE THE POTENTIAL BENEFITS?

Participants in this case study will receive a summary of findings and conclusions from this research. The knowledge gained from this research will help inform future culinary arts programming efforts at public horticulture institutions.

WHO MAY KNOW THAT YOU PARTICIPATED IN THIS RESEARCH?

The PI and the research committee will know participant information which will be kept confidential to the extent possible. Quotes in the final thesis will be attributed in the final thesis upon written consent from the participants. Electronic research records will be secured on a password-protected computer. Paper research records will be secured in a locked desk at the University of Delaware. Records will be kept for the minimum 3 years after completion of this research.

Audio recordings of interviews will be transcribed and in turn deleted within one week of recording.

WILL THERE BE ANY COSTS TO YOU FOR PARTICIPATING IN THIS RESEARCH?

There are no costs associated with participating in this case study.

WILL YOU RECEIVE ANY COMPENSATION FOR PARTICIPATION?

There is no compensation for participation in this case study.

DO YOU HAVE TO TAKE PART IN THIS STUDY?

Taking part in this research study is entirely voluntary. You do not have to participate in this research. If you choose to take part, you have the right to stop at any time. If you decide not to participate or if you decide to stop taking part in the research at a later date, there will be no penalty or loss of benefits to which you are otherwise entitled. Your decision to stop participation, or not to participate, will not influence current or future relationships with the University of Delaware.

WHO SHOULD YOU CALL IF YOU HAVE QUESTIONS OR CONCERNS?

If you have any questions about this study, please contact the Principal Investigator, Mackenzie Fochs at 715-573-3988 or mfochs@udel.edu or Susan Barton at 302-831-1375 or sbarton@udel.edu.

If you have any questions or concerns about your rights as a research participant, you may contact the University of Delaware Institutional Review Board at hsrb-research@udel.edu or (302) 831-2137.

Your signature on this form means that: 1) you are at least 18 years old; 2) you have read and understand the information given in this form; 3) you have asked any questions you have about the

research and the questions have been answered to your satisfaction; and 4) you accept the terms in the form and volunteer to participate in the study. You will be given a copy of this form to keep.

_____ Printed Name of Participant	_____ Signature of Participant	_____ Date
_____ Person Obtaining Consent (Mackenzie Fochs)	_____ Person Obtaining Consent (SIGNATURE)	_____ Date

Appendix G

QUESTIONS FOR CASE STUDY INTERVIEWS

1. What are the specific programs you offer that fit into the culinary event and culinary education program categories? What is the frequency of these programs?
2. What is the mission of (institution)?
3. How do the culinary event and education programs support or fit within the mission?
4. What was the impetus for beginning these programs?
5. If you have a garden to support these programs, how are you leveraging that asset? What are the greatest challenges you have faced with the space? Do you have any suggestions for gardens that are considering adding a garden or kitchen to support culinary programs?
6. Are you trying to reach a different audience by offering the culinary arts programs? If so, what is this audience and have you anecdotally noticed this audience attending your programs?
7. Are you trying to promote healthy eating, growing or cooking your own food, or eating locally sourced food? If so, how are you communicating this message? Have you heard of any “success” stories because of your programs?
 - a. If you have a café or dining area: how do these ideas relate to the café, its messaging, and the selection of food being offered?

8. Are you considering enhancing or adding culinary offerings? If so, what do you have in mind?
9. What is the average operating budget of your institution and how many full-time employees are there?
10. Is there anything else you would like to share with me?
11. Do you have any questions regarding this research?

Appendix H

INITIAL SURVEY TO THE MINNESOTA LANDSCAPE ARBORETUM

1. Agreement

Hello,

My name is Mackenzie Fochs and I am a graduate student at the University of Delaware in the [Longwood Graduate Program in Public Horticulture](#). This program, a partnership between [Longwood Gardens](#) and the [University of Delaware](#), prepares students for leadership positions at public gardens and cultural institutions.

This survey is part of my research to understand the effects of culinary arts programs at public gardens and arboreta. You will be asked to answer questions regarding your participation in general education programs and culinary education programs at the [Minnesota Landscape Arboretum](#) as well as demographic information. The survey should take approximately 5-7 minutes.

Your responses are voluntary and stored separately from identifying information. A summary report of data will be provided to the [Minnesota Landscape Arboretum](#) at the end of my research to help inform future programs.

If you have any questions about the research, please contact me at mfochs@udel.edu.

Thank you in advance for your time and participation.

Mackenzie Fochs

Select agree to continue:

Agree

Disagree

*If disagree is selected, survey taker will be directed to the end of survey message.

2. General Questions- all answer if they agree to participate

Which of the following education programs have you attended at the (INSERT INSTITUTION HERE) since January 2013? (Select all that apply)

I have attended culinary arts education programs such as: chef demonstrations, dinner series, classes using fruit, vegetables, or herbs to make a meal, food, or beverage, or classes with a focus on the plants used in a product or food in general.

I have attended a culinary arts event program such as: (defined variety of event programs)

I have attended education programs unrelated to culinary arts.

I have never attended an education program at (INSERT INSTITUTION HERE)

*If never attended an education program, survey taker will be directed to the end of survey message.

What attracted you to the program(s) you attended? Select all that apply.

Desire to learn more about topic

Instructor qualifications

Prior knowledge about the (INSERT INSTITUTION HERE)

Time of program

Price of program

Location of program

Opportunity to attend with friend(s)

Given as a gift

Other (allow text entry)

How many times did you visit the (INSERT INSTITUTION HERE) before attending the program?

None

Once

2-3 times

4-6 times

7-10 times

More than 10 times

How many times have you visited the (INSERT INSTITUTION HERE) since attending the program?

None

Once

2-3 times

4-6 times

7-10 times

More than 10 times

3. If “Culinary Arts Event Programs” is selected:

Have you attended a culinary arts-related *education* program at the (INSERT INSTITUTION HERE)? Examples: chef demonstrations, dinner series, classes using fruit, vegetables, or herbs to make a meal, food, or beverage, or classes with a focus on the plants used in a product or food in general

Yes

No

Do you view the (INSERT INSTITUTION HERE) as a reputable resource for information about the following:

Yes

No

Cooking

Food choices

Plants

Gardening

Agriculture

4. If “Culinary Arts Education Programs” is selected:

Please select any lifestyle changes you made after attending the program (select all that apply):

Made healthier eating choices

Prepared meals for myself/my family more often

Planted vegetables, herbs, or fruit

Maintained vegetables, herbs, or fruit

Purchased food from a farmer’s market

Purchased locally grown food

Other (allow text entry)

Do you view the (INSERT INSTITUTION HERE) as a reputable resource for information about the following:

Yes

No

Cooking

Food choices

Plants

Gardening

Agriculture

If institution offers culinary events:

Please select all of the culinary events you have attended at (INSERT INSTITUTION HERE):

5. Feeling of connection: All answer

How welcome did you feel when you arrived to the (INSERT INSTITUTION HERE)?

Sliding bar: 1-5

5 = Very welcome, 1= Very unwelcome

How likely are you to recommend visiting the garden to your friends?

Very Unlikely

Unlikely

Likely

Very Likely

How likely are you to recommend attending an education program to your friends?

Very Unlikely

Unlikely

Likely

Very Likely

How likely are you to visit the (INSERT INSTITUTION HERE) in the next:

	Very Unlikely	Unlikely	Likely	Very Likely
Year				
6 Months				
Month				

6. Demographic info: all answer

Are you a member of the (INSERT INSTITUTION HERE)?

Yes

No

If yes:

How long have you been a member?

Less than 1 year

1-2 years

3-5 years

5-7 years

7-10 years

11+ years

Did you become a member before or after attending the program(s)?

Before

After (select this option if you became a member during the program)

What is your gender?

Male

Female

Prefer not to answer

What is your age group:

18-24

25-35

36-45

46-60

60-75

76+

What is your ethnic/racial identity? (Select all that apply)

African American

Asian

Hispanic

Native American

Pacific Islander

White/Caucasian

Other

Please provide your ZIP code (United States only):

Text entry, validated for US postal codes

What is your combined annual household income?

