Seed-starting Techniques and Best Practices

By Gloria Williams

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These seed-starting techniques will give your garden a head-start this spring.

The time has finally arrived! After the long, cold, wet winter, we can begin to think about getting into our gardens, especially about preparing the soil and planting seeds. Or have you already begun? I know the temptation is hard to resist, but sometimes the weather just doesn't cooperate. Seeds planted in cold soil (below 50 degrees F) usually do not germinate and most will rot before the weather warms up.

To get a head start on the weather, you can plant seeds in containers indoors. If you are lucky enough to have a greenhouse, you can charge full-steam ahead, but even if you only have a windowsill, you can start many succulent seedlings. A variety of different kinds of annual and perennial flowers can be started this way, as well as some vegetables and herbs.

Using the best possible planting medium to start seeds is vital to help prevent fungal diseases from attacking the tiny seedlings. Do not use garden soil. Instead, choose a soilless medium that contains peat, perlite, a little sand and some trace nutrients. Photo by Jason Miller.

To start seeds indoors, you need shallow containers, two or three inches deep. The little 6- or 4-celled plastic containers in which bedding plants are sold work very well. Plastic throw-away food containers can be used also. Using the best possible planting medium to start seeds is vital to help prevent fungal diseases from attacking the tiny seedlings. The mix should be sterile, light and fluffy. It should drain well and not pack down. A medium that contains peat, perlite, a little sand and some nutrients is the best and well worth the extra expense. If you use garden soil you are setting yourself up for disappointment.

Small peat pellets, which swell up when you add water, are perfect for starting tiny seeds, such as these alpine strawberries. Photo by Jason Miller.

When you have your sterile planting medium and after you've washed the containers in a solution of 9 parts water and 1 part bleach, it is time to sow seeds. But before you begin, read the seed packets for any special information or instructions about planting. Look for information such as planting depth, light requirements, and germination time.

Steps for success

The planting mixture should be well watered before planting. Sprinkle the seeds evenly on top of the wet mix. Lightly press the seeds onto the surface for good contact and spread a small amount of the medium over the seeds. Small seeds do not need much. Larger seeds need more and big seeds need to be planted deeper. The packet directions will tell you how to proceed.

Some seeds have very hard coatings and may need assistance to germinate when you want them to. Scarification is a process used to penetrate the hard seed coating and allow moisture to enter, which speeds up the germination time. Soaking seeds in warm water overnight or until they start to swell and the seed coat splits or actually nicking the seed coat with a sharp instrument such as a razor blade will do the job. Members of the pea family will benefit from scarifying by soaking and morning glory seeds can be nicked with a file. Tiny seeds with hard covers can be mixed with sand in a jar and shaken vigorously to scarify them. Fortunately, most seeds can be successfully planted directly from the packet, without going through the scarification process.

Once the containers have been planted, you can enclose them in clear plastic bags or make little plastic tents over them, like mini greenhouses. Garden centers sell seed starting trays with clear plastic lids that work nicely. Then place the trays in a window with as much light as possible, while avoiding direct sunshine. Grow lights work well. Position the light approximately 4 to 6 inches from the tops of the trays.

Before planting your seeds, read the back of the seed packet for important information and planting guidelines, such as planting depth, when to plant or transplant, spacing of plants, germination time, and height of mature plant. Photo by Jason Miller.

Different-sized seeds need to be planted at different depths. These small tomato seeds should be planted no deeper than ¼ inch. Larger seeds, such as peas, can be planted deeper. Photo by Jason Miller.

Some peat pellets are sized to perfectly fit miniature "greenhouses," which have a clear plastic top to conserve moisture while the seeds are germinating. Photo by Jason Miller.

Keep the seeds from drying out by misting the surface of the planting medium, taking care not to displace the seeds. Very soon you will begin to see tiny green shoots appear. When the seeds begin to germinate, remove the plastic covers, because too much moisture around the seedlings can cause diseases. Little seedlings are especially vulnerable to damping-off fungal disease, which rots their stems at the point where they enter the growing medium: You wake up to find sad little seedlings lying on their sides.

Concrete gardener Dulce Tenney uses plastic food containers to start tomatoes. Sandwich bags pulled over the tops create a greenhouse effect. Heating mats and full-spectrum grow lights help get the tomatoes off to a strong start. Photo by Jason Miller.

Transplanting tips

When the seedlings have developed their first pair of true leaves, it is time to transplant them. The first leaves to appear are rudimentary leaves and will fall off as the plant matures.

Transplanting can be a difficult time for the seedling. One needs to use a gentle touch while doing this task. Hold the seedling gently by a leaf. Try not to handle the roots or the stem more than is absolutely necessary. Damage to these parts can be fatal. You may have to learn this process by trial and error. Pry out the seedlings with a plastic fork or similar tool. Do not pull on the little plants. I find it works better to pry out a clump of seedlings and then gently separate them. If the roots are tangled take your time extracting each little plant. Sometimes you can immerse the roots in water to loosen the tangle.

Have four-inch pots filled with good potting soil ready and as the seedlings are separated, use a pencil or small dowel dibble to make a depression in the filled pot. Hold the seedling by a leaf and lower the roots into the depression up to its first rudimentary leaves and push planting mix snuggly around the stem and press it down firmly to remove air pockets. The roots must make good contact with the planting medium. Water the seedlings gently and place back in a light area. Check the pots daily to be sure they do not dry out.

Hardening off

When your seedlings have grown to an appropriate size and the weather warms, they can be moved outside to be acclimated, a process referred to as “hardening off.” This process generally should take about two weeks. Make sure your seedlings get only small doses of direct sunlight at first, and bring them inside your house or garage at night. Gradually increase their exposure to sunlight until they are fully ready to be put out in their permanent places. The last frost date in most of Skagit County is recorded as mid-April, although that date can extend into early May as you move into eastern Skagit County. Protect your little seedlings until you’re sure all danger of frost has passed.

For more information on seed-starting and transplanting, visit the Washington State University Extension Office and ask for the following bulletins:

- EB0422 “Home Gardens”
- EB 0648 “Organic Gardening”
- PNW 170 “Propagating Plants from Seeds”