

HORTICULTURE EDUCATIONAL PROGRAMMING FOR COLORADO STATE UNIVERSITY TRIAL GARDENS AND CAMPUS HERITAGE ARBORETUM

Intern
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Mentor Committee

Dr. Chad Miller – Associate Professor, Department of Horticulture and Landscape Architecture
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PROJECT INTRODUCTION

The Colorado State University **Heritage Arboretum** and the **Annual Trial Gardens** are two of many horticulture resources on campus, around Fort Collins, and in Larimer County.

- Arboretum has historically provided trial space and testing site for native and novel species in our unique intermountain climate.
- Annual Trial Garden has served as a trial ground for herbaceous annuals that is reset every growing season.
- Both spaces are robust horticulture resources with potential to be improved to deliver high quality education and extension activities.
- Both locations have similar but different missions as there are differences in infrastructure, space, location, and plant diversity.
- The arboretum faces a unique challenge – one of many – of extremely high plant density due to numerous decades of consistent planting and trialing. To better accommodate educational programs, the space must be physically reimagined with hosting infrastructure in mind.
- The Trial Gardens are presently better equipped to host programming, but we believe the space can be further improved.
- This project aims to began a long-term process to: Improve infrastructure at both sites; survey stakeholder opinions and develop passive and active Extension programming in these excellent horticulture resources.



Figure 1. RAM Scholars participating in planting at Annual Trial Gardens



Figure 2. RAM Scholars group photo at Annual Trial Gardens

INTERNSHIP GOALS

- Identify current educational aspects of both sites
- Survey stakeholder interests and ideas for engagement and education opportunities
- Generate ideas for additional programming
- Identify opportunities to integrate the educational values of both sites
- Begin to develop active and passive educational programming in each site
- Communicate findings at outreach events and advisory board meetings

PERSONAL EDUCATIONAL ALIGNMENT

- Max is a double major student studying **Environmental Horticulture and Agricultural Education**.
- He is interested in learning how to effectively deliver education in plant science, horticulture, and related disciplines.
- This project served as a great primer for Max to prepare for a MS in horticulture at CSU and future research and teaching positions.

INTERNSHIP ACTIVITIES

Infrastructure Improvements

- Arboretum is a wealth of plant material; So much so that the number of plants is of detriment to the space.
- Several tree removals to open canopy and increase visibility in the space and larger material removed will be used to construct seating for visitors.
- **A strategic site plan has been drafted** by the arboretum steering committee that redesigns the space and adds dedicated active use space for programming.
- The removal and clean-up work of the incredibly hard-working arboretum staff and **Larimer County Master Gardener Volunteers** has greatly contributed to the implementation of the redesign.

Data Gathering

- The team drafted and published **two Qualtrics-based public surveys** (one for each site) that gathered demographic information and educational interests and opinions of site visitors.
- **A total of 115 responses** (45 Arboretum and 70 Trial Gardens) over the summer across both surveys. The public survey results gave us a high-level look into what visitors want to learn about and whether we can offer sustainable, high-quality programming through paid programming.
- Surveys will be active through September to gather more student opinions during the term.
- Max also completed eight **stakeholder interviews** with members of both the Arboretum steering committee and the Annual Trial Garden advisory committee. These interviews gathered ideas and suggestions from people intimately involved with the sites and provided specific improvements and educational offerings.

Survey Analysis

- At the end of the internship, reports were generated in Qualtrics to draw initial conclusions about educational programming for each site and inform our future educational offerings.
- The data were also used to compare the two sites and determine where differences and similarities in programming may occur.
- Similarities in programming can lead to increased cross-site connectivity and integration in the future.

Educational Programming

- Two student groups visited the Arboretum during the summer; Loveland Youth Gardeners and RAM Scholars (who also visited the Trial Gardens). Our team was able to test tour strategies and potential educational activities with these groups.



Figure 3. One potential host site for educational activities in Arboretum.



Figure 4. Loveland Youth Gardeners group photo at Arboretum.

