

Proposal: Community Fruit Production via Ornamental Tree Grafting

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Introduction

This project seeks to establish grafted fruit-producing scions on existing decorative trees at an inner city school in Vancouver. We aim to cultivate a student-based stewardship

relationship to provide ongoing care for the grafts. If successful, this urban grafting initiative will improve food justice in this school by making fresh fruit freely available to students.

This project is guided by the Vancouver Food Strategy, which has identified resident empowerment, food access and food justice as aspects of the food system to be improved by 2020 (City of Vancouver, 2013). This project takes an Asset-Based Community Development approach to supporting all three of these goals.

Additional guidance will be provided by the Environmental Youth Alliance (EYA), a group that aims to connect children with nature experiences within the city of Vancouver. Their experience running the “Growing Kids” program, which established inner city school gardens as a place to connect students with the capacity to grow their own food, will be particularly helpful in steering our interactions with schools and students (Environmental Youth Alliance, 2017).

Significance

Empowering a population

Community engagement has been shown to play a vital role in the development of equitable and sustainable food systems, by helping to identify key assets and barriers. (Pine & de Souza, 2013). As a result, securing community engagement by involving participants in the grafting process and empowering them with the tools to care for the scion will be a key consideration in this project. Given the multi-year time horizon required before a graft begins to produce appreciable quantities of fruit, community involvement will ensure the long term sustainability of a food system project like this (D Tracey, personal communication, February 3, 2017).

Increasing food access for children from low-income schools

Broughton (2006) showed that students in Vancouver’s low-income areas face decreased access to quality food and face increased rates of food insecurity. Other studies have shown that school gardens can increase food literacy, establish long-term individual values in children that support community food security and contribute to food justice by providing students of low income families to grow and consume fresh and nutritious food (Carlsson et al., 2016; Aftandilian & Dart, 2013). As a result, this project will endeavor to engage an inner city school for two main reasons:

- The students reside in low-income neighbourhoods, and are more likely to be facing food insecurity and a lack of control over their food sources
- The multi-year progression of a school population provides a continuous supply of students who, if engaged with the project, will be able to support and maintain this kind of long-term food system initiative.

In the context of asset-based community development, this project may be able to unlock the talents and social capital found in students of inner city schools (Mathie & Cunningham, 2003).

Why Grafting?

According to David Tracey (personal communication, February 3, 2017), one of the most significant benefits of grafting is that it allows for increased food production in the same amount of space. Proper spacing of trees becomes especially important in cities as infrastructure like sidewalks can damage sprawling root networks and vice versa. Grafting combines the benefits of fruit production with the root structure that makes the decorative trees around Vancouver such popular choices for landscapers and city planners (Watson, 2014).

This approach of doing more with less is the epitome of asset-based community development, where decorative trees represent undervalued assets (Mathie & Cunningham, 2003). Grafted branches are also seen as more efficient because they are known to produce flowers and fruits significantly faster than seeded plants (Melnyk, 2015).

Gaps in Knowledge

With the help of the EYA, we are currently working to identify a school partner, which will allow us to begin evaluating their tree population for graft compatibility. Species of plum, cherry and apple are likely candidates based on their high prevalence in Vancouver (City of Vancouver, 2014). Prior to making our final selection we will consult with our school partner to ensure our project fits with their landscape. After selecting scion and tree graft candidates we will be able to select the ideal grafting technique and climatic conditions (D Tracey, personal communication, February 3, 2017).

At present, we have not spoken with a school about this project and cannot speak to the barriers that may be inherent in the Vancouver school system.

Objectives

- Graft a viable fruit bearing scion onto an ornamental tree on school property
- Collaborate with school facilitators and students to develop a plan to ensure the long-term maintenance of this graft

Inquiry Questions

- What are the barriers to grafting a scion to a tree on school property?
- What fruit scion species are the most viable graft candidates given our school's tree population?
- What is the best way to ensure long-term graft sustainability in a school setting?

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Methods

School Selection

With the help of the EYA, we will identify an inner-city school with a history of engagement with garden-based programs. The presence of ornamental trees capable of supporting fruit grafts is an additional prerequisite for selection..

School Consultation

Consultation with our school partner will help us to find a student group and an school-based educator with an interest in grafting.

Expert Consultation

Consultation with community experts will guide our choices surrounding grafting methodology. The questionnaire used for our first interview with David Tracey is included in Appendix A

Grafting Technique

Grafting methods will be selected through consultation with fruit tree experts David McArthur (professor of horticulture, UBC) and Douglas Justice (researcher, UBC Botanical Garden).

Budget (if applicable)

Purchase of scions - \$12 each (Maple Valley Orchards, n.d.)

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Appendices

Appendix A-Interview Template

Proposal Advice

- We set a goal to identify 3 tree species commonly planted around Vancouver that would be the most viable candidates for fruit scion grafts. Any suggestions?

- Can you provide any insight on policy changes would need to be made to allow and encourage urban grafting?

Local Knowledge

- Do you have any recommendations for ideas communities to focus on? Schools to potentially collaborate on an adopt-a-graft style program?
- Do you have any recommendations on community partners (organizations, city staff etc.) to connect with?
- From our research into the city's bylaws, guerrilla grafting would be considered vandalism if conducted on street trees. What are your thoughts on this? What about trees in parks?

Future Involvement

- Your involvement in the City's tree community makes you a really valuable source of knowledge to us. Would you be interested in reviewing and giving feedback on our proposal and keeping up to date on our progress?