

Planting Vegetables



Most vegetable crops are grown by planting seeds or seedlings (transplants or starts) in soil. Other crops are started from parts of the plant other than seeds. Garlic is started by planting the individual cloves of a garlic bulb (head), and potatoes are started from pieces of potato. No matter how you start your plants, make sure to label them when you plant!



Cool-season crops and warm-season crops

Cool-season crops like potatoes, lettuce, spinach, peas, and carrots can tolerate cool weather and frost, while warm-season crops are injured by cold temperatures. Learn when your last spring frost and first fall frost are expected in your area.



Seeds or transplants?

Direct-sowing means planting seeds directly in the garden or potting soil in a container. Gardeners usually direct-sow the following crops: lettuce, radish, spinach, beet, kale, turnip, mustard, pea, bean, squash, and cucumber. Pepper, tomato, eggplant, broccoli, and cabbage are planted indoors and grown to transplant size. You can buy seeds and transplants from local stores.

Seeds can be less expensive than starts, giving you more plants for less money. Seeds will also give you a bigger choice of plant varieties because most stores have space for only a few varieties of plant starts.

Transplants give you a head start and can compete better with weeds. Garden center transplants often come with more than one plant in a single pot. Gently separate the roots without breaking them to plant each seedling separately. Save money by starting seeds indoors in egg cartons, repurposed clamshells, or other food containers. You'll need LED or fluorescent lighting over the plants because natural light through windows is not enough to grow strong transplants.



