

## SEED GERMINATION

Many find the idea of growing plants from seeds intimidating. We hope the information below will take some of the mystery out of seed germinating and give you the tools to grow beautiful long lasting plants from seed:



*Baptisia australis* – Soak seeds in hot water for 20 hours, changing the water every 8 hours. Lightly cover seeds and use 70F. Use clean medium and do not over water or allow drying out while germination is taking place over 1-6 weeks.



*Solidago Canadensis*– Germination in two weeks at 65-70F. Surface sow the small seeds, seedling have a good growth rate for perennials and can be transplanted out in a few months.<sup>322</sup>

If the directions for your seeds read something like the above example, these seeds many times will germinate without the cold period and should be sown at the recommended temperatures first. If little or no germination, move the pots to a colder location (32-39F) for the recommended period. If sown into a pot – the pot can be put into a large plastic ziploc bag and sealed up and put in the back of a fridge or if it's still cool, put outside. If put outside use a sheltered location outside, away from direct exposure to bright sunlight. It is important not to let the soil/seed medium dry out during the cooling

period. Also the soil/medium should not be soaking wet – just damp. By putting the pots in a plastic bag you will keep the medium from drying out.



*Clematis integrifolia* – Sow seed into a plastic bag with moist seed mix and keep at 60-70F for 3 weeks, move to the fridge for 6 weeks, then move to 50F where germination should occur.



*Echinacea purpurea* – Start with 2 weeks at 68F. Then move to 28-38F for 4-8 weeks. Sow and cover seeds, darkness needed for best germination. Germination takes place from 10-50 days at 70F.

If the directions are like the above example the seeds need a warm-moist period first and then a cold-moist period before they will germinate. You can do this a few different ways, sow in a pot as normal and seal up in plastic bag and leave at room temperature for the recommended period then move the pot to the fridge or outside. If the seeds are not too small, you can sow the seeds into a small plastic baggy or container with one tablespoon of moist (not soaking wet) seed medium/soil. Keep the container with the seeds and medium at room temperature for the recommended period then move to the fridge for the recommended cooling period. This will save you room. Keep an eye on the seeds, sometimes they will begin to germinate while in the container or bag, then they should be sown in a pot. Gently scatter the soil-seed mix over the soil in a pot and gently water down with a few hands full of

water so that the seeds are in good contact with the soil in the pot. In the above example the seeds need light – so leave as is, otherwise sprinkle a thin layer of soil-medium over the top of the seeds and water some more.

Another way to sow seeds that are dormant is to place them in pots or trays and place them in a sheltered location outside in the fall or winter. If the seeds need a warm-moist period first, they will need to be sown in late summer or early fall – or you can sow them inside in the winter and then move them outside after the warm period is done (make sure that it will be cool enough outside, long enough to fulfill the seed needs). One can also sow seeds in the fall and bring them inside again in late winter for early germination. This will give a few weeks of growth and larger plants when it is time to plant outside. If you have a cold windowsill, it can be used for the cold period too – make sure that it stays below 42F for most of the day. If you use a cool windowsill in the winter you may need to increase the cooling period by double. (Most seedlings of plants that need a cold-moist chilling period can handle cold temps as small plants, so do not move the pots until a good percent of the seeds have germinated). Keep soil/medium moist at all times and prevent drying by putting in a plastic bag.

For most seeds that need a cold-moist period, the cooling period does not need to be below freezing, with 34-39F giving the best results. But for most seeds in RANUNCULACEAE plus a few others, the cooling period needs to be colder, with 15-25F working well. These seeds include those plants in: *Aconitum*, *Anemone*, *Caltha*, *Hepatica*, *Ranunculus*, *Trollius*.

Soggy soils can delay germination or cause seed rot because the seeds cannot absorb oxygen, soil mediums should be moist but not wet. More importantly, germinating seeds should not dry-out especially those with slow seedling growth.

Most seeds larger than 2mm can be covered with a thin layer of soil, no more than 2 times the diameter of the seed. Smaller seeds should be surface sown and gently tamped down so they have good contact with the soil. When using containers the soil medium should be moist before sowing. Most seedlings should be started on a regular but dilute fertilizing regime within 2 weeks of germination.

If you are not sowing your seeds right away, they should be stored in a cool dry location; most seeds can be stored for a few years in the fridge. Avoid exposing stored seeds to high temperature or direct sunlight and/or high humidity or water.