

Neighbourhood Greenhouse Co-operatives

A Model for Neighbourhood Garden Transplant Production

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Overview

This document is a manual for creating and managing a neighbourhood greenhouse co-operative for the production of vegetable and flower transplants for use in the gardens of the co-op members. Managing a greenhouse co-operatively is a great way to encourage community-building around the subject of local food production. The seeding and transplanting work is relatively easy for the inexperienced, and the results are obtained within a few weeks – high quality transplants for the home garden. Everyone learns, networks and co-operates.

The co-op model uses a single greenhouse, owned by one of the co-op members, or possibly in a jointly-owned or public location. Generally in more Northern climates, greenhouses are important for early transplant production because of the heat and shelter afforded by a greenhouse. Transplants must be started 1-2 months prior to setting out into the garden in the Spring. Either heated or unheated greenhouses can be used. I will provide the operating guidelines that we have been using for our co-op, and provide suggestions for adaptation to other situations.

Background

The original 'No Guilt' Greenhouse Co-op is located in St Margarets Bay, Nova Scotia, and it evolved gradually over several years. It is based at our home, using a 7'x18' unheated, attached greenhouse. In the early Spring of 2007, we started the first co-operative growing season. Initially, 4-8 other households were involved, and this number has grown until over 25 households are involved at various levels. At its peak, perhaps 6,000 transplants were produced in this relatively small greenhouse, consisting of



most every type of vegetable transplant, and some flowers. The overwhelming focus, however, is on vegetables.

The name 'No Guilt' was coined by a member, describing the fact that it did not matter how much any particular member helped out in the growing process. If they missed several of the work sessions – no problem! They could still take a portion of the transplants produced.

The transplant production season in Eastern Canada begins in early

March (or perhaps late February for small quantities of crops initially grown indoors under lights, such as

tomatoes) and extends to early June. Tomatoes will take the whole of this time frame to grow out to large plants, and by mid-May, will consume most of the greenhouse space before they are dispersed to the members in late-May. Other transplants, such as lettuces, grow more quickly, and can be finished in 4-6 weeks and dispersed at various times beginning in mid-April.

Setting up a Co-op

Greenhouse

The main requirement for a greenhouse co-op, obviously, is a greenhouse. In some cases, it may be useful to 'inventory' the existing greenhouses in a neighbourhood or community. If some of these greenhouse owners are amenable to the idea of a co-op, they should be approached. Building a greenhouse is the alternative, either by a single homeowner, or jointly by a group in a common location. There is a wide range of greenhouse types and sizes. Capital costs for a modest greenhouse vary between \$800 to \$5,000, depending on a range of factors. I always encourage this type of investment, as any gardening and food production infrastructure will pay back in multiples over the years of its use. A greenhouse need not be very large if it is used primarily for transplant production. As little as 50 sq. ft. can produce a significant number of transplants. Our 125 sq. ft. greenhouse produced as many as 6,000 transplants. Ideally, it would be good to tap the knowledge of someone with greenhouse experience to advise on proper construction, maintenance and operation. After the transplant season is over in mid-June, the owners of the greenhouse can then convert greenhouse use to heat-loving summer crops, such as tomatoes, cucumbers, peppers, and eggplant.



Operation

A greenhouse co-op is organized by one or more co-op managers. These should be the people who own the greenhouse and/or have the most experience in growing. A single manager/owner could be helped by several assistant managers, or there could be joint managers. As a co-op grows in size, it is good to have more than one person helping with planning and preparations for the work sessions.

The largest part of the work in garden transplant production is filling plug trays or pots with soil mix, seeding, thinning and transplanting into larger containers. The members gather on a weekly or biweekly basis for several hours to perform these tasks. During the rest of the time, the co-op manager keeps the plants watered, and fertilized as required. Watering takes perhaps 5 minutes per day, and fertilization is done every 1-2 weeks. The No Guilt Co-op starts meeting in mid-March on a Sunday afternoon, and continues every other Sunday until early June. Occasionally, the day is switched from a Sunday to Saturday, or other schedule changes are made to accommodate the greenhouse owner.

There is usually about 70% attendance of the members at a given work session. After working for 2-3 hours, members enjoy snacks, coffee, tea and more social time. One of the main benefits of a

greenhouse co-op is the fact that neighbours get together on a regular basis to socialize, and usually the conversation is dominated by gardening!

The manager estimates the costs that will be involved for the growing season, including trays, pots, potting mix, seeds, fertilizer and anything else that needs to be purchased for the season. These operating costs are then shared among the members. Greenhouse supply companies can provide case or bulk quantities of many items at a discounted price. In the No Guilt Co-op, we charge \$35 per season for a full membership, and \$20 per season for a half membership (a half member is not able to attend as often, and is expected to take a smaller portion of the transplants). These fees, from approximately 20-25 families, generates about \$600-700 to cover these costs.

