

# Seed Starting 101

A Good Plan Super-seeds a Better Garden!

It's easy to get excited when seed catalogs begin to find you in the middle of winter, but it's important to squelch any desire for immediate gratification, and just enjoy the process.

Why start seeds indoors when you can find transplants at the garden store? You have hundreds of varieties to choose from with seeds, including those passed down from generations, instead of the 10-15 varieties available at the garden store. Another advantage is the thrill of seeing the first seedlings emerge from the soil. It's a way to experience a much appreciated taste of spring when there is snow outside the window!

The best candidates for indoor seed starting are plants that need a longer growing season and those that don't mind having their roots disturbed. The best ones for our area are broccoli, cabbage, Brussels sprouts, celery, eggplant, tomatoes and peppers. No need to start root crops inside, as they are cold-hardy enough to go in the ground early. Cucumbers, corn and beans do not transplant well, and are best started in the ground or in peat pots or other containers made of material that will break down when planted in the garden.

The garden store will have all kinds of tidy containers, peat pots and flats to help you get started, but anything that holds a few inches of soil will do as long as you can punch drainage holes in the bottom. Milk and egg cartons or your used Starbucks cup are fine (and free) choices. It's important to sterilize containers to avoid disease. Dip container in 9 parts water to 1 part bleach, then rinse with water.

It's best to use a light weight mix for seed starting. Store bought mixes are ready, and sterile, not to mention a real time saver. Good starting mix is essential for healthy plants. Look for one labeled for seed starting. However, you *can* make your own if you're motivated and it could save you a little money. One recipe follows:

2 parts peat moss

1 part vermiculite

1 part perlite

Then 2 tablespoons superphosphate and 1 tsp 5-10-5 per gallon of mix

It's never a good idea to use garden soil to start seeds for many reasons. It needs to be pasteurized to kill off disease and weed seeds. Garden soil does not drain as well in a pot as it does in the garden, so it increases the risk of rot. Plus it is also heavier and can be hard to move around.

To determine when to start, take the frost free date for our region, (May 15th) and count backward the number of days it will take for the seedlings to be ready to move out according to the seed packet.



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Fill your containers with pre-moistened mix to about 1/4 in below the top. Most mixes tend to be dusty, and can be misted from the top, or watered from the bottom. It's ok to broadcast seeds, but they are easier to thin when in rows. Make furrows with a pencil eraser for example. Space the seeds according to their size and cover with a light layer of mix. Lightly tamp to achieve good seed to soil contact. Mist the top to moisten, but not disturb the seed. Now cover the container with a plastic bag or dome to keep condensation from evaporating, and the mix from drying out. Be careful not to let the plastic touch the soil. Place the seeds somewhere warm, but not in direct sun. The top of the refrigerator good, or you can purchase a heating mat where you buy seed starting supplies. Except for lettuce and celery, light is not necessary until they germinate. Check them daily and as soon as you have seedlings, remove the plastic and move container to a place with bright light and cooler temperatures. 60 to 75 degrees will help them grow slowly enough to produce sturdy stalks. Rotate the container 1/4 turn every day for even distribution of light.

You'll want to keep the soil moist, but not wet. The best way to do this is to set the container in shallow water just until it feels moist, then let it drain. Too much water can damage the roots. As plants get sturdier you can water from the top using a watering can with a nozzle.

When seedlings have three leaves, it's time to thin and move them to deeper or bigger containers. To thin plants that are not going to be moved, trim weaker plants at the soil level with scissors, so you don't disturb the roots of neighbor plants. To move seedlings, first fill new container with premoistened mix and make a planting hole with something small like a pencil eraser. Using the blade of a table knife, lift the plant out of the soil holding the plant by its leaves, not the stem. Leaves will grow back, but if you break the stalk, it's done. Set the plants a little deeper than they were growing before, firm the soil, water well, but gently and keep them out of direct sunlight to recover. Once they have been transplanted or thinned, you can fertilize with a soluble fertilizer at one third the recommended rate, once a week when you water.

Before setting the plants out, they need to be acclimated to outside temperatures and light about two weeks before you plan to move them. Start by setting them outside during the warmest part of the day for an hour, in a place protected from wind and direct sun. Gradually increase the amount of time and light they receive and go longer between waterings. When you're ready to transplant, choose a cloudy calm day, or at least wait until the early evening, giving them a little time to recover from the stress of transplanting. Your garden soil should be loose and moist. Firm the soil around the roots, making a well around the stem to hold water, then water immediately.

Have fun, and seed ya later!





## Tips for Better Germination

Don't plant the seed too deep. Check the seed packet for proper depth. Tiny seeds may do best if placed on top of the soil and watered.

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Some seeds need to be soaked or scarified (scratching the seed coat allowing it to be penetrated by water). Usually the seed package will give you this information.

Most seeds need temperatures between 60 and 70 degrees for germination.

And of course, consistent moisture is very important. A germinated seed may die within a very short time if the soil is allowed to dry out. Covering your container with a plastic bag or lid will create a humid terrarium-like environment and requires less attention. Remove after germination.

Seeds need a certain temperature to trigger germination. Use a warming mat to increase soil temperature, or keep seeds on top of your refrigerator until the seeds have germinated. (Don't forget about them!)

Increased air circulation will reduce your chances of disease.

Lightly brushing seedlings with your hand daily will promote sturdy stalks.

Fungus gnats may be an indication that you are keeping the mix too moist, back off a bit from watering.

Whiteflies are tiny white bugs that fly away when you get close to them. If they find your seedlings, spray with insecticidal soap.

Keep records! Record planting date, germination date and rate, and what went wrong.

Relax. Things will go wrong, so learn from it and enjoy the process.

### Problem Solving— Things to watch out for

**Damping off**—One day your seedlings look happy and healthy, the next morning they look wilted. When you look closely you'll find sunken brown spots on the stem where it has rotted. Can be avoided with proper sanitation and using a mix with low nitrogen and not fertilizing are important steps for prevention. Not overwatering and good air circulation will help. If you notice that just a portion of the plants are affected, remove them immediately and improve the conditions as much as possible and you'll have a chance to save the rest.

**Tall and Spindly Plants**— Usually caused when plants are kept too warm for the amount of light they receive. If you're using a window sill, temperatures between 60 and 70 will encourage slower growth, and sturdy plants that transplant well. Fluorescent lights are a better option as they offer more light than a window, even with southern exposure.

**Wilting after Transplanting**—Some plants don't bounce back as well as others when their roots are disturbed, like beets, carrots, parsley, and corn and are better sown directly in the garden as seeds. Others, like cabbage, will wilt and look almost dead for 24 hours before it recovers. Know what to expect and take proper precautions.

**Black or contorted leaves after transplanting**— When plants are not allowed to acclimate to outside conditions, they can show signs of cold injury.