

Starting Seeds

Here are some useful extracts from a handout that Heather Lee (one of our members) did for us in 2007. I can vouch for the efficacy of the seed germination test—great fun for doing with small children too. I have also added some notes I made from a very helpful book: *From Seed to Bloom: Eileen Powell, 1995.*

What you'll need

Containers	Labels	Potting mix (soilless)
Seeds	Plastic bags or covers	Water
Light source	Patience	

Average Useful Lifespan of Some Common Vegetable Seeds

1-2 years:	3-4 years:	5-6 years:
corn onions and leeks parsley parsnips peppers	asparagus beans and peas beets cabbage family carrots eggplant squash and pumpkins tomatoes	cucumbers lettuce melons spinach

Seed Germination Test (if you are not sure whether your seeds are still viable)

1. Put exactly ten seeds on top of a damp, folded paper towel.
2. Put the towel and seeds into a plastic sandwich bag and seal.
3. Label the container with the date and seed variety being tested.
4. Leave at room temperature for a week or so. (Leave parsley, carrot and celery longer; they're slow.)
5. Count the number of seeds that sprout:
 - a. 10 = 100% or perfect germination
 - b. 9 = 90% or excellent
 - c. 8 = 80% or good
 - d. 6-7 = 60-70% or poor -- sow more thickly
 - e. 5 or less = 50% or less -- throw the seed out!

March – April - May

Germination: seeds need a container, a growing medium, water, sufficient warmth and light.

- 1) Any sort of container that allows water to drain will work well. I use old margarine containers or yoghurt pots with holes pierced in the bottom. I start seeds that grow large quickly (and so resent transplanting) in 2x2" seed trays or small pots. This saves a lot of work downstream, but means that they must be sown in a potting mix which contains more nutrients.
- 2) Growing mediums should preferably be nutrient-free: if seedlings are to be transplanted, start the seeds in a purchased seeding rather than potting mix. You can make your own seeding mix:

- a. from equal parts of vermiculite or perlite and sphagnum moss
- b. using equal parts of sterilized garden soil, coarse builder's sand and peat moss.

Add small amounts of ground limestone and bone meal to each mix.

- 3) Tamp down the seeding mix gently, then water prior to sowing seeds: allow it to drain well. After planting seeds, cover the seed container with plastic or cling wrap to conserve moisture and warmth.
- 4) Warmth required should be indicated on the seed packet: many seeds can be started on your windowsill, with the exception of those which require high starting temperatures e.g. marigolds, zinnias
- 5) Light required for germination is quite low – a windowsill is fine, as long as the seeds do not get roasted by direct sunlight. As a rule of thumb, small seeds (e.g. petunia) should be left uncovered, while larger seeds should be planted about ¼" deep. Some seeds such as sweet peas must be kept in the dark until germination has occurred.

April – May

After germination: seedlings will need more food and better light but less warmth.

- 1) If growing in seeding mix, feed with liquid fertilizer twice a week for three weeks, AFTER the first three true leaves have appeared (the first two small leaves are not true leaves). Transplant to a potting mix as soon as you can handle the seedlings.
- 2) After transplanting, do not place the seedlings under lights for 24 hours—they need time to recover from the shock.
- 3) If growing in potting mix, feed with liquid fertilizer at full strength every ten days until you are ready to plant them out. Again, do not start this until the true leaves have appeared.
- 4) Cool white fluorescent light is sufficient for seedlings that will be going outside. The seedlings should be 3-4" from the light, with lights on for 15 hours a day. If you can't set up this, the windowsill is still fine – watch for excessive drying out as the sun gets stronger and higher.
- 5) As the seedlings get taller, remove the covers cautiously – do it over the course of one day.
- 6) As seedlings get sturdier, soil should require moistening 2x/week.
- 7) Feed plants only after watering.
- 8) If any signs of damping off are seen (seedling flops at the point where stem enters the soil) remove from tray/pot and dispose of this. Damping off can spread very quickly through a group of seeds.
- 9) Seedlings prefer to grow on at around 60°F/15°C.
- 10) Two weeks before transplanting outside, cease feeding and reduce watering slightly.

