BLG Production Practices Manual

At Beban Learning Gardens (BLG) we grow transplants for fundraising as well as to provide plants to support gardeners at various school gardens, social housing gardens and other food-growing projects.

Due to the wide range of gardener knowledge and large number of individuals involved in this growing process, standardization of procedures helps things go more smoothly.

In this manual you will find an introduction to the ins and outs of how we go about this work. Please feel free to ask questions if something is not clear, or if you wonder about the reason for something that just seems fussy!

This manual is the reference and introduction. If you are a new volunteer you will get a tour and be teamed up with a seasoned volunteer to walk you through the transplant production process!

1.Soil Mixes

There are two kinds of "soil" that we use in plant production:

1. Starter mix – comes in bags and is made commercially
   - very lightweight and ideal for tiny roots to get through
   - can usually be found in a bucket, already moistened
   - most, but not all, seeds start in this mix

2. Transplant mix – mixed in a planterbox using a recipe calling for specific amounts of bagged garden soil, peat moss, composted manure, fish compost, sand, organic all- purpose fertilizer, and bonemeal
   - some seeds and almost all transplants are put in this mix

Starter mix – in bag and bucket

Transplant soil mixing box

2. Containers

There are 3 types of containers in which we sow seeds:

1. "Soil flat" – consists of one solid-bottomed soil flat (<u>with</u> drain holes) inside one lattice flat and contains about 2 inches of moist starter mix:

Starter mix + soil flat + lattice flat = a "soil flat"

2. "Clamshell" – consists of the bottom half of a produce container (<u>with</u> drain holes), one single sheet of newspaper, and about 2 inches of moist starter mix:

3. One "pot-flat" – consists of 2 lattice flats, one inside the other and contains 18 small square pots (with drain holes), each filled with moist transplant soil almost up to the brim:

2 lattice flats + 18 pots + transplant soil = 1 pot-flat

Mouse-proof Lids

Mice sometimes shelter in our greenhouse and they are fond of eating certain of our seeds (sunflower, nasturtium, squash, broad bean, pea, cucumber, and melon) just as they sprout. To prevent this happening we put lids on these flats.

How to build a mouse-proof lid:

This flat has a close “weave” and solid sides so it would make a good mouse-proof lid all by itself.

The one on the left has a close weave but open sides while the one on the right has an open ”weave” but solid sides so these two, <u>together</u>, would work.

The jobslip will remind you when to use a mouse-proof lid…but not like the one below! A hungry mouse could soon squeeze through that space at the front!

3. Labels

Our plant labels are made of cut-up pieces of venetian blind.

Top: short-length hand-printed for seed flats – shows type of seed, variety, and date seeded

Middle: long, hand-printed for pot-flats, used when we run out of computer-printed

Bottom: computer-printed labels for pot-flats (each green-taped bundle contains 18 labels and leftovers are stacked on top with whole bundle wrapped in a rubberband)

The computer-printed stickers are waterproof and expensive. Creating the labels is labour-intensive, so we save as many as we can and encourage our donees and customers to return them. Here is one of the boxes containing our label files:

Placement of Labels

As you see in the photo below, labels are placed in the front of the pots with the printed side facing out.

All the labels should be facing the same way and when a volunteer puts the flat of plants on a table or hotbed, the labels should all face the edge of the table. One taped bundle of labels should be enough to label a full flat of plants. If you are short a label or two, check to make sure none are stuck together.

After Labelling – If you have labels left over once your plants are labelled, the best thing is to put the rubberband around the whole bunch and put them in the bucket labelled "Labels to be Filed". Please do not wrap leftovers (that is, anything less than 18) with tape.

A specially-trained volunteer will do the filing later.

4. Seeds

BLG seeds are generally stored in the clubhouse refrigerator, in zip-lock bags, filed in plastic bins. Seed needs to be stored in a dry space with a consistent temperature, neither too hot nor too cold. Dryness is enhanced by including packets of dessicant in the bins.

Usually by November, a seed inventory has been done. Then in the late winter, when we are drawing up the next seed order, this inventory is very useful.

Because seed is costly and precious we do the following:

- **count** carefully and sow at the correct **depth** and **spacing** to allow as much of the seed as possible to grow into healthy plants
- make sure **no watering** is done near where there are seed packets laying around, as it is essential to keep seed dry until we need to use it. The best time to water the newly-seeded flats is once they are in place on a slatted table or hotbed or even on the floor, using a fine shower of water so as not to displace seeds.

