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Garden

Planting the vegetable garden

Vincent A. Fritz

Planting a vegetable garden is not hard, but without careful planning and proper follow through, your garden may perform poorly.

Soil preparation

Soils should not be prepared for planting when too wet or too dry. If soil sticks to your shoes or shovel, it is too wet. Press a small amount of soil in your hand. When the moisture is right, the soil crumbles and breaks into small clumps. If it is too wet, it stays molded in a ball.

Have your soil tested for the amount of fertilizer or manure to apply before planting. A routine soil test gives information on any lime requirement, phosphorous and potassium needs and estimated nitrogen requirements. For information on soil testing, contact the [University Soil Testing Laboratory](#).

Rake or harrow the planting area immediately after tilling or spading. A firm, fine seedbed is best, particularly for small-seeded crops, but packing the soil too much could promote crusting of the soil surface and damage emerging seedlings. Tilling the soil in late fall facilitates earlier spring planting.

Planting early crops

Cool season crops

You can sow early "cool-season" crops such as lettuce, cabbage, cauliflower, broccoli, Brussels sprouts, and onions immediately after preparing your garden plot. Mark the rows by stretching a string tightly

across the area where you want a furrow. Use the corner edge of a long piece of angle iron or aluminum to establish a furrow with a uniform depth. The use of a hoe handle or shovel may create a furrow with variable depths and result in non-uniform emergence, particularly with small seed vegetable crops. You can usually sow sandy soils a little deeper than clay soils.

Warm season crops

Wait until danger of frost is past (mid-to-late May) before transplanting tomatoes, eggplants, peppers, and similar "warm season" crops.

Tender crops

Cucumbers, pumpkins and watermelons can be seeded earlier by placing hot caps over the soil one week before planting. This warms the soil and helps those crops germinate more quickly. Keep the hot caps on until the plants emerge and are growing vigorously.

Starting plants inside

Warm season crops need a long growing season and usually will not mature if seeded directly in the garden. Cool season crops must mature before hot weather. It is necessary, then, either to start these crops early inside or to buy plants at a garden center or greenhouse. Start seeds in plastic trays or peat pots that are 3-4 inches deep. A good soil mixture contains two parts loam, one part sand, and one part organic matter. Thoroughly mix the soil in a wheelbarrow with a shovel and sift it through a ¼-inch mesh screen. Premixed soil mixtures are available at garden centers.

Fill the transplant tray or peat pots with the soil mixture and carefully firm the soil along the sides. After filling in the depressions, level the soil to about ¼ inch below the top. Firm the soil evenly. Sow the seed by making a ¼-½ inch hole using a dibble or pencil with a tape mark to keep the depth consistent. Sow 2-3 seeds in each tray cell or peat pot.

Start warm-season crops later than cool-season crops. Peppers and eggplant germinate slowly and should be started before tomatoes. Cover the seeds lightly with sand, screened soil, or vermiculite. Gently water the transplant trays using a fine screened waterer to prevent washing the seeds out of the soil. Cover the transplant tray or peat pots with clear plastic and keep in a warm room until germination. As soon as the seedlings appear, remove the plastic cover and keep the seedlings in full sunlight or directly under fluorescent lights. Once the seedlings emerge, thin to one plant and apply a starter fertilizer of 1½ tablespoons of 5-10-5 in 1 gallon of water. Apply approximately ¼ cup of the solution to each seedling every two weeks until transplanting. Rinse the seedlings with water after fertilizing to prevent leaf burn. "Hardening" transplants by shading them for a few days outside using either a lath house or shade cloth and slightly withholding water (but not to the point of wilting) will reduce plant growth delay after transplanting, otherwise known as "transplant shock."

Transplanting

Transplant in late afternoon or on a cool, cloudy, calm day. Water plants well before transplanting. Cut the soil between the plants with a knife so each plant can separate easily with a substantial root ball attached. Seedlings grown in separate containers can be transplanted without disturbing the roots. If seedlings are transplanted in peat pots, **make sure** the top edge of the peat pot is not exposed above

the soil surface or the peat pot will act like a wick and rapidly draw the moisture from the root ball, stressing the plant.

