

Floral Plant Give Away As a Recruiting Tool: An Evaluation of the Impact on Student Perception of Horticulture

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Introduction

Recruitment of horticulture students has been a nationwide challenge in recent years (Baker and Irani, 2011; Robinson et al., 2007; Tarpley and Miller, 2004). Although there has been a national push to encourage students to enter scientific fields of study and career paths (STEM Education Coalition, 2012), this initiative has not resulted in an increase of students interested in horticultural science (FAEIS reports, 2008; Rom, 2004). For example, in our own department of Horticultural Science at NC State University, enrollment has dropped from 190 students in 2006-2007 to only 130 students in 2011-2012.

Low enrollment in horticulture programs is likely the result of misconceptions held by students regarding agricultural science in general and also a lack of knowledge concerning career options in this field of study (Baker and Irani, 2011; Marsh et al., 2011). In addition, minority students in particular have avoided enrollment in horticulture majors (Bradley et al., 2000). This general avoidance of enrollment in agricultural fields such as horticulture is not due to a lack of job opportunities for graduates (Robinson et al., 2007; Goeker et al., 2000). In the Horticultural Science department at NC State, there are more positions posted on our job board than we have graduates to fill, especially in plant production positions. Therefore, it follows that increasing awareness and improving perception of horticulture would be a service to students seeking a major that will enable them to find employment upon graduation.

Despite low enrollment in horticultural programs, this area of study has far-reaching effects on our quality of life. Water quality (Sood et al., 2011), air quality (Liu et al., 2007), and accessibility to more nutritious food in a nation facing an epidemic of obesity are all the aspects of the quality of life that can be improved through the use of horticultural practices (Lutaladio et al.,

2010). Psychologically, plants have been shown to generate happiness, accelerate healing process, improve relationships and compassion, improve human performance and energy, impact learning and mental health, increase the perceived quality of life, reduce community crime, increase community cohesion, and reduce stress (Hall, 2012; Kaplan, 1995). To increase awareness of horticulture, we conducted the “Floral Plant Give-Away Project” (FPGAP) as a recruiting tool, and surveyed participants to evaluate the impact it has on their perceptions of academic and career possibilities in horticulture.

Materials and Methods

During the fall semester of 2012, the FPGAP was implemented for the first time. Plants for this project were supplied by Altman Plants and the American Floral Endowment, while the Department of Horticultural Science paid for printing costs and provided faculty and student time.

A variety of plants were given, one each, to undecided undergraduate students and other support members of the First Year College (FYC) program (Table 1, 2). The students in the FYC are scholastically high achieving, but have not yet selected a major. Further, plants were distributed in the introductory classes in the horticultural science curriculum (Table 2). Data were not collected on the latter population.

Table 1. Plant species and quantities

Quantities	Plants
130	Variegated Dracaena
130	Pothos
65	Dieffenbachia
130	Hoya
130	'Janet Craig' Dracaena
130	Snake plant
715	Total

Table 2. Plant distribution and quantities

Recipients	Number given away
First Year College Students	646
FYC Residence Mentors	18
FYC Residence Advisors	19
FYC Staff	21
HS Introduction Classes	32

At specific times during the semester-long orientation course, all 646 FYC students were given a plant with an informative and alluring label created for each species (Fig. 1). A short survey was administered at the beginning of the project then repeated at the end of the semester. Data was collected and analyzed at the end of the semester.

Figure 1. Informative plant labels (front and back sides)



(See appendix for additional plant labels)

Plants were stored in the Horticulture Department greenhouse on campus, and volunteer horticulture students sorted plants into boxes and carried them to the classrooms for distribution (Fig.2). Horticulture students presented a short introduction and described their experiences in the department of Horticultural Science and their career aspirations (Fig.3).

They distributed the plants to the FYC students who carried them to their dorms (Fig. 3)

Figure 2. Volunteers delivering and preparing boxes with plants and labels

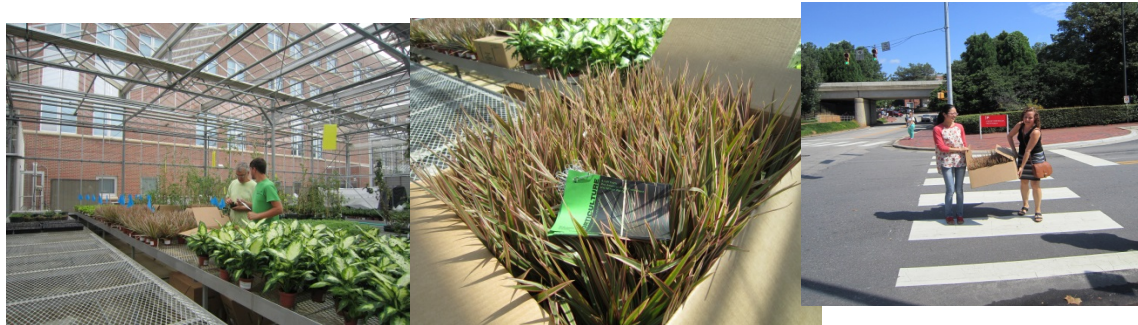


Figure 3. Volunteers presenting brief introduction and distributing plants to students who carried to their dorms



FYC students were surveyed about how they perceive the effects of the plant and whether it had an impact on their interest in horticulture and/or as a choice for an elective, minor or major.

