



## Prince Edward County Master Gardeners



### Growing Your Garden from Seed

T.S. Eliot said that “April is the cruellest month”. I think he was right. The weather in April is just teasing us about the arrival of spring. A warm balmy day can be followed by a snow storm. We’re itching to get out in the garden but know it’s too dicey to plant. How about getting your early spring gardening “fix” by starting seeds indoors? It’s an economical and enjoyable way to add plants to your garden and a great way to get the kids or grandkids involved in growing things.

Good sources for seeds include your own garden or that of a friend. You can find seeds in grocery stores, garden centres and catalogues. Current year seeds will generally provide the highest germination rates but don’t give up on those packets that you’ve had sitting around for a couple of years, they might be just fine. Seeds can be viable for a number of years if they are stored in a cool and dry place. You can test them by putting a few between dampened layers of cotton cloth. Keep it moist in a warm place and watch for developing roots - top of the fridge is a good spot. When the seed has sprouted you know they are good to plant.

There are endless possibilities for containers to start seeds. You can make your own by recycling plastic food containers, the bottoms of milk cartons, pie pans, and even egg cartons. Be sure the container is clean and has some drainage holes drilled or poked into it. Recycled containers need to be washed with warm soapy water and then rinsed in a solution of 1 part chlorine bleach to 10 parts water before using them. There are gadgets for making pots out of old newspapers and pellets that expand into pots when soaked in water. Any pots made out of newspaper or peat can be put right in the ground with the seedling. I use flats that are divided into individual cells like the ones most often found in nurseries. Clear plastic domed lids are available for these trays which are great during the initial stages of germination to keep in moisture and heat. Plants that are not grown in individual containers need to be transplanted into individual containers over time to give them sufficient growing space. These little plants can have their roots all tangled up and I find separating them to transplant into a larger container is a real headache and not necessary unless you are a commercial grower. Some seeds cannot be transplanted at all, like carrots and radish, these should be sown directly in the ground.

Once you have your containers sorted out, you’ll need a good seeding medium. Don’t use soil from the garden as it is too heavy, it is not sterile and will not drain well. I prefer an artificial soil-less mix. Most commercial mixes contain sufficient nutrients to feed the seedlings until they can go into the garden.

The proper timing for sowing seeds depends on when plants can be safely transplanted outdoors. Our frost date is May 15 although some cold tolerant plants can be set out a little earlier. The planting time will vary depending upon the speed of germination, the rate of growth and the cultural conditions provided. If you get overzealous and sow seeds too early then you will have to baby them along while you wait for the weather to warm up. That may result in tall, spindly plants which do not perform well in the garden. It’s a safer bet to sow your seeds indoors a bit late than too early. Think about having transplantable plants by the end of May. Check your seed packets for guidance on germination times and plan backwards to determine the date you will sow your seeds indoors.

Seeds need water, oxygen, temperature and light and they need it in that order to germinate. The first thing a seed needs in order to sprout is to get wet. Careful light misting of the containers will ensure they remain moist but not soggy.

Oxygen is needed for the seed when germination begins so be sure that your medium remains loose and well-aerated.

A temperature of 18 to 24 degrees Celsius is optimum for newly sown seeds. This may mean that flats have to be placed on heat mats, radiators or heating cables. Commercial heat mats and heating cables are readily available for purchase.

Light is a variable for germination. Most plants need light; others, such as calendula and annual phlox, prefer to germinate in the dark. Check your seed package. When plants have emerged to about ½ inch they need at least ten hours of light every day. Choose a sunny area, preferably with a Southern exposure. You may need to provide extra light by using inexpensive non-flanged fluorescent fixtures. You can construct your own flange with aluminum foil to distribute the light. Use cool fluorescent bulbs; no need for expensive grow lights.

Some seeds have thick coats that need to be softened or roughed up to allow moisture to enter; a process called “scarification”. Generally, soaking seeds in water overnight or rubbing them with coarse sand paper will do the trick. If you soak them, start out with warm water and keep them in a warm place overnight. Check the seed package to determine if the seed needs scarification.

Once you have the seeds, the containers, and the growing medium you are ready to plant. Moisten your growing medium and then loosely fill your container to within 1 cm of the top. If seeds are very small just sprinkle them on top of the medium and lightly press them or water them in with a fine mist or just lightly sprinkle vermiculite over the top. Larger seeds should be sown to a depth of twice the diameter of the seed. I use a pencil tip or other small pointed object to tuck them into the medium. If you are using the individual cell trays, plant 3 seeds per cell to ensure that one will germinate. Thin the plants out later to allow the strongest seedling to grow. Place your tray on the heat source; cover it with a clear plastic dome if you have one, removing it for an hour or two at a time if the moisture becomes excessive. If you don't have a plastic dome, just be sure to mist the container to keep it moist. You want the medium to remain uniformly moist but never soggy. Do not over-water. I put my trays into sheet pans to protect my table or floor where they reside.

When seedlings emerge, sprinkle cinnamon powder around them to prevent a fungal disease called “damping off”. Damping off is a fungus and is very common with smaller seeds. It cannot be corrected once it has started so must be prevented. Cinnamon is a natural fungicide that you can also use in your garden. Another way to prevent damping off is chamomile. Chamomile has been used for centuries for this problem. Fortunately, nowadays you do not have to grow or even pick chamomile, you can use a chamomile tea bag from the grocers. Make the tea in the usual way, allow it to cool, pour it into a sprayer and mist your seedlings lightly. The chamomile tea will keep in the fridge for about a week.

At this point, you should begin to water the plants from below. Add water into the sheet pan and let the plants absorb it from the bottom of the container directly to their little roots.

Here's something you may not have heard about. Stimulate your seedlings to prepare them from the stresses produced by high winds and moving animals that they will encounter out in the garden. Brush the seedlings with your hand, a yard stick or a broom handle 20 times every day or use an oscillating fan to provide movement for them a few hours each day being careful not to dry them out. Stimulation reduces elongation and promotes secondary thickening, producing shorter and stronger plants.

As days begin to warm up and your seedlings are nearing transplant time you'll want to toughen them up. After all, they've grown up in a pretty pampered environment. "Hardening off" is the term used to describe the transition time from the cosy nursery to the real world of the garden. On warm days, move the flats outside into a sheltered area away from strong winds and keep them out of direct sunlight. Leave them outside for an hour or so the first time. Continue to move them outside each day that the weather is cooperative; lengthening their stay in the elements a bit longer each time. Seven to ten days should do the trick. Once hardened off they are ready to be planted in your garden or into your outdoor pots. The seedlings need to be kept moist, check them every day and if the temperature drops, cover them with fabric to protect them from the cold.

It's very satisfying to grow your own plants from seed and one of the side benefits is that you can get enough plants to share with your gardening friends. You might even consider teaming up with a fellow gardener and sharing the results. Wouldn't it be great to have a friend show up on your doorstep with half a flat of basil in return for half a flat of nasturtiums?

by Kathy MacPherson

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