

TRINITY ONE SUMMER INTERNSHIP REPORT

May- August 2019

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Summary

Over the summer I was part of the Food Systems Network (FSN). The members of this network were Rachel Ready, Charles Deng, and myself, under the guidance of Professor Nicole Spiegelaar. We were students of the Butterfield Environment and Sustainability stream of the Trinity One Program in the 2018-2019 academic year. This summer opportunity had four main components: Academic Research, St. Hilda's Garden, Trinity College Rooftop Garden, and the UTSC Gardens and Farmer's Market. In addition, we explored the possibility of implementing different sustainability projects at Trinity College. For example, implementing compost bins in the residence kitchens, conducting food waste audits, and working in partnership with the Food Advisory Committee to reduce food waste. In addition, we met with the University of Toronto Sustainability Office to discuss what Trinity College can do to match the sustainable goals and standards that the University has regarding waste management.

Academic Research (May- August)

Topic: The relationship between gardening and mental health

Throughout the summer I read a variety of articles and books relating to mental health, stress, psychological stress, psychological stress reduction, gardening, and non-pharmaceutical treatments for stress. After reading said articles I wrote a Literature Review to summarize what is known about the relationship between gardening and mental health. It is important to mention that there are many literature and pilot studies about the benefits of gardening on senior people, however, there is scarce literature about how gardening can help youth and young adults. Gaps in the literature indicated that further research should be made to study the benefits of gardening on young adults.

As an extension of my independent research, I implemented medicinal garden in the yard of St. Hilda's. The goals of this garden were:

1. To grow plants that have medicinal properties, in particular, that would help reduce stress.
2. To learn what kind of medicinal plants grow better in the region.
3. To use the plants to make tea and offer it to the FSN members and volunteers.
4. To analyze the possibility of having a bigger medicinal garden at the St. Hilda's rooftop garden.

St. Hilda's Garden (May- Ongoing)

The St. Hilda's Garden has three raised beds. These were designed and built by the students of the Food System Network. Two of them have the following plants, tomatoes, carrots, spinach, pak choi, kale, mixed greens, cucumber, marigolds, and nasturtiums. The third raised bed is a medicinal garden that has plants such as lavender, chamomile, peppermint, strawberry mint, oregano, curry, sunflowers, and mixed greens.

The project of the raised beds was influenced by the idea of growing food in the city, specifically, in spaces such as universities and schools.

- Process:
 1. Research different raised bed garden design ideas
 2. Design a map of the raised beds and select plants
 3. Build raised beds
 4. Take care of the plants
 5. Harvest products
 6. Organize picnics
- Goals of this project:
 1. To learn how to grow food in a space such as Trinity College
 2. To learn where our food comes from
 3. To observe the development of the plants
 4. To study the possibility of taking this project to a greater level. ex. greenhouse



Nathan P., Rachel R., and Prof. Spiegelaar. building the raised beds.



Raquel S. preparing the soil to plant seedlings. Rachel R., Charles D., Lucas W. planting seedlings



Summer interns with Prof. Spiegelaar planting seedlings.



Raised bed #1 and medicinal raised bed



Left: Harvested products, mixed greens.



Right: weekly picnic

Community engagement

Once we started harvesting the products from the St. Hilda's Garden and Munk Rooftop Garden, we organized weekly picnics. Every Thursday, after our group meeting, we had lunch together while discussing about the project each one of us was doing and other topics of interest. I had fun organizing picnics and sharing time with the team outside of work. We wanted the Trinity Community to experience the same and to talk with them about the FSN. For this reason, we organized a Harvest Party in mid-August, where we invited faculty and staff members, as well as students.



Left: *Harvest Party*



Right: *picnic*



Left: *Members of the FSN with volunteers Pallavi P. and Lucas W.*

Trinity College Rooftop Garden (May- Ongoing)

We supported and took care of the rooftop garden located in the North building of the Munk School of Global Affairs. This garden is managed by Nathan Postma, a University of Toronto student alumni. There are 80 biotops in the rooftop garden. As the rooftop is a limited space we used the BIOTOP system to grow different plants. This system is easy to operate and produces more vegetables using less soil and water. At the beginning of June, Nathan hosted a work party where volunteers helped set up the rooftop garden. We planted tomatoes, eggplant, hot peppers, peppers, kale, and zucchinis. After harvesting we took data to have as a reference for future years. In particular, this data would be used to see which products grow well in the rooftop. Nathan hosted workshops on how to water the plants and provide information on nutrients and minerals in soil.