Group 1, a portion of the FYC students (387) received a plant at the beginning of the semester. A preliminary Survey I was administered to this group followed by a secondary Survey II later in the semester that assessed student participant responses to having the plants. The survey items include the assessment of students' perceptions of the plant as a positive aspect in their dorm room, and if receiving the plant increased their interest in horticulture in general and in the horticultural science program specifically. Scaling of responses from the survey used a typical five-level Likert scale; 5

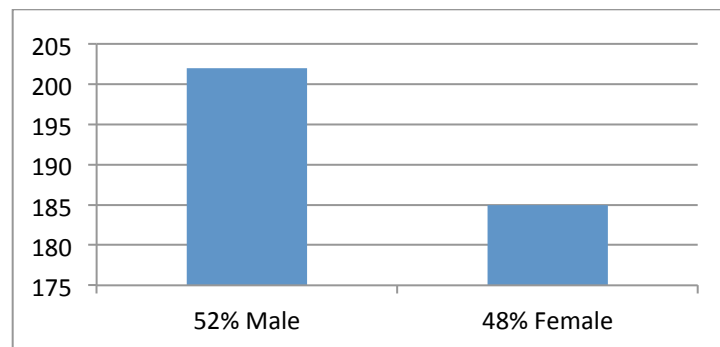
strongly agree, 4 agree, 3 neither agree nor disagree, 2 disagree, and 1 strongly disagree.

The remaining 259 students, Group 2 served as a control group and did not receive their plants or survey until the second half of the semester. Student responses and enrollment numbers for all students, including those in the control group, were analyzed to determine impact of the program.

Results

The gender of the 387 students receiving the plants at the beginning of the project was 52% male and 48% female (Fig. 4).

Figure 4. Gender of Group 1 participants



Survey I was administered, and when asked if they thought the plant would be a positive aspect of their dorm room, the students reported an average of 3.74 (male) and 4.00 (female) for an overall 3.88 average rating for the perception of whether the plant will be a positive aspect of their dorm room. (A rating of 4 meant that they agreed that it would be a positive aspect of their room).

Students claimed an average of 3.15 (male) and 3.10 (female) for an overall 3.13 average rating for the perception of whether the plant increased their interest in horticulture. (A rating of 3 meant that they neither agreed nor disagreed that it would increase their interest in horticulture).

At the end of the semester Survey II was administered to Group 1. Students reported an overall 3.79 average rating for the perception of whether the plant was a positive aspect of their dorm room, slightly lower than at the initial Survey I.

These students claimed an overall 2.69 average rating for the perception of whether the plant increased their interest in horticulture.

Further, students identified horticulture related activities which they had been engaged in as seen in Table 3.

Table 3. Horticulture related activities that students engaged in after receiving the plant

50 - Visited Horticulture Department Website

44 - Visited a Garden Center

60 - Developed interest in taking a horticultural science course

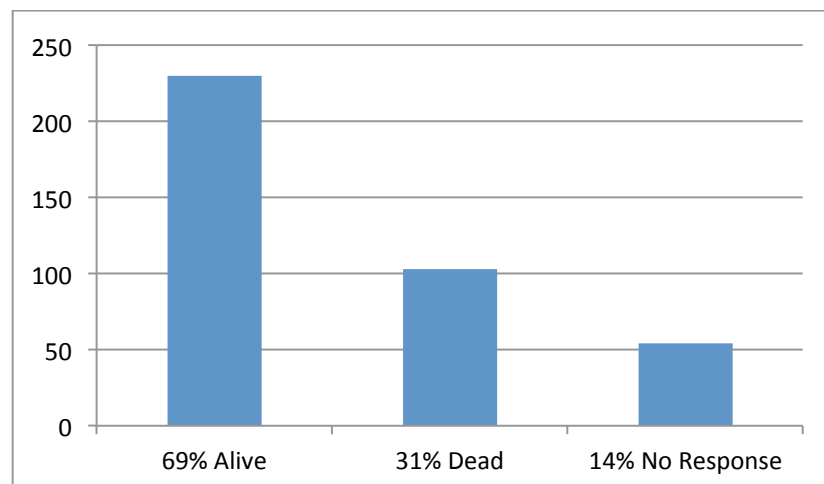
6 - Developed interest in signing up for the horticultural science certificate program

7 - Developed interest in declaring a horticultural science minor

9 - Developed interest in becoming a horticultural science major

Finally, 69% of students reported that their plants were still alive at the end of the semester, and 31% reported that their plants had died, while 14% did not respond (Fig.5).

