



Campus Sustainability Grant Final Report

Project Title: **The Community Crop Cache (C3)**

Principal Investigator: **Kelton McConnell**

Student Collaborators: **Cecelia Chrisholm, Margaret Schraye, Caroline Quandt**

Faculty/Staff Sponsor: **Andie Bisceglia**

Project Description

The Community Crop Cache (C3) project centered on converting an in-place shipping container into a climate-controlled storage container for recovered and harvested fruits and root crops while also supporting additional refrigeration space located at UGarden for fresh produce storage. A surplus of fresh produce grows in the Athens area, and much of it goes uneaten due to lack of infrastructure and storage capabilities. As such, C3 aimed to construct sustainable storage spaces for additional fresh produce processing with the help of Campus Kitchen, Concrete Jungle, UGarden, and Grow It Know It (GIKI). With the combination of increased storage capability and enhanced collaboration between established local organizations, C3 has provided a means to reduce future food waste and combat food insecurity for Athens area residents.

As a UGA funded project, we ensured C3 contributed to goals in UGA's 2020 Strategic Plan. C3 decreased food waste entering landfills (Strategic Direction VII, Priority g, Benchmark 2), by increasing available food storage space, and this additional storage space will increase the number of Georgia-grown foods available to Athens-area residents and UGA students (Strategic Direction VII, Priority g, Benchmark 3). Additionally, with enhanced infrastructure through collaboration with UGarden and GIKI, Campus Kitchen has created additional service-learning opportunities via the new Food Processing shift leader positions (Strategic Direction IV, Priority d, Benchmark 1).

Work on C3 began in the first week of classes in January 2021 with the inside shelving and accessories of the shipping container removed by the help of Andie Bisceglia, the Campus Kitchen AmeriCorps VISTAs (Miriam Wilch & Kristyne Allen), Mary Anne Roach (a Health Promotion capstone intern), and me (i.e. the primary C3 team). Our shipping container, along with the other reclaimed UGarden containers, were moved to their permanent locations by the help of the primary C3 team, David Berle, and UGarden Interns from HORT 3920. Retrofitting of the inside of the container and installation of the A/C unit and back wall were overseen by the primary C3 team. Exterior washing, cleaning, and painting were completed by the help of WMST 4170S, IMPACT Service Breaks, and First Year Day of Service with Serve UGA. Completion of the project finished in May 2021. In addition, murals were painted as a final beautification step by students Zahria Cook, Rachel Seburn, and AJ Aremu from the Ideas for Creative Exploration lab.



Project Expenses

III. Personnel

	Number of People	Amount/Person	Subtotal
Contractors			\$
UGA Staff			\$
UGA Student			\$
Other			\$
Personnel Total			\$0

II. Equipment

Specific Equipment Items	Length of Use	Subtotal
1.		\$
Equipment Total		\$0

III. Supplies/General Expenses

Specific Supply Items	Comment	Subtotal
Lumber & Hardware		216.85
Vinyl Flooring		353.70
Paint		332.40
Shelving		462.97
Folding Tables		481.67
Harvest Bins		270.00
Food Boxes		230.00
Outdoor and Indoor Lights		39.99
AC Units		1099.98
Cool Bot		349.99
Sanidate		284.00
Disposable Gloves		269.97
Large Fans		257.98
Supplies Total		\$4997.46

GRAND TOTAL **\$4997.46**

Academic Impact



Dr. Cecilia Herles' WMST 4170S/6170S (Environment, Gender, Race, and Class) and Professor David Berle's HORT 3920 (UGArden Internship) directly assisted with the C3 project.

Research Value

No research questions were addressed via this project, and no new applications of research were implemented.

Engagement

- a) Partnerships with UGArden, Concrete Jungle, and Grow It Know It were enhanced through this project.
- b) The direct beneficiaries of the project are Campus Kitchen and their clientele. Subsequent beneficiaries are UGArden, Concrete Jungle, and Grow It Know It along with the members of the Athens-Clarke county community in need of fresh food.
- c) Social media updates of the project were conducted on Instagram via story format, and approximately 1,140 individuals observed the updates based on the follower count of the Campus Kitchen UGA account. C3 was also promoted on the ckuga.org site for website visitors to learn about the project. C3 also engaged with first year students via First Year Day of Service with the UGA Service Squad. IMPACT Service Breaks served with Campus Kitchen to help clean the outside of the storage containers as well, with a group of 6 UGA students.

Project-specific Metrics

Approximately every pound of food wasted contributes an average of 3.8 pounds of greenhouse gas emissions. The main storage container has the capacity to store up to approximately 2500-3000 pounds of food based on shelf space, and the smaller refrigeration unit can store approximately 1000 pounds of food. As such, the total estimate for pounds of greenhouse gas emissions prevented is 13,300-15,200 pounds.

Regarding human impact, C3 had the support of 37 volunteers for a total of 153 volunteer hours. The amount of food recovered through the implementation of C3 will assist approximately 200 families weekly in the Athens area. Since almost all the food items entering the storage containers will be from local areas, this will also cut down on the greenhouse gas emissions required for transport. The average American family averages emits about 0.4 tons of CO₂ annually in their food consumption from food transportation (Weber & Matthews, 2008)¹. With the C3 project serving approximately 200 families and providing 10-20% of their food, this could help cut up to 16 tons of CO₂ annually.



¹ Weber, C. L., & Matthews, H. S. (2008). Food-miles and the relative climate impacts of food choices in the United States.

Photo/Video Documentation

Before:









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After:









Project Assessment

The process of proposal and implementation of the C3 project offered an invaluable experience and gave insight for my future career goals. The grant proposal for C3 gave me my first grant writing opportunity, and I learned extensively how to format and research for a grant proposal through this process. With my future career goals in academia, I know I will write many more grant proposals in the future, so having this experience enabled me to have a glimpse of the grant writing process. The implementation of C3 presented more insight into the implementation of a grant-funded project and how unforeseen obstacles can alter plans despite extensive research. The original grant proposal allocated for solar-power capabilities of the storage container, but during the implementation process, I learned more about barriers in the legislation and true cost of solar power that prevented the inclusion of solar energy. However, through a discussion with UGA Professor Dr. Thomas Lawrence, we found out that insulation is almost more important than solar energy in reducing energy costs. As such, we decided to take steps to insulate the containers via painting the roof white with highly reflective paint and thoroughly insulating the back wall. This experience provided a valuable lesson, not only in solar energy, but in how extensive planning can still be diverted by the unforeseeable details and happenstances. While I learned important life lessons from the C3 project, I also gained skills in construction with the use of power tools. These skills will prove useful in future aspects of my life, and they provide the foundation for other handiwork skills. Overall, this remarkable experience offered me an opportunity to gain skills in grant proposal writing, planning, and execution along with competence in handiwork and power tool all of which will prove useful for my life and future career goals.