

How to start seeds indoors

Leslie Holzmann, Certified Colorado Gardener

1. Months ahead: Read packet or catalog description, or check the internet, to determine if the seeds have any special requirements, such as stratification or pre-soaking.
2. Determine what time of year the seed needs to be sown.
3. Check the viability of any older seeds you have stored. Obtain new seed if necessary. (See the section on Pre-germination in the handout Advanced seed starting: ways to fool Mother Nature.)
4. Gather supplies (see list). You may start seeds in individual “cells” or together in one larger container. If you use the larger container, you will need to separate the seedlings into individual pots once they get their third true leaves.
5. Make sure containers and labels are all sterilized (dip in solution containing 9 parts water to 1 part household bleach). Use sterile soil-less starting medium. This helps prevent a fungal disease (damping-off) from killing the seedlings.
6. Mark labels with varieties, using water-proof marker or pencil.
7. Place the soil-less seeding mix in a plastic basin and add water to moisten, mixing well. The soil should be as damp as a well wrung out sponge. Then fill the containers. It is easy to pack the mix in too firmly, so be sure to leave air spaces for the roots.
8. Place labels in containers.
9. Plant seed at proper depth, usually 3 – 4 times the seed diameter (although some lie on the soil surface).
10. Gently mist top if needed to settle soil over seed.
11. Cover container with clear plastic wrap, tray dome, pane of glass, or place in plastic bag. This keeps the growing medium moist until the seeds germinate.
12. If darkness is required for germination, place piece of cardboard over plastic.
13. If a cold treatment is required for germination, place in refrigerator or freezer for 4 – 12 weeks. Then continue....
14. Place in warm place (around 70-75°) and check at least daily. (Don’t place in direct sunlight at this stage, as heat builds up inside the plastic and cooks your seeds.)

When seedlings start to appear:

15. Remove all covers and place in bright light such as a sunny windowsill or under two 40 watt (or equivalent) fluorescent light fixtures (incandescent lights get too hot).
16. Cooler temperatures (60° – 65°) will produce stockier, healthier seedlings... but don’t let plants close to a window get too cold at night (< about 50°).
17. Plants at a window need turning daily to prevent their bending toward the light.
18. If using fluorescent lights, keep them as close as possible to the seedlings; 2 – 3 inches is best. Make sure the plants get at least 8 hours of darkness as well as ample light. (Giving spinach and lettuce seedlings more than 12 hours of light a day will cause bolting [premature flowering].)
19. Check daily for watering; medium should be consistently damp but not soggy.

When seedlings have 3 true leaves:

20. Start adding half-strength fertilizer to water, unless seed starting mix already contains a time-release fertilizer.

21. Separate seedlings started in common container, and place each plant in its own cell. Do not hold seedlings by their stems, as they are easily crushed.
22. If more than one seed has sprouted in a cell pack cell, pinch off the less-robust seedling, leaving a healthy plant to grow. (Don't pull them out—you could disturb the roots of the remaining seedling.)
23. Brush your hand over the seedlings about 10 strokes a day. Cornell University studies show this toughens the stems and helps prevent them from becoming leggy.

Growing On

24. As seedlings grow, move them into larger containers so their roots have plenty of room. Plant tomatoes and peppers as deeply as possible in the new containers, as they will grow roots along their stems. Clean, used milk cartons and large plastic cups are good “growing on” containers. Be sure to punch drainage holes in them first!
25. Harden off seedlings before planting outside.

“Hardening” Plants

—by Vera Skinner, Howard Matz and Barbara Bates

Greenhouse plants and plants started indoors need to be acclimated or “hardened off” to reduce environmental “shock” when moved outdoors. Temperature extremes, drying winds, changes in light quality and lack of constant soil moisture can adversely affect new transplants. Tissues of seedlings are soft and succulent with thin cell walls. They are especially vulnerable to wind damage both by drying and breakage.

“Hardening off” is a simple process. A week to ten days before planting-out time, move the plants outdoors in their containers. Place them in an area protected from strong winds yet open to filtered sun or short periods of morning sun. Gradually increase the time spent outdoors. The first few days it may be for an hour only. Do not leave them out overnight until the end of the hardening off period. It is important to keep the soil moist, which may mean watering them twice a day, depending upon environmental conditions and the size and type of the container. Increase the time and exposure outdoors so that by the planting day, the plants will be well acclimated and able to withstand transplanting with a minimum of shock.

In windy areas, old milk cartons, coffee cans or wooden slats can be used as individual windbreaks for sensitive plants. Do not let the fine roots dry out during transplanting. Always water plants immediately after transplanting to eliminate air pockets around roots. Keep the soil moist for 7 – 10 days after transplanting.