

Growing Native Plants from Seed

A Germination Guide



eARTh Revival
Native Seed Project

The seeds of native plant species each have their own timetable for germination, and a built in physical and chemical dormancy that protects them from germinating until conditions are favourable for the seedlings survival, usually in spring. Some seeds have a hard outer coat or waxy layer that keeps water out of the seed, and this physical dormancy is overcome in nature in several ways including abrasion from soil, freezing and thawing, digestion by soil microorganisms, passing through the digestive system of animals and fire. A chemical dormancy is broken when the seed is subjected to one or more of the following, changing its physiological structure: spending a period of time in cold, spending a period of time in cold and moist, being in the presence of light for a period of time, being in the absence of light for a period of time.

Most Ontario native plants that have chemical dormancy will lose them in nature by spending the winter in the ground cold and moist.

Types of Seed Treatments

It's possible to replicate a natural cycle that cause dormant seeds to germinate by pre-treating the seeds with the following methods. We have listed some common pre-treatment methods with germination codes that you will find on your seed envelopes. You may need to use one or more to get a particular species to germinate.



NO PRE-TREATMENT NECESSARY
other than cold, dry storage (also called cold-dry stratification).



SEEDS NEED SCARIFICATION: rub between sand paper to remove some of the seed coat



STRATIFICATION NEEDED: seeds germinated after pre-treatment of cold-moist stratification. Approximate number of days is in parentheses (i.e. C(30) = 30 days of cold, moist conditions needed)
***see Germination Code C stratification recommendations on next page**



SURFACE SOW: seeds are very small and need light to germinate

Seed Sowing tips:

- Until you are ready to plant or apply pre-sowing treatment, seed should be stored under refrigeration or in a cool, dry place. Avoid rapid or frequent changes in temperature or humidity and protect against rodents.
- Sow seeds shallowly, no deeper than the width of the seed and keep the soil moist but not too wet. If seeds are very small, you may choose to use a spray bottle to ensure the seeds don't get displaced by large water droplets.
- Clearly label and date the seeds.
- The germination time of seed varies, it can take few days up to a few weeks, be patient if the seeds don't germinate right away.

South Georgian Bay has an average frost free date of May 11th. Seeds may take a few weeks to germinate and require some maturation before the seedlings can be planted outside so plan for around 2 months of growing time (germination and maturation), plus add the required pre-treatment time if seeds need stratification.



GERMINATION CODE C

Cold moist Pre-treatment

* For both methods: Check once a week to ensure the seed hasn't completely dried out. If premature sprouting occurs, plant immediately

PAPER TOWEL OR COFFEE FILTER METHOD: Suited for containers or flats

Wet a paper towel or coffee filter and allow excess water to drain off. Arrange seeds in a single layer on 1/2 the surface, then fold the paper in into a quarter.



Place the folded paper in a **labeled** resealable bag or container. Place this in your refrigerator for the recommended amount of days.

SAND METHOD: Suited for outdoor garden bed or row planting

Place sand in a bowl, add 1 to 2 tsp of water, or enough water to form sand into a ball. Add your seed to the sand and mix together. Place this in a **labeled** container or resealable bag and refrigerate for the recommended amount of days.



INDOOR SOWING

Starting in pots or flats:

- After applying the pre-treatment, place the seeds in a container filled with moist growing medium soil, and cover them to a depth the same size as the seed, or surface sow if Germination code D.
- Place the containers under grow lights or in a sunny window.
- Ensure the seeds stay moist throughout the germination period
- Wait until the seedling have matured enough, forming a second or third set of leaves before transplanting outside.

OUTDOOR SOWING

Starting in pots or flats:

Outdoor weather varies, and soil temperatures determine when your seedling will emerge. Cool-season plants typically germinate in May, while warm-season plants may not sprout until the soil warms in June.

- Fill the container with soil (at least 3" deep) and water the soil until water drains out the bottom holes
- Place the seeds on top of the soil and cover them to a depth the same size as the seed, or surface sow
- Place the pots or flats on the north side of a building, out of direct sunlight
- To protect the seeds from rodents: place a pane of glass/chicken wire/screen over top of the containers. Similarly, a small pot containing a packet quantity of seeds can be placed in a ziplock bag.
- When the snow melts, move the containers to a sunny location, and keep moist.

Starting in outdoor garden bed:

- You will need to apply the required pre-treatment for seeds before sowing them in an outdoor garden bed
- When soil is workable, prepare the outdoor bed by removing weeds and levelling off the area.
- To distinguish your native plants from weeds, plant one species in each spot and make a sketch or label what you planted there. You may also decide to plant in rows and then transplant seedlings afterwards.

For more information, visit:
www.earthrevival.ca

