

STARTING PLANTS FROM SEED

Cost- a package of seed costs less than buying plants & seed packet produces more plants& you may not need to purchase seeds every year.

Variety- more varieties available in seeds than in plant selections in Nurseries
Many seeds are viable for several years if stored properly. May last 5 years- beets, brassicas, chard, melon, radishes, squash, pumpkins, cucumbers, and tomatoes. May last 2-3 years- beans, carrots, celery, eggplant, lettuce, peas, and spinach.

Germination Tests - Gather a couple of zipper-lock plastic bags, sheets of paper towel (one per variety being tested), small plastic labels and an indelible marker. Count out 10 seeds of each kind being tested, place them in a row on a damp paper towel, and roll it up, with the label marked with the variety name rolled inside. Put the whole thing in a plastic bag (you can put a number of these rolls into one large bag) and leave it in a warm place. Check it after a few days, and again after a week, and so on, and make certain things stay moist inside. Count the seeds that have germinated and multiply that number by 10 to get the percentage of viability. If eight seeds are alive, your packet is approximately 80 percent viable. Go ahead and use it. If only three germinate, you should re-order or sow very heavily if you have a lot of seeds left, or only need a few plants.

Storing seeds - Store seeds on packets or glass jars that are labeled and dated. Store seeds in a dark, cool, dry place. If storing seeds you have harvested, make sure they are thoroughly dry before storage.

Starting Seeds Indoors - Containers- drainage holes & thoroughly cleaned! If reusing containers, clean with bleach. Clay pots have drawbacks- heavy, expensive, uses up space and may be hard to keep moist. For plants which are difficult to transplant, use peat pots or peat pellets, so you can plant the entire pot without disturbing the roots. It is recommended that slits be cut in the sides of peat pots at the time of planting to allow roots to escape the pot. Peat pots do not always degrade as rapidly as they may need to for plant growth.

Soil for seed starting indoors - It should be sterile. The mix should be light-weight, absorb moisture, and not high in nutrients. Damping off is a fungal disease that rots seeds as they germinate and kills seedlings as they emerge from the soil. Prevent Damping off by

keeping everything clean, pots, tools, and hands and use sterile soil. Don't over-water, thin out seedlings, and allow plenty of light & air circulation.

Timing for seed starting indoors - Most annual should be started 6 to 8 weeks before the last frost. The last frost in our region is May 25th, but it can vary by 10 days before or after that date. Perennials and woody plants generally should be started 12 weeks before the last frost date.

Seed starting requirements

Some seeds need to be soaked or scarified to germinate. Scarified means to nick or reduce the seed coat of the seed. Seeds that need to be soaked are asparagus, beans, beets, carrot, corn, parsley, primrose, & spinach. Seeds that benefit from soaking and scarification are lupines, morning glories, and sweet peas. Stratification is a period of cold, dark, and moistness before germination.

Basically, the key is mimic winter. Typically, temperatures must be between 34°F and 41°F. Use peat, a combination of peat and sand, or vermiculite as the medium for cold stratifying seeds. Soaking the seeds in cold water for 6–12 hours immediately before placing them in cold stratification can cut down on the amount of time needed for stratification, as the seed needs to absorb some moisture to enable the chemical changes that take place.

Most seeds need only be planted at a depth equal to their own thickness in order to germinate. Seeds planted outdoors are best planted little deeper to avoid disturbance caused by heavy rainfall. The soil should be slightly damp but never soaking wet, nor allowed to dry out completely. Sow seed in sterile medium and place in the refrigerator, not the freezer. Seeds can stay in the refrigeration from 24 hours to weeks according to the needs of the plant. The length of time for stratification will be on the back of the seed package.

Light and Heat. Some seeds require light to germinate. Most seeds can germinate in the dark but once the seedling emerges in must have light. Most seedlings should receive 12 hours of light, keep out of direct sunlight, and use a sunny window or fluorescent lights. Keep seedlings 6 inches from light source. If the seedlings are becoming leggy and weak, they are not receiving enough light.

Heat-seeds generally need temperatures between 60 and 75 degrees Fahrenheit to germinate. Read the package directions. Heat can be provided by a heat mat, a 75 watt lamp or place the seed tray in an area with even heat like the refrigerator or other

appliance. Be aware that some appliances have uneven heat or too much heat. Don't forget to date and label seeds. Most seedlings look alike. Water Keep seeds and seedlings moist but not soggy. For new sown seeds you can use a spray bottle but once seedlings emerge use bottom watering for deeper roots.

Thinning out seedlings - Too many seedlings in a pot is not good, especially if they are crowded. They compete for light, water, and nutrients, causing weakened plants. Do not pull out the seedlings you do not want but carefully cut the unwanted seedlings at the soil level. Pulling may damage the roots of the seedling you want to save. Hardening off and transplanting The most common mistake made is leaving the seedlings in the seed flat too long. The time to transplant is when the first true leaves appear above or between the cotyledon leaves. Hardening off is a process which gradually exposes seedlings to the light, temperatures, water, and other environmental situation in which it will be expected to grow outside. The process usually takes 1 to 2 weeks. Start the hardening off process when the daytime temperature reaches 50 degrees F. Plants should be shaded and in a protected area, (no wind) then gradually moved into sunlight. Each day gradually increase the length of exposure. The soil should be kept moist. Transplants harden off seedlings into the garden when all danger of frost has passed.

Bibliography: Master Gardener Manual. Carol B. Turner. Seed Sowing & Saving, Step By Step Techniques for Collecting and More than 100 Vegetables, Flowers, and Herbs. 1998 Storey Publishing LLC.

The **Master Gardener Hotline** is open from April to October, Monday through Friday. Lines are available 9:00 am to noon and 1:00 pm to 4:00 pm at 888-678-3464

https://www.canr.msu.edu/lawn_garden/

<https://www.canr.msu.edu/outreach/>