

Final Report: Thomson House Container Garden Project SPF project SP0136

Project leaders:

Line Bourdages (line.bourdages@mail.mcgill.ca) and
Amanda Winegardner (amanda.winegardner@mail.mcgill.ca)

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Summary:

Thomson House is home to the Post-Graduate Students' Society (PGSS) and the Thomson House restaurant, and is an important location for graduate students to interact and engage in graduate student life. Following challenges with developing the Thomson House grounds as an integrated part of graduate student activities, the PGSS Environment Committee was granted start-up funds to setup a community container garden, with the major goals of engaging members, teaching and sharing resources on small scale urban agriculture, linking the PGSS gardening initiatives with the greater McGill gardening community, and institutionalizing garden maintenance and local culinary herb production for the Thomson House restaurant.

The garden was first set up in May 2014 after the 9 participants were selected out of nearly 40 applications, on a first come, first served" basis. Each participant was allotted a 4-bin garden plot, and participated in a work rotation for the garden maintenance and watering. A series of six workshops was also organized by the PGSS Environment committee, on topics related to small-scale agriculture. A satisfaction survey done at the end of the gardening season showed that participants generally had a good experience in participating, but that significant modifications to the workshop schedule and topics would be helpful.

The 2014 container garden was a very successful project, and will be continued in 2015 with a new group of participants.

Background and introduction:

The Thomson House permaculture garden was created in 2011 with the assistance of the Sustainability Projects Fund (SPF project 43), with the building of three raised beds and one rain-garden on Thomson House grounds. The goals were to integrate a permaculture system with a food production unit, as well as to "make Thomson House more sustainable, interest the House's users in urban agriculture, attract pollinators to the associated container garden, and add to the biodiversity of the surroundings around the building" (Wrobel, 2012). While the garden setup went according to plan in this project, the efforts toward local food production for the Thomson House restaurant and the institutionalization of garden maintenance were unsuccessful. Following the initial phase of the project, the garden was put under the responsibility of the PGSS Environment Committee and volunteers have struggled each year to plant and maintain the garden, mostly due to a lack of time and human resources. This was emphasized in a 2013 audit of sustainability at Thomson House (SPF project 27), where it was found that the garden had not yet reached its full potential in terms of providing produce for the Thomson House kitchen. The PGSS recently adopted its new Sustainability Action Plan, which presented a series of objectives for each stakeholder, including the PGSS Environment Committee. Those objectives include an increase in environmental education events, an increase and diversification of native plants around Thomson House, the increase of locally produced food served at the Thomson House restaurant, as well as the long-term development of an ongoing outreach campaign devoted to environmental and sustainability issues surrounding PGSS. It is with the intention of improving sustainability practices at PGSS --through the satisfaction of those objectives-- that the PGSS Environment Committee proposed the installation of a community container garden on Thomson House grounds.

The Thomson House container garden project was successfully funded in May 2014, just in time for the start of the 2014 gardening season. The project was composed of three parallel activities: the container garden itself, the Thomson House herb garden, and a series of small-scale gardening workshops for the participants. The participants were responsible for planning, planting and harvesting their respective container plots. As a group, they were also responsible for the collaborative care (watering and slight maintenance) of the whole container garden and Thomson House herb garden, thereby contributing to the sustainability of the kitchen garden. This improved sustainable food production and community participation contributed directly toward the Environment Committee's outreach campaign. The garden was designed as a community endeavor, with monthly meetings for follow-up and skill improvement workshops. The maintenance was organized in collaboration, with watering schedules and a mailing list for easy communication. The logistics were spearheaded by the Environment Committee. Finally, the main stakeholders of the project were the 9 gardeners, the PGSS Environment Committee and the Thomson House restaurant staff.

Project outcomes and lessons learned

Container Garden

The container garden was composed of 7 plots of 4 self-watering containers, which were

allotted between the 9 participants (2 sets were allotted to pairs of participants). Containers are chosen instead of in-ground plots because of the elevated levels of lead found in parts of the grounds (Rodrigues, 2013) and because containers are cheaper and require less start-up efforts than raised beds. All containers were built as part of our first workshop, using 50L plastic bins, corrugated plastic and PVC pipes. In the project, reusing, recycling and upcycling was prioritized to put an emphasis on the accessibility, affordability, and environmentally friendly aspects of small-scale urban agriculture. This included the use of discarded corrugated plastic (electoral signs) and yogurt containers for the bin construction, discarded pallets to make platforms to stabilize the bins, free compost from the St-Michel Environmental Complex.