Less than 30,000

30,000-39,999

40,000-49,999

50,000-59,999

60,000-69,999

70,000-79,999

80,000-89,999

90,000-99,999

100,000 or more

What is the highest level of education you have completed?

Less than High School

High School/GED
Some College
2-year College Degree
4-year College Degree
Masters Degree
Doctoral Degree
Professional Degree (JD, MD)

Please use the space below for any additional information you would like to share regarding culinary arts programs at (INSERT INSTITUTION HERE):

End of Survey Message:

(Longwood Graduate Program Logo image)

Thank you for taking time to complete this survey on education program participation at the (INSERT INSTITUTION HERE). Your responses are valuable for public gardens across the country to improve their culinary arts programs.

If you have any questions, please do not hesitate to contact me at mfochs@udel.edu. I anticipate sharing my research results in Spring 2016.

Have a great day!

Mackenzie Fochs
Second Year Fellow
Longwood Graduate Program in Public Horticulture

Appendix I
UPDATED SURVEY

1. Agreement

Hello,

My name is Mackenzie Fochs and I am a graduate student at the University of Delaware in the Longwood Graduate Program in Public Horticulture. This program, a partnership between Longwood Gardens and the University of Delaware, prepares students for leadership positions at public gardens and cultural institutions.

This 5-7 minute survey is part of my research to understand the effects of culinary arts programs at public gardens and arboreta. The INSTITUTION will receive a summary report of data at the end of my research to help inform future programs.

You will be asked to answer questions regarding your participation in general education programs and culinary education and event programs at the INSTITUTION as well as demographic information. Your responses are voluntary and stored separately from identifying information.

If you have any questions about the research, please contact me at mfochs@udel.edu.

Thank you in advance for your time and participation.

Mackenzie Fochs

Select agree to continue:

Agree

Disagree

*If disagree is selected, survey taker will be directed to the end of survey message.

2. General Questions- all answer if they agree to participate

Which of the following education programs have you attended at the INSTITUTION since January 2013? (select all that apply)

I have attended culinary arts education programs such as: chef demonstrations, dinner series, classes using fruit, vegetables, or herbs to make a meal, food, or beverage, or classes with a focus on the plants used in a product or food in general.

I have attended a culinary arts event program such as: (defined variety of event programs)

I have attended education programs unrelated to culinary arts.

I have never attended an education program at INSTITUTION

*If never attended an education program, survey taker will be directed to the end of survey message.

What attracted you to the program(s) you attended? Select all that apply.

Desire to learn more about topic

Instructor qualifications

Prior knowledge about the institution

Time of program

Price of program

Location of program

Opportunity to attend with friend(s)

Given as a gift

Other (allow text entry)

How many times did you visit the INSTITUTION before attending the program?

None

Once

2-3 times

4-6 times

7-10 times

More than 10 times

How many times have you visited the INSTITUTION since attending the program?

None

Once

2-3 times

4-6 times

7-10 times

More than 10 times

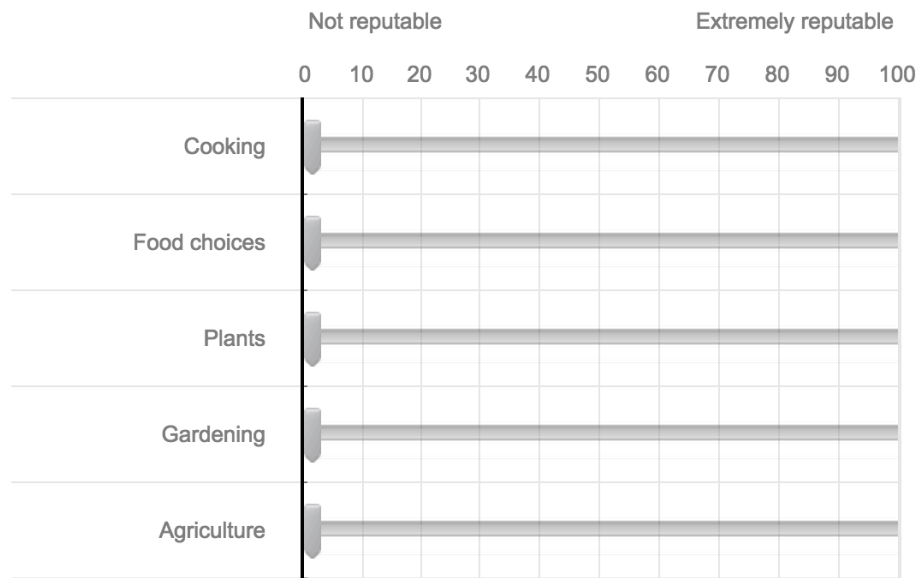
3. If “Culinary Arts Event Programs” is selected:

How much do you view the INSTITUTION as a reputable resource for information regarding the following:

For each topic: sliding scale from 0 to 100, 0 = Not reputable and 100 = Extremely reputable

Cooking
Food choices
Plants
Gardening
Agriculture

How much do you view the INSTITUTION as a reputable resource for information regarding the following:



4. If “Culinary Arts Education Programs” is selected:

Please indicate any lifestyle changes you made after attending the program:

Made healthier eating choices
Prepared meals for myself/my family
Inspired to grow vegetables, herbs, or fruit
Purchased locally grown food
Other (allow text entry)

Matrix with choices of:

Much Less
Somewhat Less
The Same
Somewhat More
Much More

Please indicate any lifestyle changes you made after attending the program:

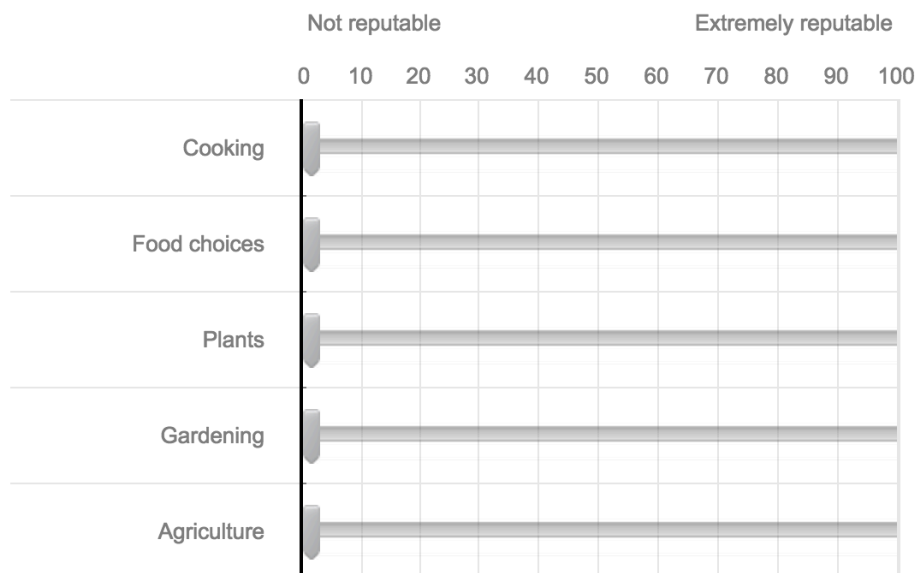
	Much Less	Somewhat Less	The Same	Somewhat More	Much More
Made healthier eating choices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared meals for myself/my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inspired to grow vegetables, herbs, or fruit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchased locally grown food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much do you view the INSTITUTION as a reputable resource for information regarding the following:

For each topic: Sliding scale from 0 to 100, 0 = Not reputable and 100 = Extremely reputable

Cooking
Food choices
Plants
Gardening
Agriculture

How much do you view the INSTITUTION as a reputable resource for information regarding the following:



If institution offers culinary events:

Please select all of the culinary events you have attended at INSTITUTION:
(list of events from institution)

5. Feeling of connection: All answer

How welcome did you feel when you arrived to the INSTITUTION?

Sliding bar: 1-5

5 = Very welcome, 1 = Very unwelcome

How welcome did you feel when you arrived at the Missouri Botanical Garden?