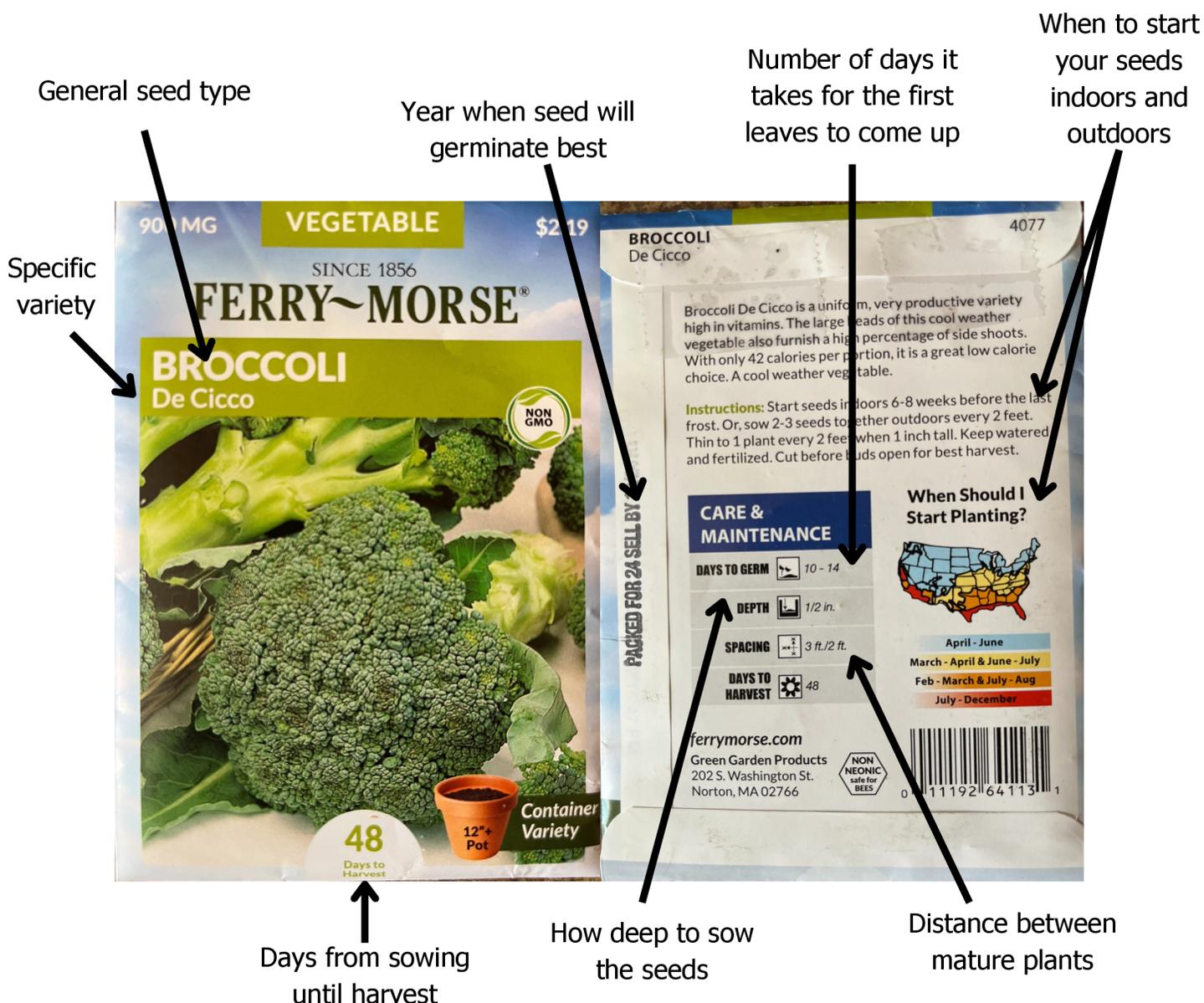
Winter sow
seeds in
recycled milk
jugs



Seed Packets

- Seed packets, seed catalogs, and University of Maryland Extension have information on when and how to plant, plant spacing, and the harvest or maturity date- the number of days from planting seeds or transplants to when the crop is ready to harvest.
- Store extra seeds and seed packets in a jar or container with a tight-fitting lid and place in a cool, dry location. Seeds will last more than one year but germinate best in the year stamped on the seed packet. Saving and sharing seeds cuts gardening costs.

How to Read a Seed Packet



University programs, activities, and facilities are available to all without regard to race, color, sex, gender identity or expression, sexual orientation, marital status, age, national origin, political affiliation, physical or mental disability, religion, protected veteran status, genetic information, personal appearance, or any other legally protected class.

Planting Vegetables

Preparing the Soil and Fertilizing

- Seeds and transplants need loose, moist soil that is crumbly and well-aerated. If available, spread 1-2 inches of compost where vegetables will be planted.
- Use hand tools like a trowel, shovel, or garden fork to loosen and fluff the top 6 inches of soil, and a metal rake to remove rocks and debris and make a smooth planting area.
- Too much digging brings weed seeds to the surface, where they can germinate.



How to Direct-Sow Seed

- Draw rows in the soil with your finger, a stick, a ruler, or a garden tool. Sow large seeds one by one, or sprinkle in smaller seeds. As insurance, sow twice as many seeds as you need—you can thin them later.
- You can use string lines as a guide to keep your rows straight. Pound in a stake at each end of the row and tie a string between the stakes—then follow the string as you plant.
- Check the seed packet for planting depth and spacing. If there are no directions for how deep to plant, sow as deep as two times the width or diameter of the seed. If the seed is $\frac{1}{4}$ inch wide, plant it $\frac{1}{2}$ inch deep.
- Covering the seeds with soil should be your last step so that you can see if you missed any spots.
- Lightly water the soil to keep the soil moist. Water every day or two until the seedlings are established more often in hot weather). Let the soil dry slightly between waterings. Too much water will prevent the seeds from getting the oxygen they need to germinate.
- Labeling at planting time can help you remember what you've planted. Include the date, too! Cut up old yogurt containers or use popsicle sticks as plant tags—write on them with a permanent marker.
- Or use a notebook to record the name of the crop and the variety, date when seedlings emerge, date of first harvest, and other observations that will help you learn more about gardening and what to do differently next year.