May – June

Transplanting to their final home

- 1) Begin acclimatization one week before transplanting outside. Start this on a mild, windless, preferably overcast day.
- 2) Place plants in a sheltered spot with filtered light, Leave out for ½ day. Increase this exposure progressively each day. (Note: I have lost more seedlings through rushing the hardening off process than I have to damping off or other "diseases" of the greenhouse).
- 3) Water the bed for the seedlings twenty-four hours before transplant.
- 4) Add bone meal, wood ash or blood meal as required when digging.
- 5) Transplant on a mild overcast day: if not possible, do in the evening.
- 6) Water plants in flats one hour before transplant
- 7) Shade transplants if they appear to be wilting
- 8) Apply a two inch layer of mulch once seedlings have grown

Resources

Books: *(all available through Ottawa public library)*

SAVING SEEDS: Rogers, Marc. Storey Publishing, 1990

FROM SEED TO BLOOM: Powell, Eileen. Storey Publishing, 1995

SEED SOWING AND SAVING: Turner, Carole B. Storey Communications, 1998

THE ORGANIC SALAD GARDEN, Larkcom, Joy. Frances Lincoln, 2001

THE HARROWSMITH SALAD GARDEN, Forsyth, Turid & Mohr, Merilyn Simonds. Camden House, 1992

ROSES LOVE GARLIC, Riotte, Louise. Storey Publishing, 1998

Catalogues: below is a very small sample of what is available. Most seed companies now have their full catalogues online, where there is a wealth of cultivation information. Several companies also send out booklets with growing information for their products. These are handy for quick reference.

The following companies are listed because they grow seeds in Ontario and may offer some different types of seeds.

Ontario

Agrestal: Heirloom Seeds

AgroHaitai: Oriental vegetables

Dominion: full range of seeds

Florabunda: heirloom flowers

Hawthorn Farms: organic seeds

OSC: full range of seeds

Richters: herbs of every description

Specialist seeds

Maple Farms, NB:

Gardens North, NS

Magazines

Fine Gardening, **STARTING FROM SEED.** Volume 1, 2010. \$8.99.

An excellent overview of the topic with some good hints and lovely photographs!

Websites

There are numerous websites which offer information about starting seeds. Many of the garden magazines, garden forums or university horticultural sites are good. Below are three sites that I have found useful.

<http://gardening.about.com/od/gardenprimer/ss/SeedStarting.htm>

<http://www.robsplants.com/seed/starting.php>

<http://theseedsite.co.uk/>

Seeds to try

Type of seed	Name	Time & Heat			Notes
Annual		March	April	May	
	Alcea	Hollyhock		Cool	Plant in 3" pots to avoid transplanting
	Alyssum			Warm	Will self-seed
	Antirrhinum	Snapdragon	Hot		Keep cold after germination
	Calendula	Pot marigolds		Warm	Will self-seed or direct seed in fall
	Centaurea	Cornflower		Warm	Will self-seed or direct seed in fall
	Cosmos	(Sulphureus)	=>Hot		Direct seed regular ones
	Dianthus	Sweet Williams		Hot	Will self-seed
	Helianthus	Sunflower		Mid: Hot	Will self-seed
	Lathyrus	Sweet peas		Cool	Or direct seed end of April. Soak 24 hrs before planting
	Lobelia			Hot	Very susceptible to sunlight when hardening off - go slowly
	Nasturtiums			Warm	Plant in peat pots to avoid disturbance
	Nigella	Love in a mist		Warm	Will self-seed or direct seed in fall
	Papaver	Poppy		Warm -> hot	Will self-seed or direct seed in fall
	Ricinus	Castor bean plant		Very hot	
	Tagetes	Marigold		Very hot	Start tall ones later
	Zinnia			Hot or very hot	Tend to keel over if allowed to shoot up too much
Perennial					
	Dianthus	Pinks	Hot		Some types self-seed
	Echinops	Globe thistle	Warm		May self seed
	Geum		Hot		Keep cool after germination
	Lilies			Hot	Some self-seed: put in fridge for 3-4mths before heating
	Lupins			Warm -> hot	Some types self-seed: soak 24hrs before sowing
	Sedum			Hot	
Vegetables					
	Cucumber			Hot	
	Melon			Hot	
	Onions			Hot	
	Peas	For sprouts			Every few weeks in winter
	Peppers		Mid: Very Hot		
	Squash			Hot	
	Tomatoes		Mid: Hot		
Herbs					
	Basil			Hot	
	Borage			Hot	Flowers good for salads
	Chives			Hot	Plant in pots
	Coriander			Warm	Sow several pots of this throughout summer
	Dill			Mid: Warm	
	Lavender		Warm		
	Parsley			Hot	
	Thyme			Hot	

Very hot	24
Hot	21
Warm	18
Cool	15
Cold	12