Each participant (or pair) was responsible for the planting and harvesting of their respective plot, while the watering of the garden was done in a rotation, that is each participant was responsible for watering during 2 weeks of the summer. This allowed for a well organized watering schedule that limited work hours and hassle, and was perfectly suited for the participant's irregular summer schedules, since several people were absent for part of the season for vacation of field campaigns.

Harvest success was largely dependent on participants' plant choices and effort, as can be seen in the following table, describing the variety and quantities of produce harvested by those participants that filled our end-of-season survey:

Table 1: Participant harvest description. Self-reported in the end-of-season participant survey.

Participant	Reported Harvest (estimations)
1	10 cherry tomatoes, 30 small peppers, small handful of swiss chard, rosemary from one plant.
2	5 bunch kale, a tiny broccoli, 2 large tomatoes (thats the disappointing bit), LOTS of ground cherries, 1.5 hungrian peppers (also disappointing), plenty of basil & oregano. Herbs, kale, and ground cherries grew wonderfully, sweet peppers (hungrian) & tomatoes (not sure which variety, maybe brandywine) did not (other people's cherry tomatoes/jalapeños were doing a lot better). Cauliflower & broccoli did not flower except for one broccoli that flowered late.
3	10 eggplants, 50 hot chilli peppers, 60 cherry tomatoes, 5/6 handful of mint
4	Mostly flowers
5	20 cherry tomatoes, 4 tomatoes, 40 hot peppers, 3 lbs swiss chard, 5 small handfuls of basil
6	Not much, because I lacked time

Challenges and lessons learned:

The bins purchased were not UV treated and were not very robust or durable. They most likely will last another season but will begin to break after another season. It would be preferable to invest more money for more durable bins, thus being less wasteful and reducing the year-to-year costs. Also, two of our container double-bottoms collapsed

during the summer. Effort should be put in building strong and sturdy double bottoms for the bins, to prevent collapse and having to re-build them the next year.

We had several technical issues with watering during the summer. At the beginning of the season, it took several weeks for the Thomson House tap to be turned on, making early watering practically impossible. Hoses were too short to reach the Thomson House herb garden and participants had to carry water for that garden. We then had issues with leaks in the faucet and hose, leading to the Thomson House management to require the water circulation to the tap be closed at all times and opened when necessary inside Thomson House. This was very impractical since it meant participants had to water the garden only when Thomson House was open. Finally, the tap being on the Thomson House terrace, we were asked by Thomson House management to not water the garden during terrace hours as to not disturb customers and waiting staff. This meant that watering had to be done at specific times when nobody was using the terrace. As the terrace is quite popular during the summer, this made the watering very inflexible and impractical. A possible solution to this would be to get the tap fixed behind Thomson House. Discussion with Thomson House management leads to believe that this would be too expensive to do. Another option is to get a large water container to provide a backup when the Thomson House tap is unavailable. However, this would only be practical with a pump system so that participants do not have to carry several buckets of water to both gardens.

Finally, a better effort should be done to encourage participants to use resources such as plantcatching.com, which provides a network for sharing and trading gardening items (e.g. seeds, materials, compost, etc.)

Small-scale agriculture workshop series

The goal of the workshop series was to share resources and teach new skills related to small-scale urban agriculture, with an emphasis on accessible, low-cost and community-oriented options. Our goal was to share resources from other McGill and Montreal gardening initiatives with our participants, in order to link and maybe engage our participants with other sustainability.

The list of workshops can be found in Table 2, along with a description of the content and a count of attendance.

Challenges and lessons learned:

The series was designed for beginners, whereas the garden participants had a variety of experience levels. This made it difficult to provide satisfactory content for every one. The garden and workshop series being such separate activities, it is recommended that they be kept separate in the future. This would allow for those

participants needing more help to attend the workshops and for a greater participation by opening attendance to the general PGSS population.

Another challenge was found in the timing of the workshops. For example, the companion planting workshop came at a time when some people had already bought some of their seedlings. In the future, the workshops related to garden design should be given before the start of the gardening season.

In general, according to the end-of-season survey, participants were satisfied with the workshop series. They recommended future series to have a workshop on harvesting and preserving tips. This workshop was planned in the original project description but summertime limited availabilities prevented us from having it. Also, the inclusion of content related to local growing, connection to food and food sovereignty might be an interesting approach to motivate participants and to further their desire to pursue small-scale agriculture in the city and to get involved in the sustainability and food sovereignty movements.