5 = Very welcome 1 = Very unwelcome



How likely are you to recommend visiting the INSTITUTION to your friends?

Very Unlikely

Unlikely
Likely
Very Likely

Culinary Education Programs:

How likely are you to recommend attending an education program to your friends?

Very Unlikely
Unlikely
Likely
Very Likely

Culinary Event Programs:

How likely are you to recommend attending an event at the INSTITUTION to your friends?

Very Unlikely
Unlikely
Likely
Very Likely

How likely are you to visit the INSTITUTION in the next:

	Very Unlikely	Unlikely	Likely	Very Likely
Year				
6 Months				
Month				

Do you currently volunteer at INSTITUTION?

Yes
No

If no:

How willing are you to volunteer your time at INSTITUTION:

Sliding bar: 1-5

5 = Very willing, 1= Not willing

How willing are you to volunteer your time at the Missouri Botanical Garden?
 5 = Very willing
 1 = Not willing



Are you a member of the INSTITUTION?

Yes

No

If yes:

How long have you been a member?

Less than 1 year

1-2 years

3-5 years

5-7 years

7-10 years

11+ years

Did you become a member before or after attending the program(s)?

Before

After (select this option if you became a member during the program)

6. Demographic info: all answer

What is your gender?

Male

Female

Prefer not to answer

What is your age group:

18-24

25-35

36-45

46-60

60-75

76+

What is your ethnic/racial identity? (select all that apply)

African American
Asian
Hispanic
Native American
Pacific Islander
White/Caucasian
Other

Please provide your ZIP code (United States only):

Text entry, validated for US postal codes

What is your combined annual household income?

Less than 30,000
30,000-39,999
40,000-49,999
50,000-59,999
60,000-69,999
70,000-79,999
80,000-89,999
90,000-99,999
100,000 or more

What is the highest level of education you have completed?

Less than High School
High School/GED
Some College
2-year College Degree
4-year College Degree
Masters Degree
Doctoral Degree
Professional Degree (JD, MD)

Please use the space below for any additional information you would like to share regarding culinary arts programs at INSTITUTION:

End of Survey Message:

(Longwood Graduate Program Logo image)

Thank you for taking time to complete this survey on education program participation at the INSTITUTION. Your responses are valuable for public gardens across the country to improve their culinary arts programs.

If you have any questions, please do not hesitate to contact me at mfochs@udel.edu. I anticipate sharing my research results in Spring 2016.

Have a great day!

Mackenzie Fochs

Class of 2016

Longwood Graduate Program in Public Horticulture

Appendix J

EMAILS TO MINNESOTA LANDSCAPE ARBORETUM CONTACTS

Pilot Email

----- Forwarded message -----

From: MN Landscape Arboretum <arbedu@umn.edu>

Date: Wed, Jul 22, 2015 at 4:21 PM

Subject: NEW Arboretum Classes - Food & Wine Edition!

To: "Jill R. Leenay" <leen0014@umn.edu>



July 22, 2015

Food & Wine Edition - NEW! Fall/Winter Classes

Cook up some fun at the Arboretum this season! Whether you're an experienced cook, a foodie or a newbie, you'll meet fun new people and discover delicious new ways to enjoy your love of plants and food!

[All Food & Wine Classes](#)

Dinner With a Chef Classes

You are invited to be the personal guest of an acclaimed local chef for a multi-course educational dinner & wine experience. You'll meet fellow enthusiasts of fresh seasonal dining, get insider cooking tips, receive recipes and wine notes, and get recommendations on where to find the best ingredients.

Each class is \$65 members/\$77 non-members, includes Arboretum admission and multi course learn-watch-dine-sip experience.



FEATURED CLASS [Harvest Dinner with Coalition Restaurant and ENKI Brewing](#)

Thursday, October 8, 6:30 p.m. - 8:30 p.m.

*Eli Wollenzein, Executive Chef and co-owner, Coalition Restaurant
Karie Menser McDougall, Instigator of Camaraderie, ENKI Brewing Company*

October is a rich season for local foods. Cooler temps bring a renewal of early-

- You replied on 7/23/2015 4:22 PM.



October is a rich season for local foods. Cooler temps bring a renewal of early-summer greens that combine with late-summer bounty and fall flavors to make the most nutritious and delicious meals of the year. It's also the traditional time to celebrate the abundance of locally grown and brewed beer. Join Eli and Karie as they serve up a menu that combines some special autumn dishes with the best of ENKI's local harvest-season beers. Dinner with a Chef is a social, educational program that serves up a multi-course meal and paired beer tastings while you learn.

MORE "DINNER WITH A CHEF" CLASSES

July 23 [Sea Change Dinner](#) (Seafood Theme) **SOLD OUT**

August 20 [Corner Table Dinner](#) (Seafood Theme) **SOLD OUT**

September 17 [Saffron Restaurant Dinner](#) (Seafood Theme) **SOLD OUT**

October 29 [Guatemala's Day of the Dead Dinner](#) (Latin Theme) **NEW!**

January 21 [Cooking El Salvador](#) (Latin Theme) **NEW!**

February 4 [Oceanaire Mardi Gras Dinner](#) (Seafood Theme) **NEW!**

Saturday in the Kitchen Classes

If you're looking for some get hands-on learning with unique foods and new recipes, we invite you into our kitchen! You'll work in fun, social teams to cook up multiple recipes with fresh, seasonal ingredients, and often get to bring home the delicious leftovers.

Each class is \$39 members/\$51 non-members, includes Arboretum admission and all ingredients



FEATURED CLASS [Preserving Summer: Quick Pickles & Chutneys](#)

Saturday, October 17, 9:00 a.m. - 11:00 a.m.

Kris James, chef, certified herbalist, author, and co-owner of Unearthed Arts

Quick pickles aren't complicated and don't require any special equipment or fancy kitchen gadgets. So let's get a little "crazy" and explore some worldly recipes, including:

Malaysian acar - a delicious mixed pickle of cucumber, carrot and shallots, flavored with mustard seeds and antioxidant-rich turmeric

Pineapple sambol - a flavorful chutney-like relish from Sri Lanka infused with

fresh ginger, garlic and spice.

MORE "SATURDAY IN THE KITCHEN" CLASSES

August 15 [Herb Pairings and Spice Blends in Cooking - "Best Buds" Combinations](#) **SOLD OUT**

September 19 [Wild & Cultivated Mushroom Marvels, plus Walk](#)

November 14 [Lotions and Creams: The Healing Powers of Botanicals and Essential Oils](#) **NEW!**

November 21 [Appetizers for All: Prepping and Styling the Perfect Holiday Party](#) **NEW!**

December 12 [Sweet and Savory: The Secrets to Making Elegant Meals at Home](#) **NEW!**

January 30 [Winter Squash: Still Local in Mid-Winter!](#) **NEW!**

February 6 [Sweets for Your Sweetie: Valentine Treats Sweetened By Nature](#) **NEW!**

February 27 [Gluten-Free Baking: Cookies](#) **NEW!**

March 12 [A Wee Celtic Cuppa](#) **NEW!**

Share your thoughts!



University of Delaware graduate student Mackenzie Fochs needs your input about education programs at the Minnesota Landscape Arboretum. She is researching the effects of culinary arts programs at public gardens and arboreta across the United States as part of the Longwood Graduate Program in Public Horticulture. Please take five minutes to [fill out the survey here](#)

View more NEW Fall/Winter Classes

[PHOTOGRAPHY](#)

[GARDENING AND HORTICULTURE](#)

[HOLIDAY BOTANICAL DESIGN](#)

[NATURE-BASED THERAPEUTICS](#)



University of Minnesota Landscape Arboretum

3675 Arboretum Drive, Chaska MN 55318

Phone: 612.301.1210 | Email: arbedu@umn.edu

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October Email

From: MN Landscape Arboretum <arbedu@umn.edu>

Date: Wed, Oct 14, 2015 at 8:46 AM

Subject: NEW Arboretum Classes: Photography Edition!

