

LFS 350

PROPOSAL REPORT

Gambier Island: Row, Row, Row Your Apples - Part 2



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INTRODUCTION

Aim:

To utilize the technique of grafting in order to preserve apple varieties from the heritage orchard and curating educational material for the on-going maintenance of the Gambier Island (GI) orchard.

Objectives:

Our objectives as a group are to support the Gambier Island Sea Ranch (GISR) community's efforts to preserve their historical fruit trees by completing the successful grafting of ten apple tree scions and determining the most effective way to present information for Gambier Island residents in order to help them maintain their orchard.

Questions:

- What are the specific varieties or trees that the island wants to preserve through grafting?
- What media or approach to presenting information on orchard maintenance would be best received by the island residents?
- Using the Asset Based Community Development (ABCD) approach, what are the resources and assets available on the island?

Significance:

The lack of documented educational resources on grafting techniques and orchard tree care on the island contribute to the significance of the project, which is to preserve and expand the historical value of their orchard.

BACKGROUND AND SIGNIFICANCE

The GISR is composed of 334 acres of land with sixty-six individually owned half lots. All that remains from the original farm from the early 1900's is the farmhouse and dozens of fruit trees. This orchard was originally utilized commercially, thus contributing to food security for the residents by offering both a source of income and food (Sea Ranch History, n.d.). The Sea Ranch now operates as a hobby farm containing chickens, seasonal sheep, pigs, turkeys and several 100-year-old heritage fruit trees (Sea Ranch History, n.d.).

According to our community partners, the many fruit trees on GI have not been given as much care and attention as they would like (Boulter and Darvill, personal communication 2016).

For this reason, the residents of GI along with LFS 350 students, are aiming to rejuvenate the old apple orchard by preserving the heritage trees with grafting techniques. We will apply an ABCD approach by utilizing GI's best apple tree scions in the grafting process in order to regenerate them. Furthermore, this approach suggests that methods, such as collecting stories of community success, analyzing reasons of problems and building relationships among local assets is important in order to focus more on the community (Mathie and Cunningham, 2003). By doing this we hope to collaborate with the residents to not only rejuvenate their heritage apple orchard, but to also enhance their sense of community and food literacy. Food literacy being defined as the positive relationship built through social, cultural, and environmental experiences with food enabling people to make decisions that support health (Cullen, *et al.*, 2015). This framework upholds the notion that behaviours and skills cannot be separated from their environmental or social context (Cullen, *et al.*, 2015). This is important for Gambier Island as it will empower them to create their own food and preserve their community and heritage so that it can be passed on to generations to come.

The technique known as grafting is important because it has a high success rate and allows you to take one tree species and essentially give it a new life. Literature supports that this technique is quite popular as there has been a lot of success in rejuvenating other selected species as shown in the study conducted by Asahh *et. al.* (2010). Advantages compared to a normal planting process include cost efficiency, high yield productivity (Reader, 2015) and also, tolerance of environmental stresses by enhancing plant physical strength (Goldschmidt et al., 2009). Therefore, the grafting technique will be important for GI as it will potentially preserve the island's historical orchard for generations to come and allow them to preserve their heritage and traditions.

Most of the literature available about apple tree grafting and care for an orchard is either in general terms or relevant for a specific region. Gaps between literature and our goals for this project is thus identified to be a lack of specific local knowledge on growing sustainable and healthy apple trees. Therefore, creating educational resources for the residents of GI is important as it will address this gap. Furthermore, the documented resources on apple tree grafting and care for an orchard will allow the GI community to preserve their heritage orchard and have another means, aside from oral communication, to pass their knowledge down to future generations.

METHODS

Contact was established with all stakeholders involved in the GI community project (e.g. Dr. McArthur and our community partners) in January to ensure proper communication and that

the objectives and goals of the project were well understood. Communication via Skype, email and personal contact with the community partners will remain clear and open in order to remain within their ethical considerations, such as respecting the GISR community, landscape, and remaining within their cultural boundaries. We will follow the advice of Dr. Ernesto Sirolli, the Founder of the Sirolli Institute, an international nonprofit organization that teaches community leaders how to establish and maintain Enterprise Facilitation projects in their community (Sirolli, 2016). He values listening to the locals and the ideas and views they consider to be valuable in which they would like to see come to fruition within their community. By listening to what they want and focusing on what assets they possess Dr. Sirolli believes there is a higher chance the project will be a success (Sirolli, 2012).

