

Secrets to Successful Planting

Get your garden off to a great start with these tips for sowing and transplanting.

One sunny morning coming soon, you'll feel an irresistible urge to plant your garden. Before you pick up a trowel or open a seed packet, check out these hints to help you succeed.

Transplanting Seedlings

Whether it's a flat of bedding plants from a nursery or seedlings started indoors, you don't want the transition from pots to garden bed to induce transplant shock.

The first rule of thumb is to watch where you put your thumb. "Never pick up a seedling by the stem—it is the plant's lifeline," cautions April Johnson, staff horticulturist at the Rodale Institute, near Kutztown, Pennsylvania. Always handle seedlings by their leaves. "Leaves will grow back," Johnson says.



Hardening Off

Hardening off gradually introduces seedlings to the conditions in your garden. Bring all seedlings—store-bought and homegrown—outdoors and expose them to a steadily increasing amount of sun, wind, and temperatures lower or higher than what they were used to indoors. This will take about 2 weeks. Don't rush it.

When to Plant

The ideal time to plant is when it's overcast, with rain in the forecast and no frosts or heat waves expected. If conditions don't cooperate, then try to plant in the late afternoon or early evening to minimize the time the seedlings bake in the sun. The day before planting, water the plants so that the soil in the pots is moist.

In the Ground

Keep your seedlings in the shade until you're actually ready to plant each one. Don't pull a plant out of its container until you've dug the hole for it. If you can't easily pull it out of its container by the leaves, hold the pot in one hand as shown below, flip it upside down, and give it a sharp tap on the bottom. The rootball should slip out into your other hand. Snip away any damaged roots with scissors or pruners. If the roots are a solid mass, gently tease some away from the center, trying not to break them.

Carefully slice into peat or newspaper pots with a knife to give the roots an escape hatch in case the pot doesn't break down quickly. Once the pot is in the ground, tear off any part of it that extends above the soil line. It will dry out and pull moisture from the soil.

Plant the seedling at about the depth it was in the container, or a bit deeper. If your soil is cold or very wet, planting too deeply could rot the stem. But plant tomatoes quite deep. Studies by the Southwest

Florida Research and Education Center, in Immokalee, Florida, showed that tomatoes planted up to their first set of true leaves set fruit earlier, and yielded more and larger tomatoes, than tomatoes planted at rootball level. This held true when the studies were repeated in the colder soils of Ohio and Massachusetts.

Firm the soil around your seedlings, but don't press so hard that you compact it. Give each seedling a thorough watering.

The First Days

Your seedlings have become established when you see healthy new growth. This can take a few days to a week, depending on the weather. Wilted leaves or drooping stems can be symptoms of transplant shock. Seedlings can go into transplant shock if they weren't hardened off completely or if the weather is extreme. Most plants recover in a few days, but until they do:

- Check that the soil is firmly around the plants so that no air pockets are drying out the roots.
- Protect the transplants from sun and strong winds with row covers, sheets, or cloches.
- Water only if the top inch of the soil is dry. Don't water if the soil is already wet; it won't help.

In *The New Seed-Starters Handbook* (Rodale, 1988), author Nancy Bubel recommends waiting a week to 10 days after transplanting before fertilizing your seedlings. They will have sent out new feeder roots by then and will be entering their most active stage of growth.



Direct-Sowing Seeds

How hard is it to put a seed in the ground, anyway? Not hard. Nature does it all the time. But of the thousands of seeds a plant may release, only one or two might germinate and grow. Hedge your bets by not planting every seed in the pack. If any seeds don't sprout, you'll have extra to fill in the empty spaces.

Planting Depth

Plant seeds too deeply, and they may never germinate. Plant them too shallowly, and the topsoil might dry out during germination. Generally, you can plant a large seed at a depth equal to three times its diameter (not its length). Seeds of peas, squashes, and sunflowers and those of similar size are considered large seeds. Plant smaller seeds about 1/8 inch deep. The seed packet will give the proper planting depth for that particular seed.

Some seeds need light to germinate, so you can't bury them. Either sift fine soil over them or leave them uncovered. But make sure the seeds make firm contact by pressing them into the soil.