WHAT WE LEARNED

Based on initial survey results:

- Desire for increased active and passive programming in both sites.
- Most respondents indicated some level of **likeliness to attend programs** if they are offered.
 - 70% in the Arboretum 56% in the Annual Trial Garden
- People are **willing to pay** to attend programs.
 - 50% in the Arboretum 50% in the Annual Trial Garden
- Survey question asked about potential programming activities:
 - Popular:** Native plant education, Plant Identification, Best Planting Practices, and Birding

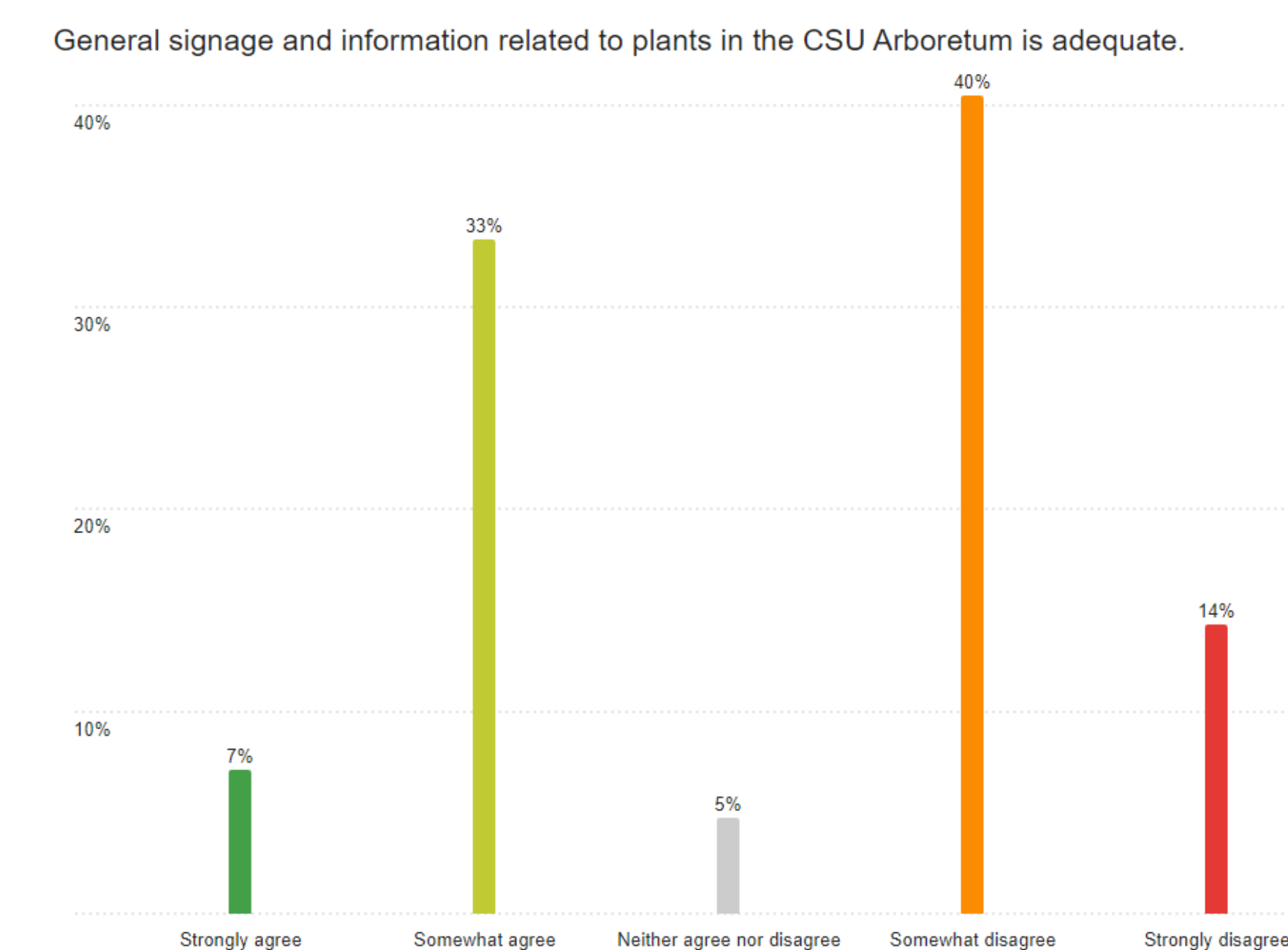
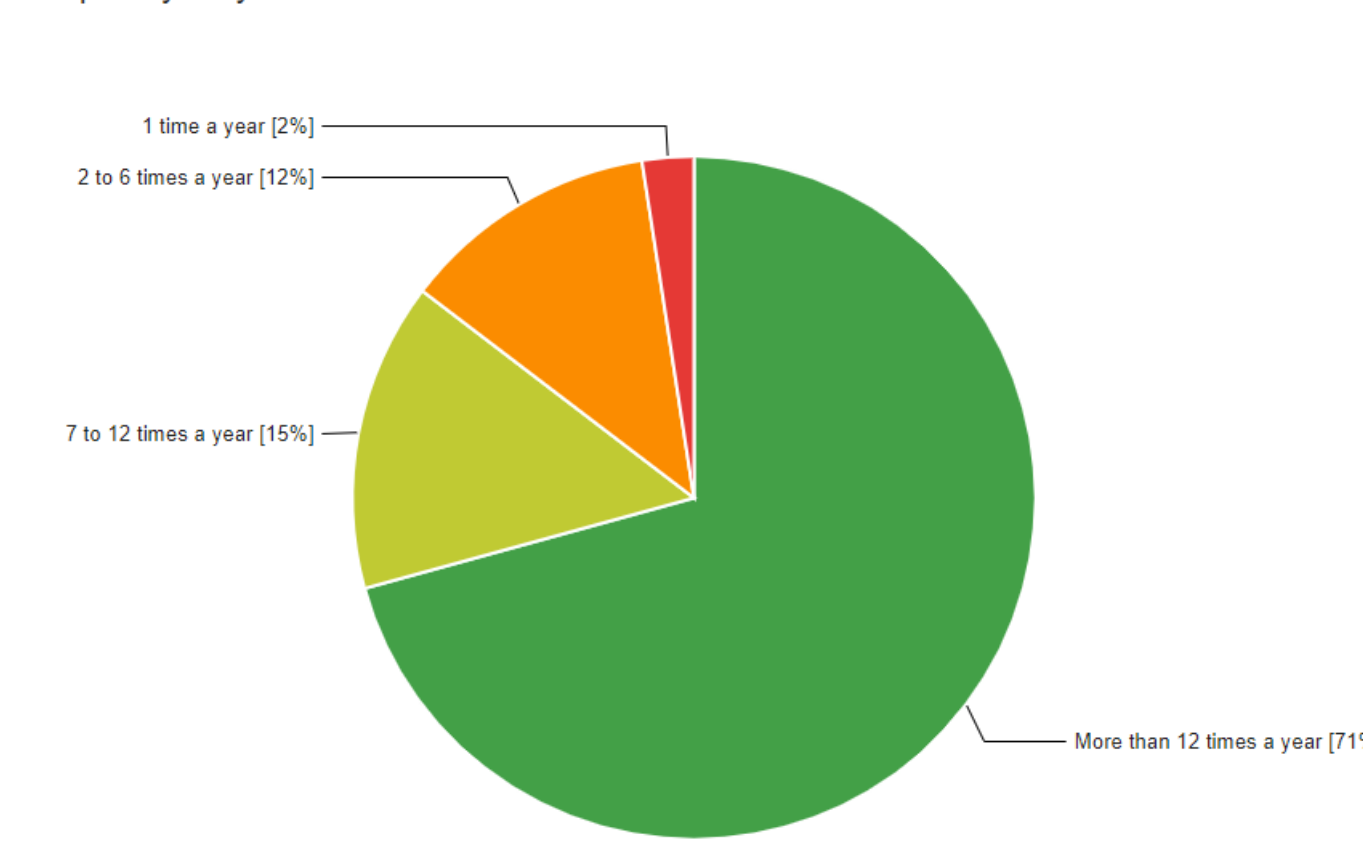
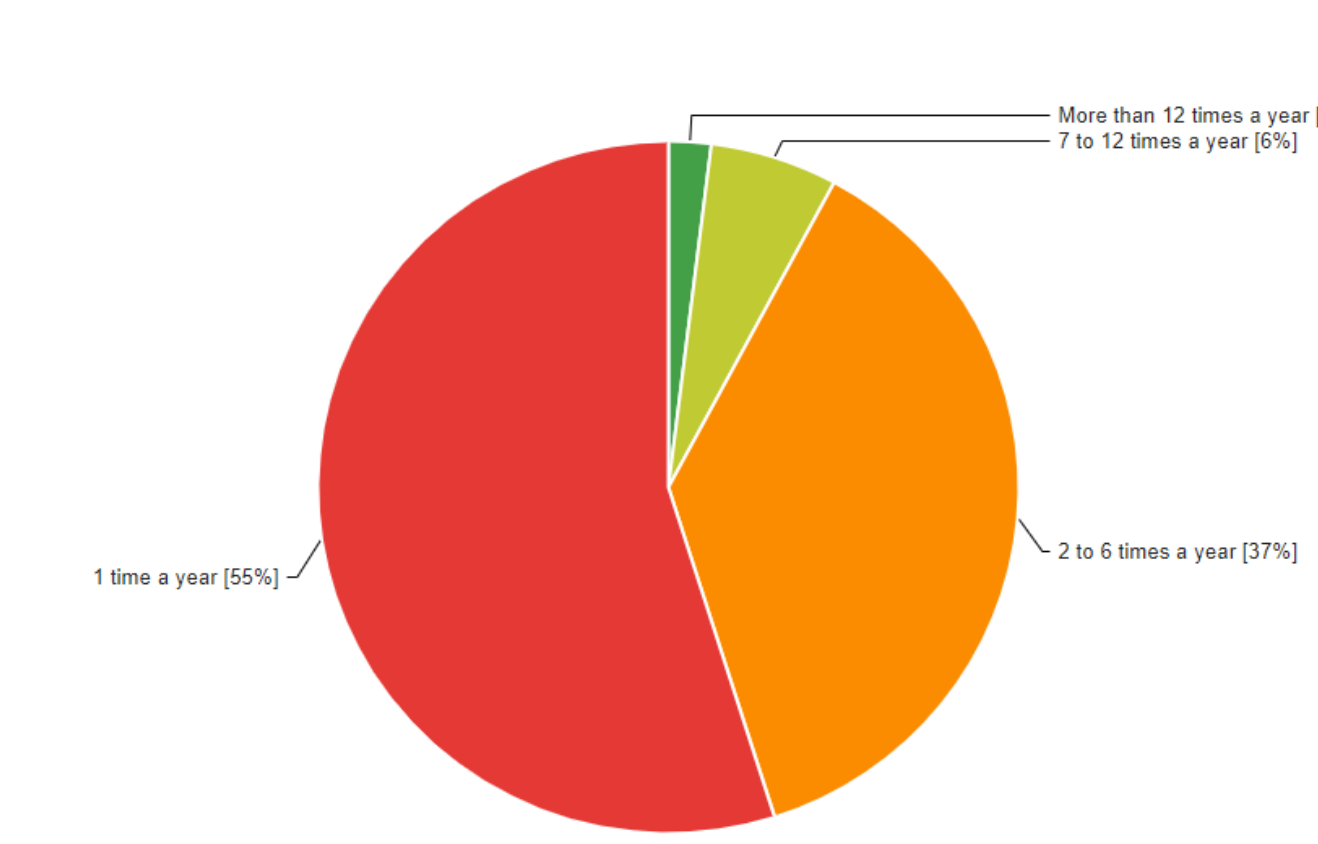


Figure 5. Arboretum signage and labeling has room for improvement.

How frequently do you visit the CSU Arboretum IN A YEAR?



How frequently do you visit the CSU Annual Trial Garden IN A YEAR?



Figures 6 & 7. Results of survey question that asked visitors how many times they visit the respective locations each year. The CSU Annual Trial Gardens typically host many tourists and out of town visitors each year, while the CSU Arboretum hosts visitors that transit the space and revisit multiple times per year. Each of these situations creates a challenge where we must figure out how to retain visitors and deliver education to them over extended periods of time. Passive education through signage is a great way to deliver short bursts of education while longer form classes require increased planning to retain our audience.

NEXT STEPS

As we conclude our initial data collection and idea gathering phase:

- We are ready to implement what we learned in a trial educational offering at the Arboretum. We plan to have Scott Skogerboe (Fort Collins Wholesale Nursery) lead a plant talk and walk in the Arboretum focused on assisted plant migration. Attendee experience and feedback at this test program will further inform a calendar of events in future years.
- We will evaluate and identify additional stakeholder engagement opportunities for the Annual Trial Gardens.