By grafting and preserving the GISR heritage apple orchard we will enhance their urban agriculture that can then be a “resource used to build community, foster social and environmental justice, empower communities, break down racial and ethnic barriers, provide adequate health and nutrition, promote and enhance education, and otherwise create sustainable communities”, which falls in line with the views of the American Community Garden Association (ASLA, 2006). Research on the history and resources that are made available to us will be completed with an ABCD approach in order to better understand what positive resources GI possess. Prior to grafting, research will be conducted on proper grafting techniques by utilizing peer reviewed literature and learning from Dr. McArthur, a horticultural professor at UBC. Scions will be collected from GI from the most productive apple trees to enhance the chances of success mid February and the grafting process will occur in mid March.

Rosalie Boulter has enquired with the GISR about which trees are most productive and/or most valuable to the community. With this information we will take scions from these trees alone in order to remain within ethical considerations of which trees they cherish the most. Upon arrival to GI we will conduct a survey with the GISR locals as to what will be the most suitable form of media they would like to receive from us as to proper grafting techniques, proper maintenance of the tree seedlings, and ways to solve potential problems that may occur (e.g. deer). We will use resources that are already available to us such as YouTube videos, scientific literature/articles, books, websites, and local expert advice to compile this information in the GISR’s preferred media form (may be more than one form) and present this to the residents of GI. By curating this valuable information our goal is to enhance educational literacy among GISR residents on how to preserve and maintain their heritage apple orchard, as well as bring to their attention what assets are found within their community.

Timeline:

- **Early January:** Establish contact with all contact personnel to ensure proper communication is underway and the objectives and goals of all stakeholders are understood. (done)
- **February 22:** Lesson with Dr. McArthur about proper grafting techniques.
- **February 27th:** Ferry ride to Gambier Island to collect apple tree scions. All scions should be the proper size (same diameter as rootstock), labelled accordingly, and properly stored for ease of transport and to ensure they are protected and well hydrated (To be stored at UBC in a 4-degree Celsius fridge provided by Dr. McArthur).
- **March 14:** Greenhouse: Grafting of the scions onto appropriate standard rootstocks and potted accordingly with $\frac{1}{4}$ sand and $\frac{3}{4}$ potting soil, water with fertilized water. Apple seedlings will be stored in the greenhouse and watered once a week until they are ready to be shipped to GI and planted.
- **Mid March – April 1:** Curate information of the grafting processes, tree maintenance, and other resources requested by GISR & make it available to GISR residents in order to increase food literacy (Incl. tools needed, tree maintenance, what to expect, things that can go wrong)
- **April 8:** Final project presentation
- **April 11:** Final project report due

SUCCESS FACTORS

From multiple group discussions and collaborative efforts our group as a whole considers that individual success, in terms of student learning, will be measured on the basis of how much information we learn about the GISR community and in acquiring new skills relating to apple tree grafting. As far as community expectations, the success of this project will revolve around the long term success of the apple trees. Working together with our community partners in an asset-based approach is essential in ensuring this success. To reflect upon the success attained in student learning and in community expectations, our group has stated what we know about apple tree grafting and what we hope to learn throughout this project. On top of completing a review form two weeks after our visit describing the most influential things we learned in this project, our group will constantly collaborate what we have learned throughout. Our community partners will also be provided with a similar feedback form two weeks after our visit, describing what they learned and what they took away from our partnership. As well, our group plans on reconnecting with our community partners after the apple trees have been planted on GI to determine the success of their growth. Furthermore, our group has already, and continues to keep in touch with our community

partner before, during, and 6 months after this visit to ensure the community partners are finding success.

Being perceptive to some of the concerns the community partners had with previous groups is an imperative step to ensure this success. One major concern was that previous groups have over complicated their approach and focused on too many techniques. It is important for our group to focus on a few simple techniques: focusing on specific and basic methods of apple tree grafting. It is important to not focus on problems that may be too complicated to solve such as creating all new resources from scratch. As well, the success of the apple trees and the techniques utilized will depend on the conditions, such as soil type, climate, animal problems, and local resources that are specific to GI and are not documented in literature.

Not only do we plan on sharing knowledge with our community partners first hand, but other external audiences will be able to access these resources and findings as well. One of our group's main goals is to broadcast a tutorial video on YouTube demonstrating proper techniques of effective apple tree grafting, and on top of this, we also plan on making our final report findings and results public in our blog section for external audiences.

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