To Hill or to Mound

Most gardeners sow seeds in rows—seeds spaced evenly in a line. But another way to plant seeds is in hills. When a seed packet recommends planting in hills, it means planting them in a cluster—not

necessarily in a mound, as you might expect. Mounding the soil is optional. Cucurbits are often planted in elevated hills, because they need warm soil and good drainage.

Squash and melon expert and author Amy Goldman, in Rhinebeck, New York, plants her cucurbits in flat hills. She's found that raising seedlings above the surrounding soil level causes them to dry out too quickly. She suggests mounding only if your soil is compacted or waterlogged. Jeremiath Gettle, owner of Baker Creek Heirloom Seeds, in Mansfield, Missouri, skips hills entirely and simply plants his cucurbit seeds in rows. He advises gardeners who plant in elevated hills to check the seedlings after a heavy rain to make sure the soil hasn't washed away from the roots.

6 Plants to Direct-Sow

Carrots. Sow seeds after danger of frost. For even distribution, mix the tiny seeds with sand before sprinkling them in your bed. Cover them with fine soil or more sand, 1/4 to 1/2 inch deep. Carrot seeds can take up to a month to germinate, so keep the soil evenly moist. To speed germination, Gettle suggests placing a 1-by-6 board over the newly seeded and watered-in row to hold in moisture. Check the underside of the board daily for slugs and remove it in about a week.



Corn. Warm soil, above 60°F, is essential for seed germination. Seed heavily (up to four seeds per foot) to make up for any losses to birds; you can always thin later. Corn is wind-pollinated, so to ensure pollination, you must plan on a minimum of 16 plants in a block of four short rows.

Cucurbits. Members of this family include cucumbers, pumpkins, summer and winter squashes, and zucchini. Seeds should be sown after frost. Plant in hills, with six to eight seeds per hill. Space the hills about 6 feet apart, and enrich each one with a large shovelful of compost or well-aged manure. If cucumber beetles are a problem in your area, wait to thin, and then take out the ones with the worst beetle damage.

Lettuce. These tiny seeds need light to germinate, so just press them into the ground and sift some fine soil over them. Though it loves cool weather, lettuce can take a couple of weeks to germinate in cold soil outdoors. Protect seedlings from hard frosts with row covers, newspaper, or sheets. Thin plants to 3 inches apart. Sow seeds weekly for successive harvests.

Morning glories. Sow seeds after the last frost. Nick each with a file or soak them in lukewarm water before planting. Since these vines don't flower well in rich soil, site them in a place where you haven't added a lot of organic matter.

Peas. Plant peas in early spring, as soon as you can work the ground. Pretreat the seeds with inoculant. Peas will germinate in very cold soil (40°F), but this can take weeks. Pea seedlings tolerate frost better than mature peas.

Before You Begin

- Decide in advance how many of each vegetable or flower variety you want and where you're going to site it.
- Label your plant markers with the variety name and date before you head outdoors.
- If your shoes get muddy when walking around the garden, then your soil is too wet for sowing or transplanting. Wait for a drier day.
- If it's been more than a couple of weeks since you've turned the soil and prepared your beds, then they've probably crusted over from rain. Drag a rake over the area a couple of times to break up the crust (you'll likely need to weed, too).

Seed-Packet Glossary

Seed packets have their own vocabulary. Here are some terms you'll need to know.

Average last-frost date. The last day in spring, on average, that your area has experienced a hard frost. Each seed packet tells you how many weeks before or after that date to plant the seed.

Broadcast. To scatter seed over a selected area (as opposed to planting in a row or hill).

Inoculant. Living bacteria that helps peas, beans, and other legumes take nitrogen from the atmosphere and fix it in the soil. Peas and beans grow best when they're inoculated before you sow the seeds. Inoculant is sold in a powdered form and needs to be fresh to work. Buy a new packet every year.

Scarify. To create openings in the hard coats of certain seeds to admit moisture and initiate germination. Large seeds are usually nicked with a file or knife; small seeds may be rubbed gently inside a folded sheet of sandpaper.

Soak. To soften the outer coats of hard seeds by immersing them overnight in warm water. Sow them immediately after soaking, or they will wither and die.