To: "Jill R. Leenay" <leen0014@umn.edu>



October 14, 2015

Photography Edition - NEW! Fall/Winter Classes


[Arboretum Photography Classes](#)
[All Arboretum Classes](#)

photography classes sponsored by **TAMRON** Since 1961 **National Camera Exchange** +Video

SHARE YOUR THOUGHTS!

- Have a suggestion for an Arboretum class on any topic? Tell us your ideas for classes [here](#)
- University of Delaware graduate student Mackenzie Fochs needs your input about education programs at the Minnesota Landscape Arboretum. She is researching the effects of culinary arts programs at public gardens and arboreta across the United States as part of the Longwood Graduate Program in Public Horticulture. Please take five minutes to fill out the survey [here](#)

OCTOBER PHOTOGRAPHY CLASSES



FEATURED CLASS: [Introduction to Lightroom](#)
Saturday, October 17 (AFTERNOON), 1:30 p.m. - 4:30
\$69 members/\$84 non-members, includes Arboretum admission

Level: All levels

One of the best applications available for post-camera editing of photographs is Adobe Lightroom. This class will introduce you to the



Level: All levels

One of the best applications available for post-camera editing of photographs is Adobe Lightroom. This class will introduce you to the program's features and tools and teach you how to bring your imagery to a higher quality level. You'll learn how to make exposure adjustments, improve contrast and color saturation, and bring clarity and focus to an image. You will remove unwanted spots and red eye and discuss histograms and how to adjust them. You will become comfortable making numerous other improvements and leave confident in your ability to make your images the very best they can be. Required equipment: Bring your DSLR camera and your laptop pre-loaded with Adobe Lightroom to class.

OCTOBER: ADDITIONAL PHOTOGRAPHY CLASSES

Saturday, October 17 (MORNING) [Introduction to Lightroom](#) \$69/\$84 1 SPOT LEFT

Sunday, October 18 [Raptor Photography: Exclusive Camera Access](#) \$109/\$129 1 SPOT LEFT

NOVEMBER PHOTOGRAPHY CLASSES



FEATURED CLASS: [Raptor Photography: Exclusive Camera Access](#)

Saturday, November 14, 10 a.m. - 3 p.m.

\$109 members/\$129 non-members, includes Arboretum admission

Level: All levels

Owls, vultures, and eagles, oh my! Experience a unique opportunity to photograph mighty raptors in a controlled, safe and natural setting at the Arboretum. Members of the University of Minnesota Raptor Center will bring an assortment of live birds for your photographing pleasure, and will teach about each one. Popular photography instructor and professional artist, *Carlyn Iverson*, will provide helpful instruction on tips and techniques to help you capture stunning images of these magnificent creatures. In class, participants will learn how to control your camera for wow-worthy images from distances of 5-20 feet away (in class) as well as longer distances (in the field). This special shoot is for all levels - the instructor will work personally with each participant. A portion of this class' fees go to benefit the Raptor Center. Recommended equipment: 90 mm and higher focal-length lenses.

NOVEMBER: ADDITIONAL PHOTOGRAPHY CLASSES

Saturday, November 7 [Photographing the Night Sky: Exclusive Camera Access](#) \$109/\$129 SOLD OUT

DECEMBER PHOTOGRAPHY CLASSES



NEW, JUST ADDED! FEATURED CLASS: [Holiday Lights Photography](#)

Thursday, December 10th, 4 p.m. - 6 p.m.

\$74 members/\$89 non-members, includes Arboretum admission

Level: *Advanced Beginner to Intermediate*

Prerequisite: *Arboretum's Basic Digital Photography for Nature Photographers class or familiarity with manual operation of your DSLR camera.*

Capture the wonder of the holiday season! For the first time in recent memory, the Arboretum Visitor Center will be lit with thousands of holiday lights this season, complete with a dazzling evergreen tree that will greet visitors with a welcoming glow. During this mini-workshop, popular photography instructor, *John Pennoyer*, will guide you through 30 minutes of instruction and 90 minutes of hands-on practical experience that will teach you how to capture the beauty of the Arboretum lights at dusk. You'll learn tricks to capturing human subjects among the lights, how to use bokeh effects to shift or draw focus, and tips on using exposure, aperture and shutter speed to capture holiday card-worthy images you'll be proud to post! **Required equipment:** DSLR camera, a sturdy tripod, remote or cable release, small flashlight, lenses from wide angle to around 150mm.

DECEMBER: ADDITIONAL PHOTOGRAPHY CLASSES

No other photography classes in December. Try a fun [Wreath or Garland making class](#)!

JANUARY PHOTOGRAPHY CLASSES



NEW, JUST ADDED! FEATURED CLASS: [Food Photography](#)

Saturday, January 23, 10 a.m. - 1 p.m.

\$74 members/\$89 non-members, includes Arboretum admission

Level: *All levels*

Don't let your food photography be bland! All too often, when trying to capture the beauty of a plated dish, garden-fresh produce, or a fresh-out-of-the-oven delight, images can disappoint by falling flat of expectations. This workshop will teach participants how to capture and share the art of kitchen creations using food artistry, ambient lighting, textures, lenses and

Saturday, January 9 [Winter Light: Photographing Winter Wonders](#) \$109/\$129

Saturday, January 16 [Introduction to Lightroom](#) \$69/\$84

Saturday, January 16 [Intermediate Lightroom](#) \$69/\$84

FEBRUARY PHOTOGRAPHY CLASSES



FEATURED CLASS: [Winter Light: Photographing Winter Wonders](#)

Saturday, February 6, 11 a.m. - 3 p.m.

\$109 members/\$129 non-members, includes Arboretum admission

Level: All levels

Winter can yield surprisingly beautiful images - it's one of instructor *John Pennoyer's* favorite seasons for shooting pictures.

Photographers of all skill levels will discuss multiple aspects of winter photography: dressing to protect yourself and your gear from the elements, winter light, correct exposure for winter landscapes, and shooting in very cold weather. You will spend plenty of time shooting scenes outdoors at the Arboretum in the breathtaking light of a winter afternoon. Required equipment: DSLR camera, a sturdy tripod, remote or cable release, small flashlight, lenses from wide angle to around 150mm.

FEBRUARY: ADDITIONAL PHOTOGRAPHY CLASSES

Saturday, February 27 [Intermediate Lightroom](#) \$69/\$84

View more Arboretum classes

[GARDENING & HORTICULTURE](#)

[NATURE WALKS](#)

[FOOD & WINE](#)

[ARTS, CRAFTS & LITERATURE](#)



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November Email

From: MN Landscape Arboretum <arbedu@umn.edu>
Date: Wed, Nov 11, 2015 at 5:29 PM
Subject: Arboretum Adult Education - Prepare for the Holiday Season
To: "Jill R. Leenay" <leen0014@umn.edu>



November 11, 2015

[Gardening & Horticulture Classes](#)

[Food & Wine Classes](#)

[Photography Classes](#)

[Arts & Crafts Classes](#)

[Nature Appreciation Classes](#)

[Children's Classes](#)

The holidays are coming!

It's November already! The crush of the hectic holiday season will be soon upon us, and the Arboretum is ready to assist you with your holiday needs. Plan some special "away time" to experience these programs at the Arboretum, and enjoy an escape that will inspire and delight family and friends this holiday season.



Thanksgiving Table Centerpiece Workshop

Wow friends and relatives with a stunning botanical centerpiece for your Thanksgiving table. Award-winning florist [Ashley Fox Designs](#) will lead participants step-by-step through the process to design and create a take-home masterpiece filled with fresh flowers, leafy botanicals, and even some unique fruits and vegetables to add texture and pizzazz. Students will learn about composition, layering, height, texture and maintenance of your holiday masterpiece.

[Make-and-Take: Long-Lasting Thanksgiving Centerpiece](#)

[Make-and-Take: Long-Lasting Thanksgiving Centerpiece](#)

Saturday, November 21, 9:30 a.m. - noon

\$89 member/\$99 non-member, includes Arboretum admission and all class supplies

Bundle and save!