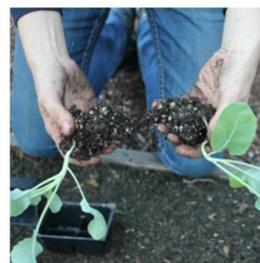
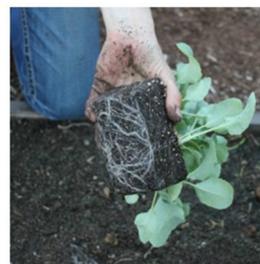
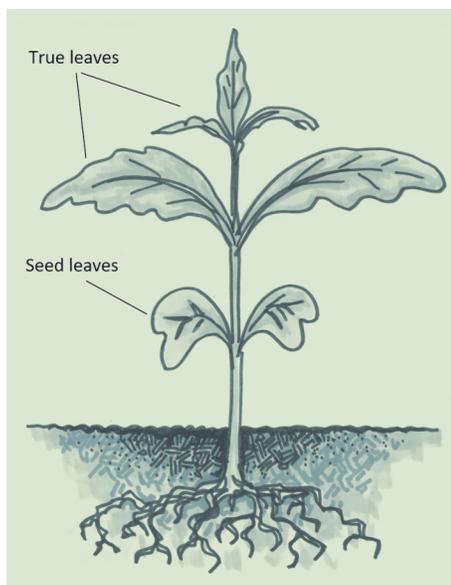
How to Transplant

- If possible, plant on a cloudy, calm afternoon. Water transplants before planting. Handle plants carefully. Hold transplants horizontally, pushing the root ball while gently pulling the lower stem to ease plants out of their containers.
- Dig a hole that is wider and slightly deeper than the root ball. The hole should be big enough that the top of the rootball does not stick up above the soil level.
- Set transplant in the hole, backfill the hole with soil, and gently press the soil with your hands.
- Gently water the transplanted starts and keep them well-watered during the first week.
- For tomato transplants, dig a hole deeper than the rootball. Cut off the bottom set of leaves and plant the tomato so that only two or three sets of leaves are above the soil. New roots will form below the soil.



Thinning or Separating Seedlings

- Plants that are too close together compete for sunlight, water, air, and nutrients. They are also easy targets for diseases and pests (like slugs). Thinning is removing some seedlings to give the remaining ones space to grow strong roots and leaves.
- Begin thinning when the first "true leaves" develop. True leaves are a plant's mature foliage--they look different from seed leaves.
- Remove tiny, weak seedlings and leave the stronger ones to grow. When you thin, you can snip the seedlings at the soil's surface or gently pull them up by the roots.
- Water well after thinning to keep the remaining plants from drying out.



Planting Vegetables



A MASTER GARDENER PROGRAM

Choosing Seeds or Transplants		
Direct Seed		
Large Seeds	Small Seeds	Deep Taproots
Corn	Lettuce	Radishes
Beans	Arugala	Beets
Peas	Mustard	Turnips
Squash	Kale	Parsnips
Pumpkins	Swiss Chard	Rutabaga
Cucumbers	Carrots	Carrots
Melons		
Transplant Only		
Long-season Crops		
Tomatoes	Tomatillos	Eggplant
Hot peppers	Bell peppers	
Direct Seed or Transplant		
Cabbage family	Beet family	Onion Family
Broccoli	Chard	Onions
Cauliflower	Spinach	Leaks
Collard greens	Leafy Amaranth	Chives
Cabbage	Herb Family	Others
Kale	Basil	Lettuce
Kohlrabi	Parsley	
Bok choi	Cilantro	



Learn more:

Web pages- go.umd.edu/FoodGardening

Blog articles-

<https://marylandgrows.umd.edu/?s=vegetables>

Videos- <https://www.youtube.com/UMDHGIC>

Get answers to your gardening questions-

go.umd.edu/AskExtension