Figure 5. Plant health at end of study



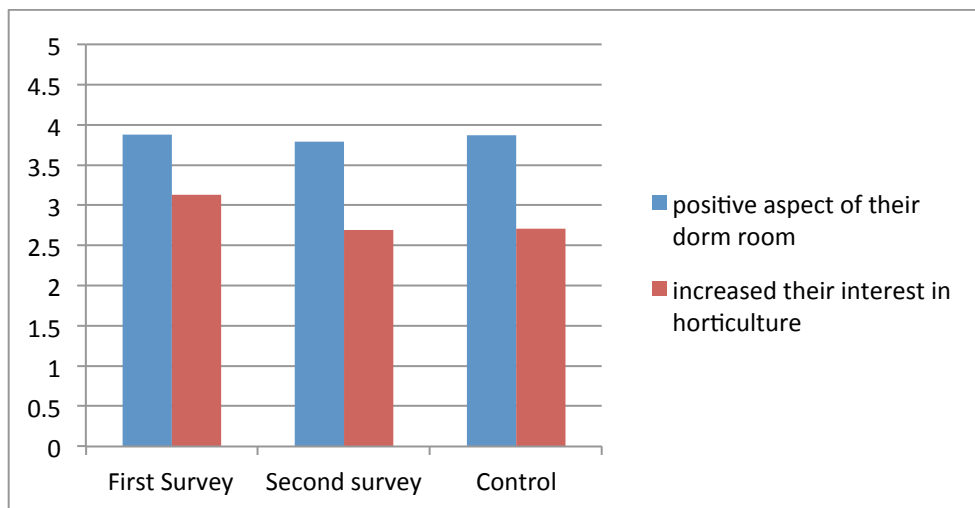
The control group results

The control students, Group 2, who received their plants at the end of the semester were surveyed and reported an overall 3.87 average rating for the perception of whether the plant will be a positive aspect of their dorm room. Slightly lower than the Group 1 survey responses.

Students claimed an overall 2.74 average rating for the perception of whether the plant increased their interest in horticulture.

All students agreed that the plant was a positive aspect to their dorm room throughout study. They neither agreed nor disagreed that the plant would increase their interest in horticulture (Fig. 6).

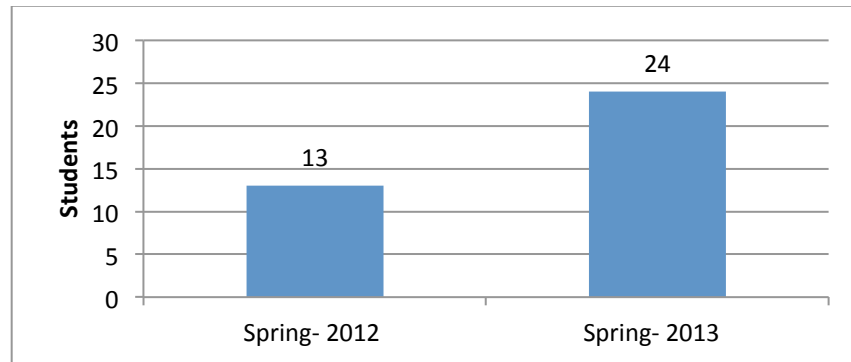
Figure 6. Comparison of survey ratings



Although, the tracking of how many FYC students signed up for horticultural science classes, or declared minors or majors in horticultural science is still in process, we know that (24) FYC students took a horticulture class in the spring 2013 semester. Although enrolment is still in process, (10) FYC students are already signed up to take a horticulture class in the fall 2013 semester. Three FYC students who participated in FPGAP intend to major in horticultural science and two FYC students have already declared a major horticultural science.

An inventory of 2012 spring semester enrolment of FYC students who have not participated in the FPGAP is compared to the 2013 spring enrolment who did participate in Figure 7.

Figure 7. Comparison of students taking spring semester classes in Horticultural Science



Discussion

Students in the First Year College were the perfect population with which to study effects of plants on student's perceptions of horticulture, since they have not yet selected a major.

Since the results from the surveys were so similar in groups 1 and 2, we can infer that students can receive the plant at any time of the semester and the effect will be similar. Additionally, whether the evaluation occurred when the plant was given or after they had the plant for a while, the impression was generally the same.

Of those who responded to having engaged in horticulture related activity, 50 students claimed to have visited the Horticultural Science Department website. This emphasizes the importance of keeping the website updated, attractive, and informative.

Eleven more FYC students signed up for classes in 2013 spring semester that in 2012 spring semester. We can begin to presume that the FPGAP impacted the horticultural science enrollment numbers. As we continue to collect and analyze information from previous years and hopefully repeat the FPGAP, we hope to more strongly establish the influence it has on FYC students' awareness of and participation in horticultural science.

Besides the recruitment role this project plays, FCY students receiving the plants as gifts likely benefited from the physical and psychological benefits attributed to having exposure to plants.

Further the FYC students benefited from the impact of current students in the NC State Horticultural Science department who shared their experiences and knowledge about the influence of plants on quality of life. The volunteer students also described how the program was preparing them as professionals and training them to utilize horticultural principles and practices to realize benefits for the world around them.

This awareness/recruitment project not only benefits the horticulture department by potentially increasing enrollment, but also educates potential students on how horticultural professionals use plants to improve public health. The horticulture industry will benefit by the eventual increase of trained professionals that can work in the horticulture industry and make a global impact.

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Appendix