[Bundle BOTH Thanksgiving Centerpiece AND Holiday Wreath Make-and-Take classes](#)

\$160 member/\$178 non-member, includes Arboretum admission and all supplies for both classes

{Photo by portrayinglife.com/www.flickr.com/photos/michaelina2}



Deck the Halls (and the door!) for the Holidays

An Arboretum holiday tradition! Back by popular demand, award-winning florist [Ashley Fox Designs](#) returns for a series of classes designed to literally “spruce” up your home holiday décor. Using fresh botanicals including spruce, cedar, eucalyptus, and seasonal pods and berries, Ashley will guide participants step-by-step through the process to design and create a take-home masterpiece that is sure to impress guests! Don’t purchase the same store-bought wreath that everyone else has — sign up for one of these all-

inclusive workshops to experience a relaxing, enjoyable afternoon creating a one-of-a-kind wreath or garland. Botanicals chosen for these workshops are intended last through the holiday season, and will provide delightfully fragrant rewards.

[Make-and-Take: Holiday Wreath](#)

Saturday, December 5, 9:30 a.m. – noon

\$89 member/\$99 non-member, includes Arboretum admission and all class supplies

Bundle and save!

[Bundle BOTH Thanksgiving Centerpiece AND Holiday Wreath Make-and-Take classes](#)

\$160 member/\$178 non-member, includes Arboretum admission and all supplies for both classes

[Make-and-Take: Holiday Mantelpiece Design and Garland Construction](#)

Saturday, December 12, 9:30 a.m. – noon

\$125 members/\$140 non-members, includes Arboretum admission and all class supplies

\$89 member/\$99 non-member, includes Arboretum Admission and all materials. {photo by Ashley Fox}



"House" for the Holidays

Gingerbread houses are a timeless way to enjoy quality time with family and friends and to celebrate the holiday season. Using delicious pre-baked gingerbread shapes (no cardboard-y boxed kits!)



"House" for the Holidays

Gingerbread houses are a timeless way to enjoy quality time with family and friends and to celebrate the holiday season. Using delicious pre-baked gingerbread shapes (no cardboard-y boxed kits!) by [JohnJeanJuan Cakes](#), you'll be encouraged to play with your food as you design and decorate your very own traditional gingerbread house. You'll also receive a delicious gingerbread recipe, sample gingerbread (so you don't feel tempted to eat your house!) and learn about ginger and the other plant-based ingredients that go into

making gingerbread.

Ages 8 and up. All children MUST be accompanied by an adult and must register with the adult at the duo price. Adult-only individuals or duos also welcome. No more than (2) people per house, regardless of age.

[Make-and-Take: Traditional Gingerbread House Workshop](#)

Saturday, December 19, 12:30 p.m. - 3:30 p.m.

INDIVIDUAL: \$84 individual member/\$99 individual non-member, fee includes registration for one adult working on one house, all decorating supplies and Arboretum admission

DUO: \$114 duo member/\$129 duo non-member, fee includes registration for 2 people (regardless of age) working on one house, all decorating supplies and Arboretum admission



Learn to Create an Elegant Meal, for the Holidays...or Any Occasion!

Create your own wow-worthy presentations to impress friends and family! People eat first with their eyes, but food presentation is often the most commonly ignored aspect of home cooking. Learn the "five elements of the pretty plate" to elevate your experience of making everyday meals magnificent - quickly, easily and inexpensively. Join us in making a savory appetizer that is easy to have on hand and customize for any taste or occasion, play with plating design, and

indulge in molten lava cakes with fresh raspberry sauce. In-class menu will include: - Walnut Crusted Canapés with variety garnishes and Molten Lava Cakes with Fresh Raspberry Sauce

[Sweet and Savory: The Secrets to Making Elegant Meals at Home](#)

Saturday, December 12, 9:00 a.m. - 11:00 a.m.

\$39 member/\$49 non-member, includes Arboretum admission and all ingredients



Terrariums: Ecosystems Under Glass

Minneapolis [Mother Earth Gardens](#), known for organic, sustainable and eco-friendly products.
[Terrariums: Gardens for all Seasons](#)

Saturday, December 12, 9:30 a.m. – noon

\$75 members/\$90 non-members, includes Arboretum admission and all supplies.

Photography & Art Show

HOLIDAY SHOPPING OPPORTUNITY!

[Artistry of Nature](#): An art show and sale all in one! Be sure to visit the Arboretum for this annual event on **Dec 5 & 6**. Included in the show are nature-themed drawings, paintings and photography. Admire the variety of art that these talented Minnesota artists create, and then vote for your favorite! Sponsored by Tamron and National Camera Exchange.

BONUS: most of the art is also available for purchase, which will fulfill many of your holiday gift needs! Art-filled calendars, holiday cards, framed prints, keepsakes and more will also be available for purchase.

EXTRA BONUS: For your shopping pleasure, the [Arboretum Auxiliary Holiday Sale](#) will also be happening that weekend!

EXTRA-EXTRA BONUS: Also enjoy [Double Discount Days](#) at the Arboretum Gift Shop!

We Want to Hear from You!

Nature inspires us and teaches us. How shall the Arboretum inspire and teach you?

Help us plan **Spring/Summer classes** by taking an interest survey in one of these categories

[PHOTOGRAPHY CLASSES SURVEY](#) (rate 14 potential classes)

[ANIMALS and/or NATURE-BASED THERAPEUTICS CLASSES SURVEY](#) (rate 4 potential classes)

[GARDENING & HORTICULTURE CLASSES SURVEY](#) (rate 17 potential classes)

[FOOD & WINE SURVEY](#) (this survey has questions for Graduate Student research)



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Appendix K

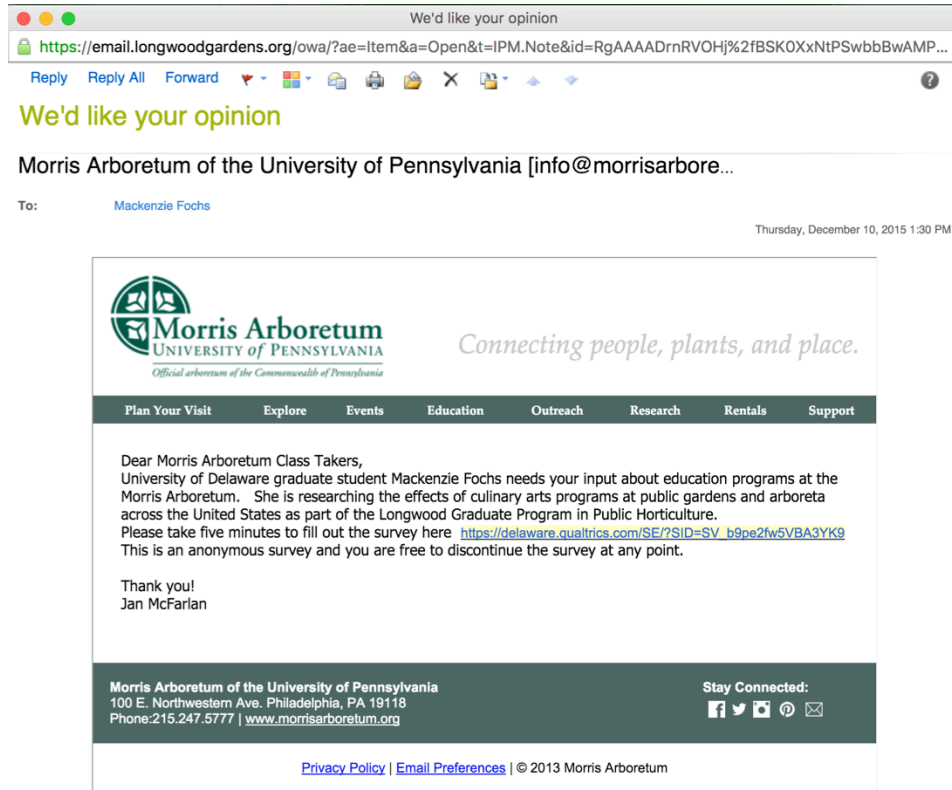
EMAIL TO MISSOURI BOTANICAL GARDEN CONTACTS

Email sent in September was the same as November



Appendix L

EMAIL TO THE MORRIS ARBORETUM OF THE UNIVERSITY OF PENNSYLVANIA CONTACTS



Appendix M

EMAILS TO THE SCOTT ARBORETUM OF SWARTHMORE COLLEGE CONTACTS



Share Your Thoughts!

