Direct Seeding and Transplanting

Article

Direct Seeding and Transplanting

Published September 8, 2022

Get step-by-step instructions on how to transplant your starts or direct seed to the garden.

QUICK START GUIDE (DETAILED INSTRUCTIONS BELOW)

1. Determine proper planting date by reading your seed packet or referring to our crop by crop Grow Guides.

2. Prepare soil by loosening and mixing in organic compost and fertilizer.

3. Plant seeds directly in the garden by making a shallow furrow and spacing seeds at the distance and depth indicated on your seed packet. Cover lightly with soil.

4. Or, transplant seedlings at the spacing indicated on your seed packet.

5. Water gently along furrow or around each transplant.

STEP-BY-STEP: WHEN TO PLANT

Whether transplanting your starts, or direct seeding to the garden, you'll first need to determine the optimum time to plant. Find out the "frost free" date for your area and follow the instructions on your seed packs. If you don't know the average date of the last frost for your area:

- Ask other gardeners in your neighborhood
- Contact your local Cooperative Extension service
- Refer to the USDA Zone Chart

SOIL PREPARATION

Plant roots need air, water and food to thrive. The effort you put into preparing your soil at the beginning will pay off all season with easier maintenance, better harvests and more nutritious vegetables and fruits.

The amount of sand or clay in your soil will determine how much effort is needed to loosen and fluff up the soil: sandy soil is easy to loosen, but requires more compost and frequent, shallow watering; heavy clay soils need more effort to loosen and compost to help break them up and provide good drainage. The best garden soils are somewhere in between and are known as loamy soils.

When your soil has dried out enough to work easily, prepare your beds by working the soil as deeply as possible (12–18 inches) while trying to maintain its natural layering (keep the topsoil on top and the subsoil below). If your soil is dry and compacted, soaking the area a couple of days prior to digging can help.

Using a digging fork, work mature compost, an all-purpose organic fertilizer and other organic amendments as needed into the top 4–6 inches of the soil. Level the surface of the bed and rake it smooth. These steps should be sufficient for transplants.

A more thorough finishing step is required for direct seeding. Rake out the top two inches of soil until it is free of any debris or clods. Keep the beds as level as possible to prevent water and nutrients from running off. This will provide an optimum environment for germination and allow your seedlings to emerge unimpeded.

(Two different popular approaches to soil preparation — Double Digging and Permaculture — are covered in more detail at the end of this article.)

DIRECT SEEDING

Many crops prefer to be seeded directly in the garden where they will grow. These include root crops like carrots, parsnips and radishes, as well as corn, beans, peas, and cilantro. Refer to our crop Grow Guides to see which crops are most commonly direct seeded.

To reduce pest and disease problems, be sure to rotate crops to a different location in the garden from the previous two to three years. To increase your garden's potential, consider sowing a wide diversity of flowering plants to add beauty and to host pollinators and beneficial insects.

Once you know what's going where, make a furrow in the soil to the planting depth indicated on the seed pack. Sow seeds 2 to 3 times closer than the desired plant spacing, and plan to thin out the weaker seedlings before things get crowded.

Place seeds in the bottom of the furrow, backfill, and lightly tamp the soil over the seed. A little depression in the center where you plant the seeds will help with watering by preventing runoff.

WATERING

Consistent moisture is essential to good germination, so keep your beds damp — but not soaked — and use caution not to wash delicate seeds out. For seeds sown close to the surface, mulch with a thin layer of straw, or cover with row cover. This allows light to penetrate, while helping to keep the soil moist.

Be careful not to overwater larger, more deeply planted seeds (beans, peas, corn, squash), which may cause them to rot. If the soil surface is dry, it may still have sufficient moisture below. Stick your finger in the soil to the depth the seeds are planted to check the moisture before applying additional water.

For most seeds, you can lay a board on the soil to keep it moist while seeds are germinating. This won’t work for surface sown, light-dependent germinators like lettuce or chamomile, so know the germination requirements of your seeds. Check under the board daily and remove it at the first sight of sprouting. Once your seedlings emerge, allow the surface of the soil to dry out between watering to prevent fungal diseases. When the plants are established, irrigate according to the needs of the variety as indicated by the watering information on the seed pack and/or mulch to conserve soil moisture and control weeds.