Table 2: Workshop series description.

Workshop topic	Material	Cost	Attendance
1. Self watering containers	50 L bins soil corrugated plastic sheets small PVC pipes Drills, zip-ties, utility knives	275\$	8
2. Companion planting and edible flowers	Handouts, pencils and container plot design sheets	0\$	8
3. Intro to urban bee keeping	Bee hive, member of beehive initiative	0\$	7
4. Organic pest control	spray bottle, large PVC pipe and bamboo sticks for ladybug habitat (drill, twine, raisins)	30\$	7
5. Organic fertilization	Fertilizing kits from Action Communautaire, compost tea, egg shells	30\$	2
6. Winterizing	Brown bags for garden waste, tools, compost (free from city of Montreal)	10\$	4

Thomson House herb garden

Along with watering the container garden, participants were also responsible for the maintenance (watering and simple weeding) of the Thomson House herb

garden, located on the north side of Thomson House. Herbs were planted according to Thomson House request: one large bed of basil, one large bed of parsley, and smaller patches of dill, oregano, and peppermint. The garden production was very good and the kitchen staff satisfied with the harvest, but unfortunately the produce was not fully used. There was significant loss of harvest and a large amount was salvaged at the end of the season and split between the container garden organizers and participants.

Challenges and lessons learned

As per previous years, there were significant difficulties related to the use of the Thomson House raised beds to produce herbs for the restaurant. In previous years, problems were linked to low productivity and failed communication between the garden organizers and the kitchen staff. This year, the problem seems to have been linked to the fact that the Thomson House kitchen did not need the herbs produced. In fact, it seems that to be used by the kitchen, the harvest would need to be more predictable. There is also a need for the kitchen staff to plan for the use of the herbs in their menus. We attempted to improve communication with the kitchen staff and provide resources for them (such as harvest fact sheets etc.) in order to better streamline garden production with their menus, but this will have to be an ongoing effort.

The Thomson House manager had mentioned purchasing a dehydrator to preserve the extra herbs but this plan never concretized.

A conclusion from this aspect of the project is that unless the kitchen staff become directly involved in the growing of the herbs, the Thomson House herb garden might not be suited to produce harvest for the restaurant. Another possible opportunity for the development of this garden is to redirect the produce toward initiatives like the Midnight Kitchen, the Santropol Roulant meals-on-wheels program, or other activities related to food sovereignty.

Project Management

Communications:

During the project, communication was done through the use of a Facebook group. This was very practical, but some people did not check it as diligently as they would

their email. Important communications were therefore done both on the Facebook group (tagging each participant was required) and by email list. The Facebook group however made it very easy to keep all information centralized (e.g. watering schedule, picture sharing), to post pictures of problems arising (e.g. hose problems, pests and disease in the garden) and to share gardening related resources. A total of 80 posts were made during the season, and all participants were relatively active.

Communication of our project outcomes was done using Facebook posts on the main PGSS page. Three such posts were made with little return. Some interest was however shown from PGSS members that physically visited the garden. Several people indicated being interested in participating in future seasons. A more official project sign should be constructed using the 2014 gardening season outcomes (e.g. infographic), to attract new members and increase exposure of our project.

Connections with other gardening initiatives:

Contact with other gardening initiatives were limited to the Thomson House beehive collective. This connection was very interesting since it was reciprocal. In fact, the beehive collective relied on the garden project to secure the space for their hive, and in return participated in our project by providing a tour and workshop related to their installation. The beehive has been overwintered at Thomson House and will remain there for the 2015 summer season. A community garden participant as initiated a new project in collaboration with the beehive managers to improve the pollinator habitat around Thomson House (pending SPF application).

We recognize that it is important to connect and forge connections with other gardening groups on campus. This first year was not successful in creating those links as we focused on developing the program and problem-solving several technical issues due to tools and watering. In fact, communication regarding the workshops and garden issues was already significant, and supplementary information regarding other initiatives on campus and in the city would have been excessive. In future years, with the workshops being kept separate from the container garden, it is likely that connections might be easier to approach.

As mentioned in the previous section, communication with Thomson House kitchen staff is still problematic. There needs to be direct involvement and to have a system to track how much is being used by the kitchen so that excess can be distributed rather than wasted.

Quantitative and qualitative assessment:

The success of the garden project was evaluated using three tools: the impact metrics as required by the SPF, an end-of-season satisfaction survey and the comments gathered from the participants and other stakeholders throughout the season.