Your Voice Matters

We need your input about education programs at the Scott Arboretum!

Former Scott Education Intern and current Longwood Graduate Program Fellow, Mackenzie Fochs is researching the effects of culinary arts programs at public gardens and arboreta across the United States. Help us help her with this informative research.



Please take five minutes to fill out the survey [here](#).

Results are anonymous and you may opt-out at any time

Photo credit: D. Webb, Longwood Gardens

Questions contact Mackenzie Fochs at mfochs@udel.edu

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Share Your Thoughts!

Reminder: Your Voice Matters

We need your input about education programs at the Scott Arboretum!

Former Scott Education Intern and current Longwood Graduate Program Fellow, Mackenzie Fochs is researching the effects of culinary arts programs at public gardens and arboreta across the United States. If you haven't already, help us help her with this informative research. *Thank you to those who have already responded!*



Please take five minutes to fill out the survey [here](#).
Survey closes at Midnight, November 30, 2015.

Results are anonymous and you may opt-out at any time

Photo credit: D. Webb, Longwood Gardens

Questions contact Mackenzie Fochs at mfochs@udel.edu

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Appendix N

EMAIL TO POWELL GARDENS CONTACTS

Share your thoughts on the recent class or event you attended at Powell Gardens

Powell Gardens [info@powellgardens.org]

To: Mackenzie Fochs

Sunday, October 04, 2015 5:17 PM



Powell Gardens
1609 N.W. U.S. Highway 50
Kingsville, MO 64061
816-697-2600
info@PowellGardens.org

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Recent Class or Event Participant,

Please take time and share your thoughts of a recent class, program or dinner you attended at Powell Gardens and help a graduate student with her research.

University of Delaware graduate student Mackenzie Fochs needs your input about education programs at Powell Gardens. She is researching the effects of culinary arts programs and events at public gardens and arboreta across the United States as part of the Longwood Graduate Program in Public Horticulture.

Please take five minutes to fill out the survey [here](#).

Appendix O

ADDITIONAL RESULTS FIGURES

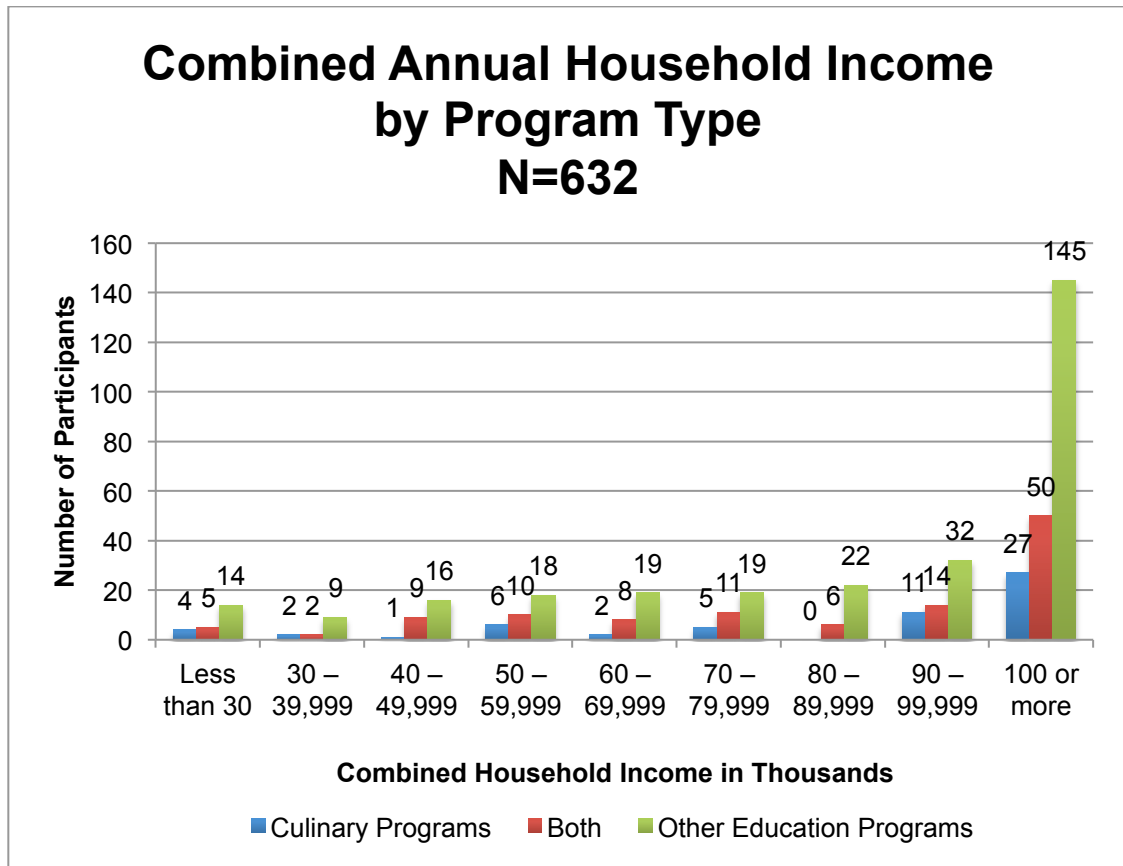


Figure 23 Combined Annual Household Income of participants in culinary programs and other education programs.

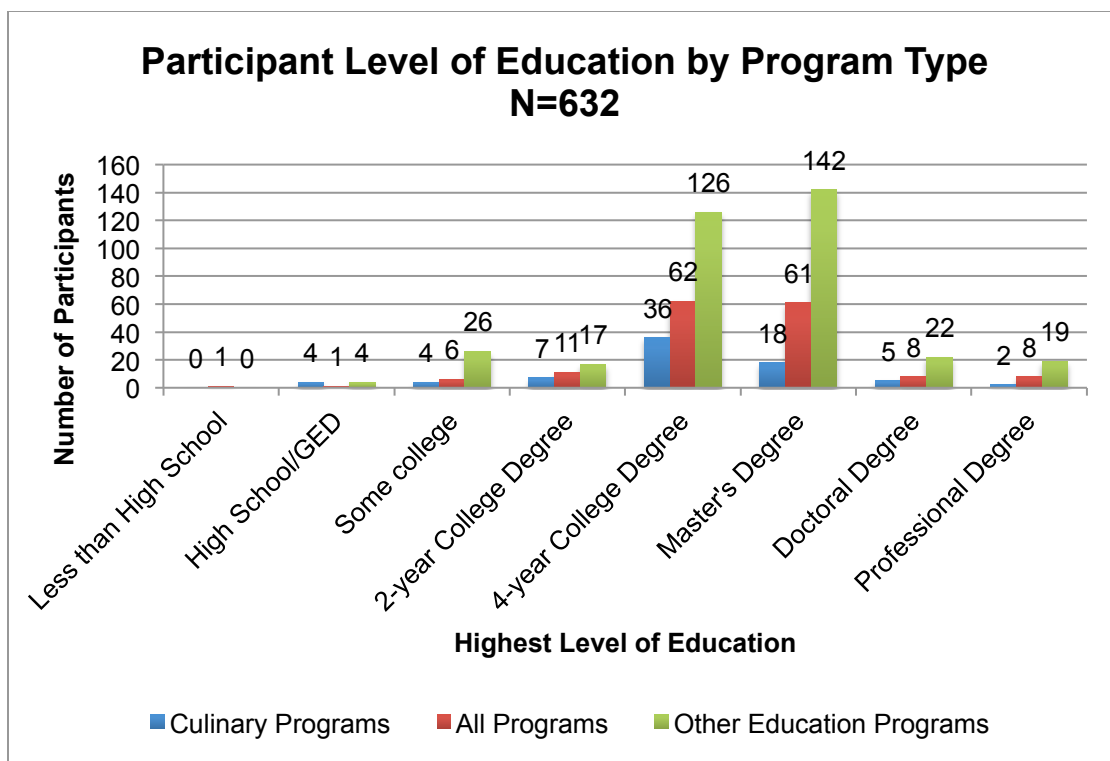


Figure 24 Highest level of education of participants in culinary programs, other education programs, and both.