Now that you've worked your beds deeply and enriched the soil, you should have sturdy seedlings that have been hardened off (see note below). You should also have a good sense of when to transplant, based on your frost-free date and the plants' hardiness.

To ease the shock of transition, it's ideal to transplant on a calm, cloudy day or in the evening. If this isn't possible, early morning is the next best time. Always avoid transplanting in the heat of the day.

Plant your starts to the same soil level as they had in their pots by making your holes about the same size as the root ball. Ease the plant out of its container. If the root ball is dry, soak briefly in water or compost tea. Immediately place the plant in the hole, and gently pack the space around it with soil. Making a small depression, or "well", around the plant, will help in watering. For tomatoes, bury a portion of the stem to increase your root system.

If cutworms are a problem in your garden, make some cardboard collars to place around the stems of your transplants. The collars should encircle the stem from an inch below the soil surface to about 2 inches above the surface.

MORE WATERING

Keep your newly transplanted starts continually moist for a week or so. You can decrease watering frequency as the plants plunge their roots deeper into the soil. Mulching with straw or other organic material will help retain moisture and control weeds, but can also keep the soil from warming up in the spring. It's best not to mulch too heavily until the soil is good and warm, depending on the needs of the variety.

Remember, these new transplants will grow fast, so follow the recommended spacing on the seed pack. An occasional application of a liquid organic fertilizer, compost tea, or side-dressing with mature compost should keep them going strong, right through to the harvest.

A NOTE ON HARDENING OFF

About two weeks before you're ready to transplant your seedlings, you'll need to get them used to the idea of being outside in the sun, wind, and cool nights. Do this by setting them outside in a protected place for an hour or two at first, then gradually increase their exposure until transplanting day. Be sure not to overdo it at first and remember that they will dry out much faster outside. Using a coldframe that can be opened during the day and closed at night is another good way to harden off seedlings.

DOUBLE DIGGING: THE SHORT COURSE

Double digging is a great way to establish new beds, especially in clay or heavy loam soils. Once established you won’t have to deep dig the soil again unless it gets really compacted.

1. Loosen the top foot of soil in the entire bed using the digging fork. If this is a new garden, remove the sod and reuse it or compost it.
2. Beginning at one end of the bed, dig a trench in the loosened soil a foot deep (or the depth of your topsoil if it is less) and a foot wide. Set the soil aside in a cart or on a tarp.
3. Loosen and aerate the subsoil in the trench with the fork. Work in an inch or two of organic matter, then fill the trench with the topsoil from the next one-foot section of the bed.
4. Repeat this process until you get to the end of the bed. Use the soil you set aside at the beginning to fill the last trench.

THE PERMACULTURE APPROACH

Sheet mulching is a great, albeit slower, way to prepare garden beds with little of the physical labor of double digging and raking. Cover sod with many layers of newspaper or a couple of sheets of clean cardboard, then layer in various kinds of organic matter such as composted animal manures, grass clippings, dry leaves, spoiled hay, straw, coffee grounds, food scraps, or whatever else you can find. In as little as six months, depending on conditions, beds should be ready to plant by pulling back the top layer of mulch and transplanting or direct seeding into the newly created soil. Continue to add organic materials to maintain fertility. For immediate gratification, cardboard can be covered with a one-to-one mix of clean topsoil and finished compost, raked smooth, planted and mulched.

Start gardening now

Is a Flexitarian Diet Right for You?

Find out how adopting a flexitarian diet can be a practical and long-term way to embrace healthy eating for real life.

EXPLORE

Composting Simplified

Discover how to make nutrient-rich soil for free with natural materials you have around your garden.

EXPLORE

Growing Healthy Seedlings Indoors

Follow these simple tips on how to grow a garden from seeds to increase your chances of success.

EXPLORE

7 Fast and Easy Organic Recipes

Check out these 8 fast and easy organic recipes you can make with ready-to-heat grains.

EXPLORE

Source URL:
https://www.seedsofchange.com/articles-and-videos/direct-seeding-and-transplanting