In addition, we assisted Trinity College student Hila Lali's research by collecting data of the plants that were part of the study. Hila's research project topic is Mitigating Climate Change-related effects on city environments through Urban Agriculture and Design.

- Goals of the Rooftop Garden:
 1. To grow food in a University-setting space
 2. To produce products for the community
 3. To attract pollinators
 4. To collect data and do research



Left: Raquel S. watering the seedlings after planting them. Middle: Harvested beans. Right: Rooftop garden (early June)



Left: rooftop garden (early August)



Right: harvested eggplants

UTSC Gardens and Farmer's Market

As part of the internship we went to the University of Toronto Scarborough campus every Wednesday. There, we worked under the supervision of Beatrice Lego, she's the Coordinator of the Edible Campus Program. This initiative aims to enhance food security and promotes sustainable actions on campus. The Edible Campus Program plays an important role in educating the community about food security, how to grow food, how to take care of plants, and nutritional recipes. In addition, it engages the community through weekly lunches and by selling products at the Farmers' Market.

In late April we went to UTSC to plant seeds in biodegradable containers. We left all the containers in the Greenhouse located in the Science building. We planted a variety of plants such as tomato, basil, jumbo melon, kale, bronze fennel, pickling cucumber, marigold, and nasturtiums. On May 22, we transplanted the plants to the rooftop garden located in the Instructional Centre Building. In addition, we planted carrots and peas.

In early June we started selling seedlings at the UTSC Farmers' Market. We were the only vendors that sold this kind of products. Most of the people that attended the Market were students, as they were in summer school. However, faculty members and neighbors were more likely to buy the seedlings. Once we had products from the rooftop garden we sold them at the Market. We had success selling garlic scapes, mixed greens, service berries, peas, beans, and herbs.

It was very satisfying talking to the people that went to our stand. Many of them had experience growing food or interested in food security and urban gardening. From the conversations we had with our customers we knew which kind of products they like. It would be a good idea to conduct surveys about the products of interests of the community before the season starts so we can satisfy the needs of the customers.

Even though we wanted to use the UTSC farm to produce more products, we were not able to use this space the way we planned. This happened because of the lack of permission to plant there. The space where the farm is located used to be a landfill so there's a risk that the soil is contaminated. As a backup plan we planted some tomatoes in milk crates. Other members of the Edible Campus Program were in charge of six raised beds and potato towers.



Rachel R. and Charles D. selling seedlings



Members of the FSN selling seedlings



FSN members

Project: Waste management

An additional project I took on with Rachel Ready this summer at Trinity, focused on reducing food waste, which was a follow up from the research proposal I did in my TRN141. At the beginning we had many ideas of things we wanted to implement but we realized that we couldn't commit to do those things without having a specific plan and without the support of the Admin. For these reasons, we met several times with Tim Connelly, the Manager of Facilities and Services of Trinity College, to know about what the college is currently doing and what are our options are. The main thing we wanted to do was implement compost bins in each kitchen and common area. The bags were going to be collected and put with the compost bags collected from Strachan Hall. This plan was not carried on because we faced different set-backs, in particular, that if we wanted to implement the compost bins we were the ones in charge of collecting the

bags each week. This problem reflects that without the support of the Administration, it is not possible to take into actions activities that involve all the members of the community.

Another component of this project is to work with the Food Advisory Committee and the Trinity College Environmental Society to conduct audits on food waste. This may include analyzing what type of food is being wasted the most, what kind of food students prefer the most, and how many trays of food are thrown away every day.

Networking

The FSN connected with Urban Agriculture initiatives such as the Bela Farm, Black Creek Community Farm, and St. JamesTown. These opportunities were very valuable for me as I had the chance to know more about different agricultural projects in Toronto. It would be interesting if we can partner with any of the mentioned organizations in the future to support their work and see if any of their projects could be applicable at Trinity College.



Members of the FSN, Prof. Scharper, and Prof. Spiegelaar at the Bela Farm



Summer interns at St. JamesTown Community Garden



Black Creek Community Farm

Conclusion

I'm very grateful for this summer opportunity. This was an invaluable experience as a first year student. I got to do research and work on different projects such as the gardens, Edible Campus Program, and the waste management initiative. As a Trinity College student, I'm happy that I worked and looked forward to improve and develop sustainable projects at the College. In addition, the learning process was adaptable as we learnt more from the different projects we were working on and the people we met. This allowed us to expand our goals as a team.

An important aspect to take into consideration is that student's initiatives need the support of the Administration to carry them out. I would suggest that when planning the internships talk to the Admin and check with them if the planned activities can be implemented.