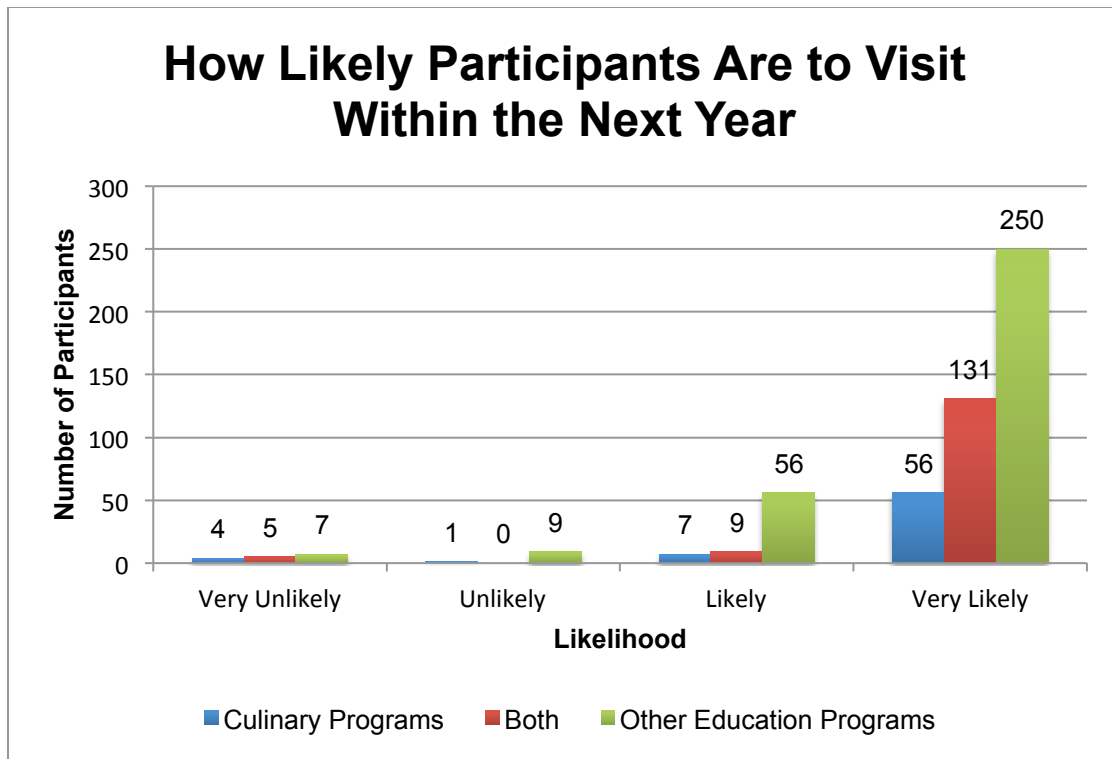


Figure 25 How likely participants are to visit in the next year by program type.

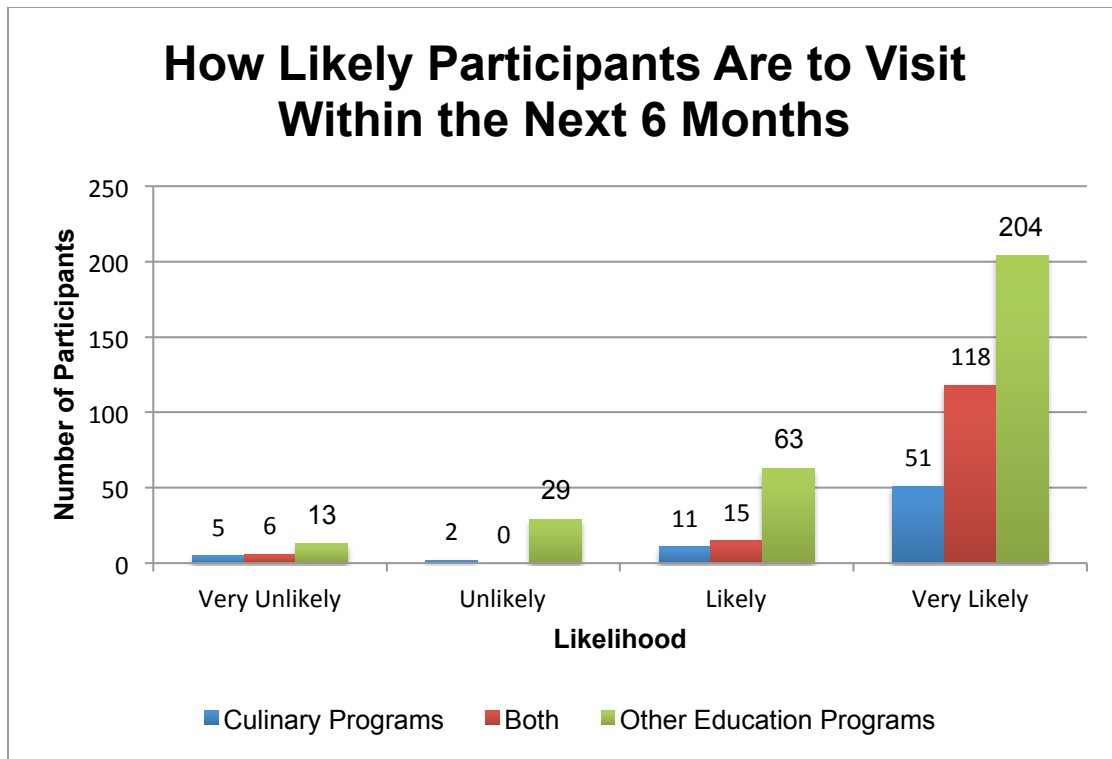


Figure 26 How likely participants are to visit in the next 6 months by program type.

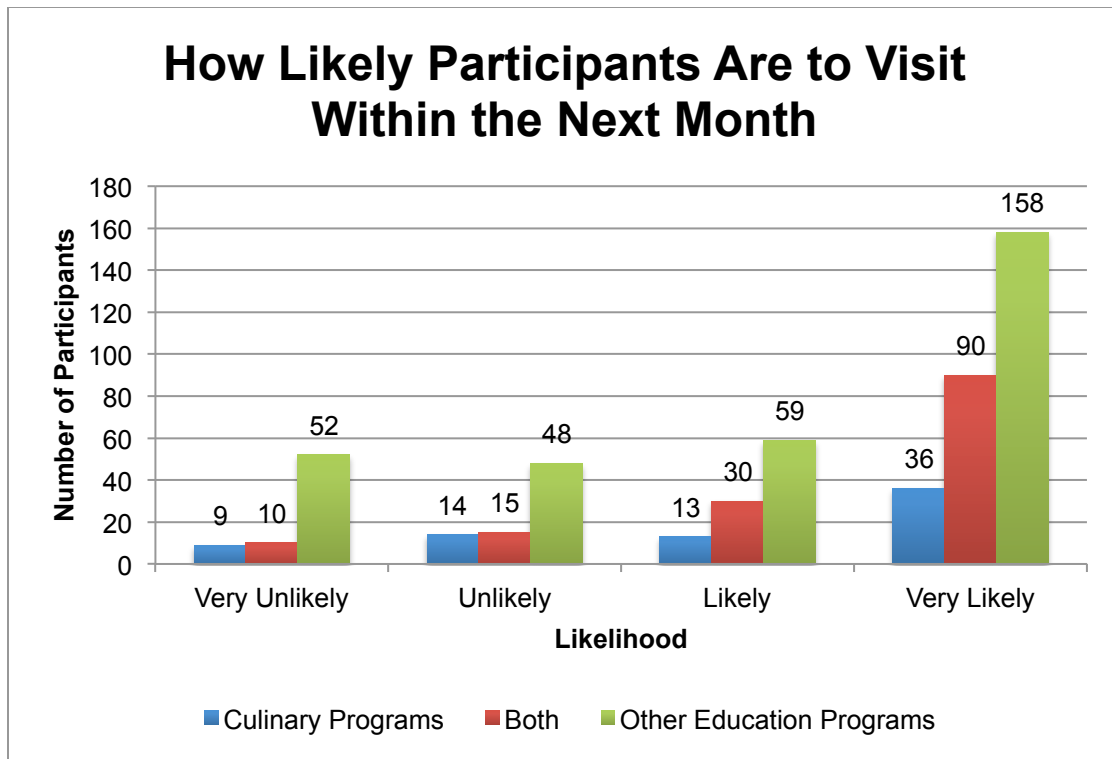


Figure 27 How likely participants are to visit in the next month by program type.