Impact metrics are shown in Table 4, and indicate that, based on the metrics presented, the project outcomes were up to our expectations, except perhaps when it comes to the number of hours worked by L. Bourdages and A. Winegardner, which turned out to be more than expected. Herb harvest used by the Thomson House kitchen was not accounted and can unfortunately not be used as an impact metric.

In terms of general appreciation, participants enjoyed the project and showed excitement and gratitude throughout the season. Several participants had never had a garden before and found it interesting and energizing to spend some time outdoors and to cultivate plants as well as a positive attitude! Table 3 presents results a series of questions related to appreciation of the project and its different aspects. Participants were generally satisfied except for some dissatisfaction related to the workshop content level and the harvest compared to expectations. The participants made two main recommendations:

- Give workshops on harvesting techniques and preserving
- Put in place a tracking system of what plants grew successfully or not, in order to facilitate choice of plants that are productive in the specific setting at Thomson House.

Impact on the culture of sustainability at McGill

While our garden project was designed for a limited number (9) of participants, the impact on the culture of sustainability at McGill was relatively small. The project's success, however, was promising and we learned a lot on how to approach small-scale projects as well as what is needed to increase exposure and connections with other groups. The opening of the workshop series to the greater PGSS population will certainly be a feasible and effective way to increase exposure and interest, and to increase our impact in terms of teaching small-scale gardening skills.

Also, while the gardening skills that were taught are useful and can be used to start a container garden at home, the vision and philosophy behind local growing, connection to food and food sovereignty was not well transferred to the participants. As mentioned previously, the inclusion in the workshop series of content related to food sovereignty and the benefits of local production might be an interesting approach to further motivate and involve participants in the sustainability aspect of small-scale agriculture.

SPF experience

The experience with the Sustainability Projects Fund was easy and simple. As the Thomson House container garden project was relatively small and straightforward in terms of funding, timeline and outcomes, there was little interaction between the organizers and the Fund administration.

The tools provided by the SPF were simple to use and useful, especially the metrics template, which helped in establishing which metrics were adequate for our project.

Recommendations for future project managers:

Keeping track of all project-related information was of great help in producing the end-of-project deliverables. Keeping an up-to-date, detailed work plan with notes, comments and criticism also provided a very valuable resource to improve our project for future seasons.

Table 3: Appreciation survey results

Question	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
Generally, I appreciated being part of the Container garden project	0	0	0	4	3
I found the experience worth the money spent (25\$)	0	0	1	2	4
I found the Facebook page to be an appropriate means of communication	0	0	0	3	4
I learned about container gardening	0	0	0	4	2
I found the amount of work to be reasonable	0	0	0	1	6
I acquired enough skills to continue	0	0	0	4	3

container gardening at home					
I found the workshop topics interesting	0	0	1	3	3
I found the level of the workshops appropriate	0	1	1	4	1
I found the balance between information and hands on activities to be adequate	0	0	2	3	2
I found the workshop facilitators knowledgeable	0	0	0	4	3
I would recommend participating in the project	0	0	0	4	3
I would participate in the project again	0	1	0	5	1
I appreciated the community aspect of the project	0	0	0	4	3
My harvest was up to my expectations	0	2	3	0	2

Measurables and deliverables

Table 4 : Impact metrics

Indicator (qualitative or quantitative)	Target	Actual	Notes
Attendance to workshops	90.00%	67%	
Number of gardening workshops	7	6	see table for workshop descriptions
Hours worked on project by L. Bourdages	25	40+	
Hours worked on project by A. Winegardner	25	40+	
Hours worked on project by Participants	15		Not accounted
Number of PGSS members interested to participate	15	37	
Number of participants	8	9	Some participants decided to share their plot.
Number of direct partners	4	3	Thomson House staff, PGSS environment committee, Dandelion beekeeping initiative,
Quantity herbs used by TH kitchen			Was not measured by Thomson House staff
Total harvest by participants		n/A	See harvest table
Number of Facebook posts to communicate to PGSS membership	4	3	No interest from PGSS membership on Facebook.
Number of Facebook posts to communicate within group	30	80	Communication between participants and organizers, info about pests, watering schedule, gardening related events, tips, etc
Number of posters describing the project	1	1	Ad on Thomson House TVs
Number of weeks of gardening	18	18	
Number of bins constructed	28	28	a couple of bins broke