Managing a Co-op

Seeds and seeding

Seeds are purchased by the manager in sufficient quantity for the number of members involved, bearing in mind that most seeds can be kept over for several years by keeping them cool and dry. When seeds packets are purchased, print the year on each packet. Always use the oldest seed first. I store my seeds year to year in zip-lock bags, inside a plastic container, in the refrigerator. Keep your seeds as dry as possible; your 'seed bank' is a valuable asset.

It is a good idea to kick the season off with a potluck, and discuss among the members what types of vegetables and flowers will be grown, and which varieties of each. Some members will contribute seeds. At some point, the manager may need to restrict the number of varieties of a single vegetable that will be grown, due to space constraints. For example, one year, we grew 18 varieties of tomatoes, which was too many! At least half of these varieties were contributed by members. If there is any doubt about the viability of old or contributed seed, it is always a good idea to run a germination test – place some seeds within a folded wet paper towel for 10 days and count the percentage result.

Generally, the No Guilt Co-op does not grow root crops as transplants. This includes carrots, beets, turnips, rutabaga, potatoes, radish and parsnips. These plants do not transplant well, and members should be encouraged to direct-seed these into their garden. Other crops that are fast growing (arugula, spinach, etc.) are also not produced by the No Guilt Co-op, and people are encouraged to direct seed these as well. Additionally, most peas and beans are not done through the co-op. The primary transplants produced through the No Guilt Co-op include: basil, broccoli, cabbage, celery, chard, cucumber, dill, eggplant, fennel, kale, leeks, lettuce, oriental greens (pak choy, tatsoi), radicchio, onion, parsley, pepper, squash (summer and winter), tomato, tomatillo and zucchini. Occasionally, a few speciality plants are done, such as artichoke, rosemary, ground cherry or okra.

Keep your seeds dry. When members are seeding plug trays during a work session, it is important to underscore to them that it is imperative that the seed packet be kept dry. Moisture will quickly ruin the viability of unused seeds in the packet. Too many times, we see a member put the packet down in a wet

spot and it quickly begins to absorb water. It is a good idea to remind members that the seeds are the most valuable part of the whole process.

For the timing of when to seed various crops to produce transplants for specific finishing dates, it is best to consult a planting guide or someone knowledgeable in your area.

Trays, pots and potting mix

The main purpose of the co-op is to produce healthy transplants for members to take home to plant in their gardens. For this reason, most transplants can be produced start-to-finish in a plug tray. The No Guilt Co-op uses standard 20" x 10" commercial plug trays – either with 72 plugs or 50 plugs per tray. The 72 plug tray will produce excellent quality leafy greens (lettuce, chard, kale, etc.), cabbage, broccoli, radicchio, herbs and most other crops. For some larger transplants, such as peas and broad beans, we use the 50 plug tray. We also use the 50 plug tray for onions, seeding them at a density of about 10-15 seeds per plug. The individual onion seedlings can then be easily teased apart for transplant.

The ideal goal in seeding plug trays is to get one plant growing in each plug. It is essentially impossible on the first go to get every plug in a tray growing one seedling. Since there is rarely 100% germination even with good quality seed, I tell members to plant '1 ½ seeds per plug' – meaning that you alternate between 1 seed and 2 seeds per plug. This provides a few extra seedlings for transplanting into plugs with no emerging seedling. Typically, a member may over seed, especially with small round seeds, and this will require more thinning at a later date. Simple seeding tools sold at garden supply stores can be a great help for more accurate seeding of trays, as well as a little coaching on seeding techniques for the inexperienced. Depth of seed planting should also be watched. The general rule of thumb is to plant seeds at about ¼ inch, unless they are a larger seed (i.e. pea, bean, etc.) which can be planted deeper. A common error is to plant small seeds too deeply.

For some plants, we seed directly into 4" square pots. These include squash, zucchini and cucumber, typically seeding 6 seeds per pot. The emerging transplants can then be planted all together in one spot in the garden, creating a cluster or 'hill' of plants. For tomatoes, peppers and eggplant, we transplant these from the 72 tray into 2" square pots at about 5 weeks, and then into 4" square pots after another 5 weeks. This prevents crowding and results in a large plant.



Seeding squash and zucchini into 4" square pots.