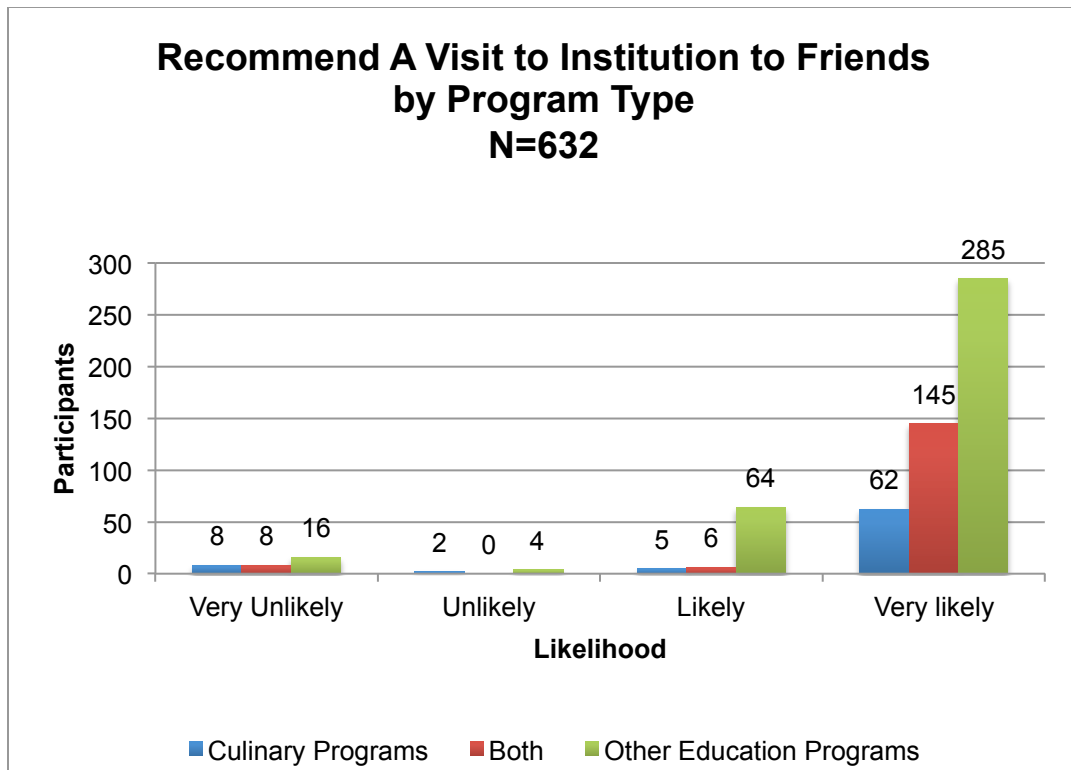


Figure 28 How likely participants in culinary programs, other education programs, and both are to recommend a visit to the institution to their friends by program type.

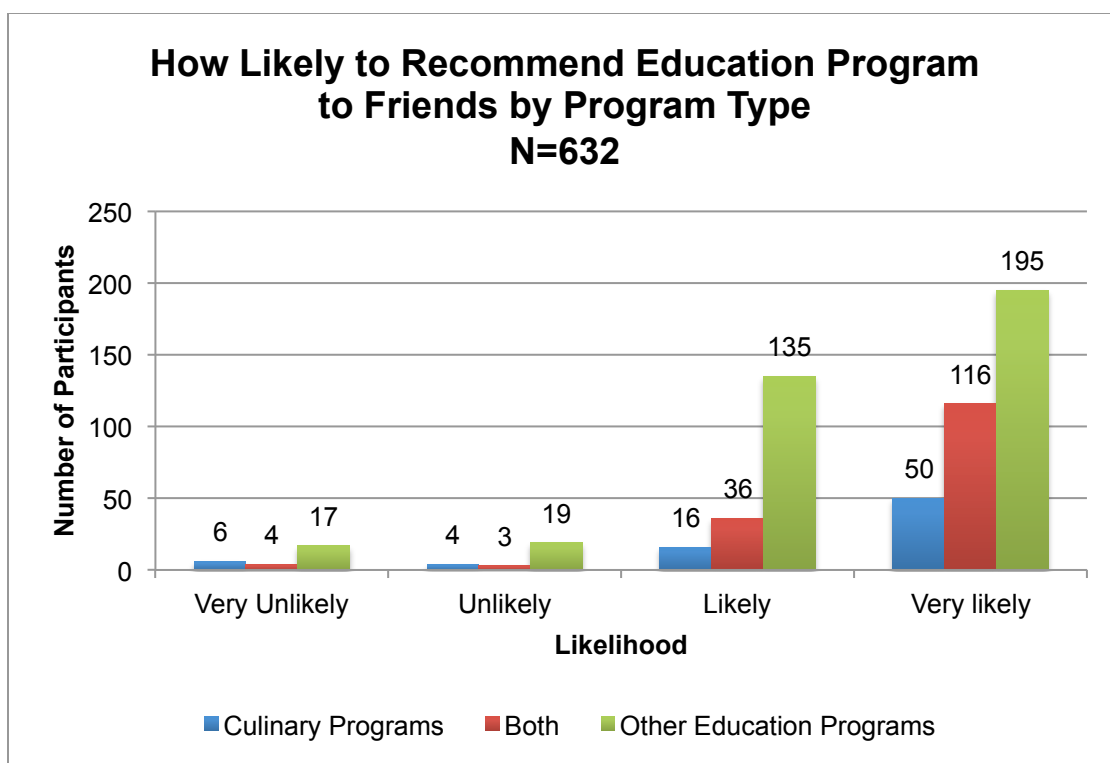


Figure 29 How likely participants in culinary programs, other education programs, and both are to recommend attending an education program at the institution to their friends by program type.

Table 13 Other text entry responses for what attracted respondents to programs at public horticulture institutions.

Other Text Entry Responses
The food!
The chef who was preparing the dinner
Enjoy the food
Boulevard Brewery
Dividend plant
Needed for other activities

Table 13 continued

Opportunity for my child
need for ceu's as a Certified Arborist
A desire to educate my daughter in nature
Children's Activity
I had read the book about Beatrix potter
Continuing Education Credits
LA CEU Credits
I wanted to introduce my granddaughter to the kill merry arts program along with myself
Professional CEUs
activity for wife/me to do together
I have been an instructor at numerous classes since 2013
Cont. Education
opportunity to visit with limited attendance
Cooking with herbs
field trip with students
just for fun

Table 14 Race and ethnic identity of participants in culinary programs and other education programs. Culinary programs (n=82); both types of programs (n=163); other education programs (n=387).

Race/Ethnic Identity	Culinary Programs	Both	Other Education Programs
African American	0	1	0
Asian	1	1	2
Asian/White	0	0	3
Hispanic	1	0	2
Native American	0	0	0
Native American/White	0	1	0
Other	1	0	4
Pacific Islander	0	0	0

Table 14 continued

Pacific Islander/White	1	0	0
White/Caucasian	68	149	341
Total Responses	72	152	352