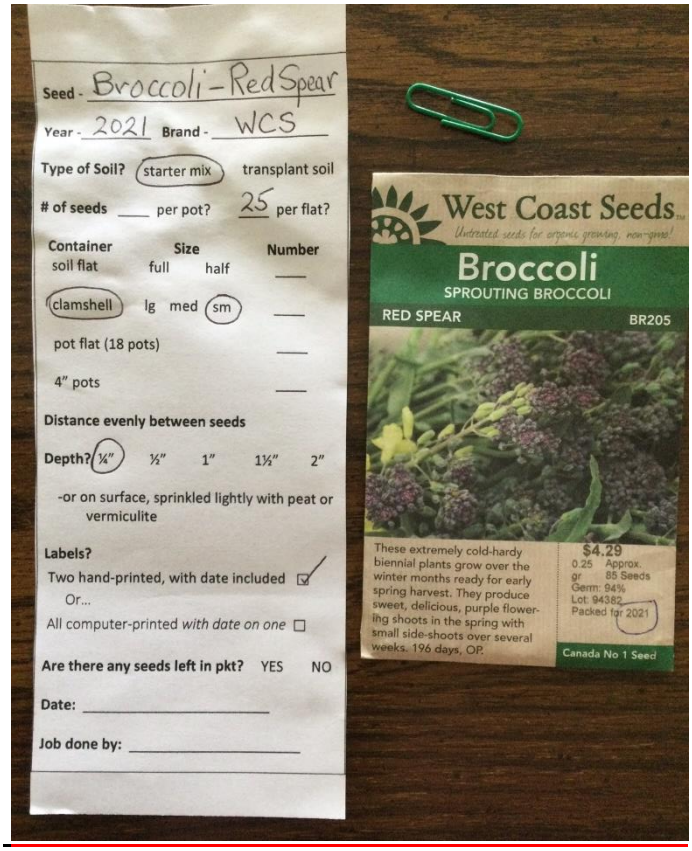
5. Seeding

The low table at centre of the greenhouse (see photo), is where you will find lots of **jobslips**, especially in the busy spring months.

Starting in the bottom lefthand corner and going counter-clockwise:

- long white forms are seeding jobslips, each with a packet of seeds clipped to it
- clamshell full of short label blanks
- coloured forms are transplant jobslips, each with a bundle of labels
- labelled bucket for dirty labels (will later be washed, sorted, counted, and filed)
- labelled bucket for seed packets (will be filed back into the seed bins in the fridge)
- labelled bucket for leftover labels (which another volunteer will later file)
- labelled box in which to place completed jobslips of both types

Here is what a seeding jobslip looks like; it gives all the instructions for doing a particular seeding job:



If your seeding jobslip says to use a clamshell and sow 20 seeds, it is helpful to think of times tables such as 4 rows of 5 seeds (photo on left):

20 seeds can be 4 rows of 5.

120 seeds can be 15 rows of 8

If your jobslip says sow 120 seeds in a full soil flat, think of 120 as "10 rows of 12" or, as in the righthand photo above, "8 rows of 15".

Laying chopsticks on soil can help you visualize the rows. Seeds should be at least an inch from the edge since soil at the edges dries out first.

The seed count does not need to be exact but should be close. **It is necessary to reasonably balance time and precision.**

If more than one packet of seeds is clipped to the jobslip, use up the oldest seed first.

On the worktables, you will find containers full of useful equipment for various jobs:

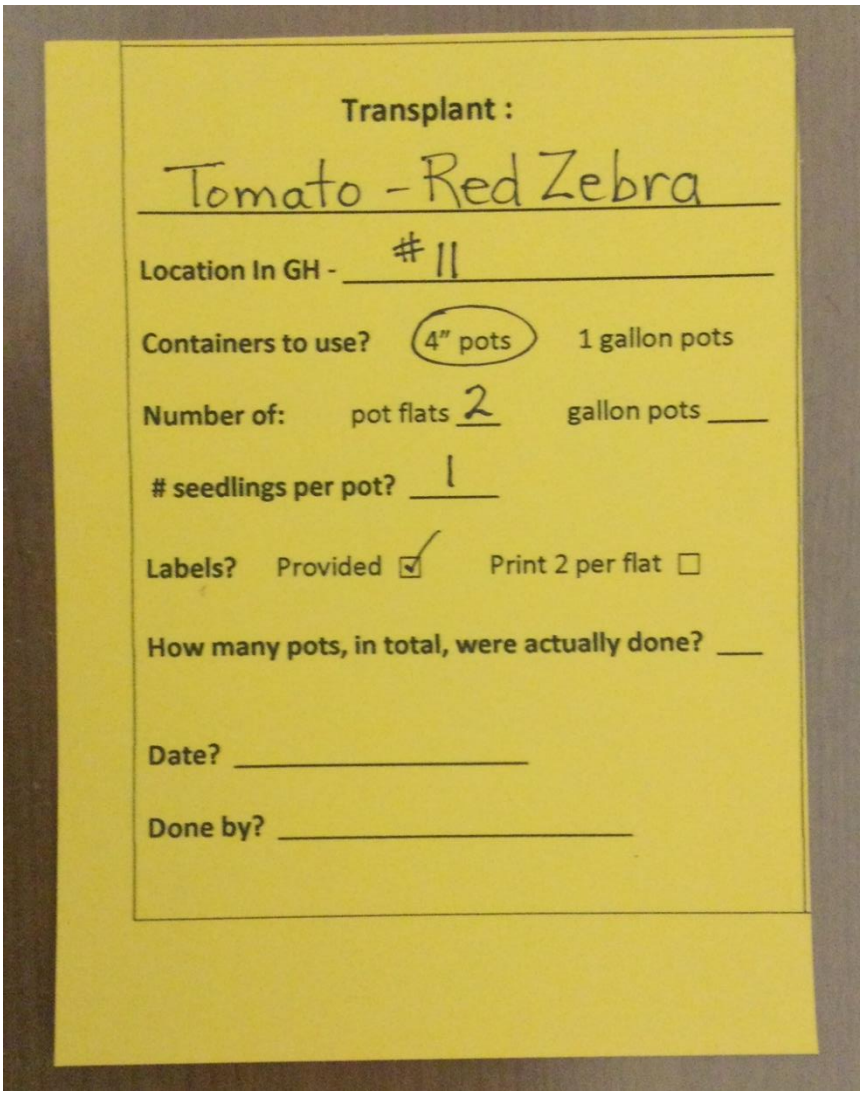
- tweezers or a folded piece of card will help you keep control of small seeds. (Shaking a small amount of seed into your hand or onto a folded card is safer than sprinkling seed onto soil directly from the seed packet.)
- “Sharpies” for hand-printed labels
- ruler for checking on depth of soil and depth of seed.
- jar of vermiculite, when required on the jobslip, is for sprinkling lightly on top of seeds that germinate best when <u>not</u> buried under soil
- chopsticks for nudging seeds off folded card, marking where seed rows should be, tweaking out tiny seedlings, etc.

6. Transplanting

When seedlings in a flat of starter mix have their true leaves, they are ready to be moved to pots of transplant mix where they will get more nutrients and have more space.

A coloured jobslip will have been written up specifying how many seedlings go in each pot and how many pots are to be planted up. The required labels come with the jobslip. (If there are none, print two by hand for each flat, one for front end, one for back.)

Often there are pot flats already made up but, if not, you will need to fill your own.



When you have everything you need and a place at one of the worktables, a chopstick will come in handy. It can be used to make a planting hole and to gently tweak out the seedlings and drop them into the holes; then tuck some soil around them and it's done. When transplanting, it is best to use the biggest strongest seedlings. Once the quota stated on the jobslip is reached, the smaller seedlings remaining can be composted or put back on a heatbed. The starter mix can also go in the compost (bin or bucket).

Sometimes you will find the abbreviation "AMAP" instead of a number on your jobslip…this stands for "As Many As Possible". In this case, you should plant up all but the smallest, weakest seedlings.

Once the quota of pots is complete, you will add a label to each pot. Then complete the jobslip with the date, your name, and any other particulars required. The jobslip is put in the green box and the flat is parked on a tabletop or on a heatbed, and gently watered.

Making a planting hole

Gently prying apart seedlings

7. Watering

After a labelled and newly-seeded or newly-transplanted flat is placed on a hotbed or slatted table, the next thing to do is give that flat a gentle watering. The water bottles pictured below have small holes pierced in the caps and are the ideal thing for gentle, targeted watering. **Do not overwater.**

Water Sources

During the winter months, while the City water is turned off, we access water from the raincube inside the greenhouse near the front door (pictured below).

Watering Potted Plants:

- For larger and stronger plants, use watering cans or a hose with a good spray nozzle, once the City water supply is back on in mid-March.
- Which ones need watering?
  - check pots on outer edges of flats, tables, and nearest the wall…these dry out first
  - look at and feel the soil…Is it dry on the surface?
  - lift the pot…is it heavy or light?
  - water the soil, not the plant

- Plants need water, but **should not be overwatered** Overwatering causes more problems than underwatering, especially early in the season.

- Aim hose nozzle at gravel when turning it on to flush any hot water and test pressure. When finished, return hoses to side aisles, out of the main aisle. Turn water off at the tap.

Watering in the Screenhouse

Here, there is a bin full of water to dip small watering cans into and also a hose with wand or nozzle. The hose needs to be turned on and then off at the tap outside. Again, water what needs watering and **do not overwater**. Plants that get the most sun will need water more frequently.

Watering Elsewhere – Most of the planterboxes, in and out, have driptubes connected to timers and **will not** need hand-watering.

However, there are always some plants growing where there is no timed irrigation so a watering checklist, which is updated weekly through the growing season, has become one of the workparty jobs.