I suggest a commercial starter mix for the co-op's plug tray use. The volume required to fill seed trays is fairly small, compared to filling larger pots, and the use of a commercial mix avoids any problems associated with damping off fungi, or nutrition issues, which could arise when using garden soil or compost. A good commercial mix will likely be composed of pH-adjusted peat moss, perlite and a starter fertilizer. It is a good idea to buy large compressed bails of the product for cost savings. When seeding squash or cucumbers directly in to 4" pots, or transplanting tomatoes into 2" or 4" pots, the No

Guilt Co-op blends a commercial mix 50:50 with good quality garden soil, in order to reduce the cost of purchasing commercial mix.

Watering / fertilizing

Watering and fertilization is the responsibility of the manager, as they will presumably have daily access to the greenhouse. Seedlings should be checked daily, since they can dry out quickly due to the small volume of soil in each plug. Watering can usually be done easily with a watering wand and gentle spray head. The No Guilt Co-op fertilizes lightly every other week using a 20-20-20 commercial fertilizer. This is more important towards the end of a transplant's grow-out time, when it is larger and more quickly growing. It also provide a 'transplant boost' when the plant goes into the garden.

Thinning

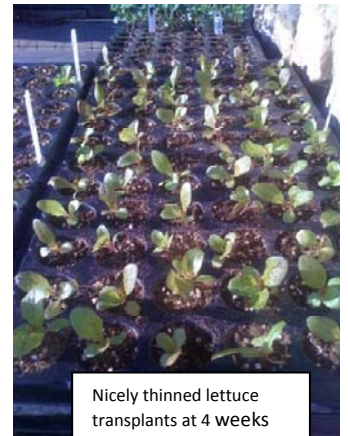
One of the big jobs in a co-op is the thinning of seed trays. Once a tray has germinated, you will find either plugs with more than one seedling, or no seedling at all. It is worthwhile having members thin the over seeded plugs, and transplant any recovered seedling into empty plugs. This should be done within 2-3 weeks of emergence, when the seedlings are still relatively small. A fine butter knife, chopstick, or other tool is helpful for this job. The result will be beautifully uniform trays when they are grown out.

Distribution of finished transplants

Before each work session, the manager sends out an email to all members informing them of which seeds will be planted in that upcoming work session, and also which seedlings will be ready to take home for transplant into their gardens. Early season frost-hardy transplants can be ready in mid-April, with additional transplants coming out on a regular basis until mid-June.

The manager will need to gauge how many of each transplant type can be taken by each member, based on the number of transplants produced and the number of members. The No Guilt Co-op functions on the honour-system for how many seedlings any particular member can take home. For example, if there are 350 basil transplants ready (5 – 72 trays), and there are 20 members, each member can take about 17-18 basil transplants.

Not all members can pick up transplants on a particular work day. It then becomes the responsibility of the member to inform the manager that they will miss that transplant pick up. The manager can then retain some for later pick up. Typically, the manager or more experienced members of the Co-op train and advise newer members on the best techniques for planting the transplants out into the garden, providing frost protection if needed, and other tricks of the trade.



Benefits of a Co-op

There are numerous benefits in running a neighbourhood greenhouse co-operative. In addition to growing thousands of high-quality vegetable transplants, the co-operative also helps to pull a neighbourhood community together around the shared goal of food production. The social element can be reinforced with occasional potlucks highlighting garden produce, or salons on various gardening or local food topics.

Typically, as each member begins to receive transplants to take home, they are motivated to have their gardens prepped and ready for growing. There is a network of advice and learning that takes place. When receiving a good quantity of transplants over several weeks, some members will say 'I need a bigger garden' which encourages more commitment and space in food production. Finally, some members will be inspired to extend the growing season through cold frames, hoop tunnels and a greenhouse. Generally, it is a good idea to encourage as many greenhouses as possible.



There are many potential variations of how a co-op can function. The parameters above primarily describe how the No Guilt Co-op functions. This model, however, depends on time commitment from the manager, who functions as a volunteer in organizing the co-op. It may be possible for members to also pay a management fee, thereby providing some compensation to the manager. Alternatively, it may be possible to delegate responsibilities as widely as possible among the members, so that the work load is more evenly shared.

Over several years of experience in running the No Guilt Greenhouse Co-operative, we have appreciated that it is an innovative way to work together, enjoy good conversation, learn collectively about most aspects of gardening, and share the resulting bounty of knowledge, neighbourliness and high quality produce from the garden.

Contact Information



The Neighbourhood Greenhouse Co-operative program is one of the projects of Transition Bay St Margarets (www.transitionbay.ca). Visit:

<http://www.transitionbay.ca/content/neighborhood-co-operative-greenhouses>

For specific question, you can contact info@transitionbay.ca.