Number of links to other gardening initiatives

3

2 Thomson House Bee hive, Concordia seedling sale

**Table 5:
Workplan**

Task	Status	Start Date	End Date	Costs	Details	Measurables
Participant selection	Completed	01-04-2014	07-04-2014	0	Email was sent to PGSS Newswire, 37 people replied. We selected on first come first serve basis	Interest (number of interested people)
Initial Material purchasing	Completed	21/04/2014	15/05/2014	450	bins and soil(soil covered by pgss), storage unit and tools	
Hose repair for raised bed	Completed	15/05/2014	31/05/2014	0	A. Pierzchala provided longer hose to allow watering of raised beds	N/A
Bin construction	Completed	21/04/2015	15/05/2014	0		Number of bins constructed, Number of hours worked on project
Workshop 1: bin construction	Completed	15/05/2014	15/05/2014	0	Participants helped build most of the bins	Attendance, satisfaction survey, number hours on project
Information Sign	Completed	01-06-2014	15/05/2014			
Workshop 2: companion planting	Completed	12-05-2014	15/05/2014	0	Preparation of handouts, workshop facilitation	Attendance, satisfaction survey, number hours on project
Workshop 2.5: Urban beekeeping	Completed	16-9-2014	16-09-2014		Tour of beehive, Q&A	attendance, satisfaction survey

Workshop 3: pest control	Completed	10-06-2014	15/06/2014	60	Hands on part: we went to the garden to assess presence of pest. Material: spray bottle, ladybug habitat material	Attendance, satisfaction survey, number hours on project
Participant survey	Completed	10-09-2014	30-09-2014	0	Survey monkey survey sent in september, 7 participants replied	Satisfaction survey, number of hours, harvest quantities
Workshop 4: fertilization	Completed	10-07-2014	17-07-2014	30	3 fertilization kits from Action Communautaire	number of bins fertilised, attendance
Workshop 5: Herb harvesting	Canceled	10-08-2014	31-08-2014	N/A	Attendance too low for workshop	Attendance, satisfaction survey, number hours on project
Workshop 6: Winterizing	Canceled	N/A	N/A	0	Compost	Attendance, satisfaction survey, number hours on project
Garden Clean up	Completed	15-10-2014	15-10-2014	0	5 participants helped clean up the garden and put bins away	Attendance, satisfaction survey, number hours on project
Video	Completed	1-7-2014	31-3-2015	0	Picture taking, interview with participants, montage,	posts on facebook
Final Report	Completed	15-09-2014	31-3-2015	0		posts on facebook, final numbers,

Table 6: Complete Budget

Revenues	Requested Budget		Approved Budget	
	Date	Amount	Date	Amount
SPF Funding	Apr-1-2014	\$750.00	May-1-2014	\$750.00
Other sources of funding				
PGSS Env. Committee	Apr-1-2014	\$270.00	Apr-1-2014	\$200.00
Ammendment requested				
Total funding		\$1,020.00		\$950.00

Expenses		Amount	Date	Amount	Running Total	Description / Comments	How the Expense is Being Paid
Start up material	plastic bins	26	Early May 2014	\$200.15		containers for garden plots	SPF
	brown green waste bags	1	Early may 2014	\$10.89			SPF
	Garden tools + storage unit	5	Early May 2014	\$212.58		rake, shovel, cutters, hand shovel	SPF
	soil	30	Early may 2014	\$74.56		container with lock	SPF
	PVC tubes	4	Early may 2014	\$31.91		necessary for bin making	PGSS env committee
	rain catching bucket	1	Early may 22014			To avoid problems with TH hose,	SPF
							We never bought one.

	tarp	1	Early may 2014	\$25.26		Protection for soil over winter	SPF
Pest control workshop	large PVC tube + spray bottle	1	15-Jun-24	\$19.48	\$555.35	ladybug habitat, natural pest control	SPF
	bamboo sticks	2	15-Jun-14	\$8.60			SPF
Fertilization workshop	Fertilization kits	3	15-Jul-14	\$30.00	\$28.08	includes all nutrients in ready made kits	SPF
Winterizing workshop	compost bags	10	1-Oct-14	\$50.00		Compost to fertilize soil for next year	free! (city of Montreal)
Workshop facilitator compensation					\$80.00		In the end, we did not compensate the workshop facilitators
Info sign for garden	Corrugated plastic sign	1	Mi-August	\$0.00	\$0.00		We printed and laminated a piece of paper
					\$0.00		
Total budget spent							\$663.43
Total budget remaining							\$286.57