Scrape the dry surface soil from the planting area. With a hand shovel, make a hole large enough to easily receive the root ball of the transplant. Firm the soil around the roots and water with the starter fertilizer solution. Apply ½ cup per plant at planting time.

Transplanted crops may be set out in the garden a week or two before it would otherwise be safe if hot caps are used. Remove the caps after the air temperatures get real warm during the day. If paper hot caps are used, punch ventilation holes in the tops. High temperatures within the hot cap can kill young plants.

Planting dates and distances for garden vegetables

Vegetable	Planting dates		Planting distances (in inches)		Depth of seeding (inches)	Amount to order per 20 feet of row "Packet" refers to average commercially-packaged seed packet.
	Start seed indoors	Plant seed or plant outdoors	Between rows, hand cultivated	Between plants		
Asparagus		April 15 - May 1 (crowns)	36	12 - 18	6 - 8 (crowns)	15 crowns
Beans, snap (bush)		May 15 - July 1	18 - 24	3 - 4	1½ - 2	3 - 4 oz
Beans, snap (pole)		May 15 - July 1	36	4 - 6	1½ - 2	2 - 3 oz
Beans, dry shell		May 15	18 - 24	3 - 4	1½	3 - 4 oz
Beans, lima		May 15 - June 10	18 - 24	4 - 6	1½	3 - 4 oz
Beets		April 15 - July 1	12 - 18	2 - 4	½ - 1	1 packet
Broccoli	March 1 - 15	April 15 or June 1	24 - 30	24	¼ (indoors)	1 packet or 9 plants

Brussels sprouts	March 1 - 15	April 15 or June 1	24 - 30	24	¼ (indoors)	1 packet or 9 plants
Cabbage, early	March 1 - 15	April 1 - May 1	24 - 30	18	¼ (indoors)	1 packet or 12 plants
Cabbage, late	April 15 - May 1	June 1	24 - 30	24	¼ (seedbed)	1 packet or 9 plants
Cabbage, Chinese		July 1	24 - 30	18	½	1 packet
Carrots		April 15 - June 15	18 - 24	2 - 3	¼	1 packet
Cauliflower	March 1 - 15	April 15 or June 1	24 - 30	18 - 24	¼ (indoors)	1 packet or 12 plants
Celery	Feb. 15 - March 1	May 15	18 - 24	8	1/8 (indoors)	1 packet or 24 plants
Chard, Swiss		May 1	18 - 24	6 - 8	1	1 packet
Collards		April 15	24 - 36	6	¼	1 packet
Cucumbers		May 1 - June 15	48 - 60	12 between single plants; 36 between hills of three	1	1 packet
Eggplant	March 15 - April 1	June 1	24 - 30	24	¼ (indoors)	1 packet or 9 plants
Endive		April 15	18 - 24	8 - 12	½	1 packet
Garlic		Oct. 1 - Nov. 1	18 - 24	4 - 6	3 - 4	1 lb of cloves
Horseradish		April 15 - May 1	24 - 30	12 - 18	6 (roots)	18 roots
Kale		April 15 - July 15	18 - 24	12 - 18	½	1 packet
Kohlrabi		April 15 - June 1 or Aug. 1 - 15	18 - 24	6	½	1 packet
Lettuce, leaf		April 15 -	12 - 18	4 - 6	¼	1 packet

		June 1 or Aug. 1 - 15				
Lettuce, head	March 1 - 15	April 15 - May 1	18 - 24	12	¼ (indoors)	1 packet or 18 plants
Muskmelon		May 15 - June 1	60 - 72	18	1	1 packet
Okra	March 15 - April 1	June 1	24 - 36	12 - 15	½ (indoors)	1 packet
Onion seeds		April 15	12 - 24	2	½	1 packet
Onion, transplants	Feb. 1 - 15	April 15	12 - 24	2 - 3	½ (indoors)	1 packet
Onion, sets		April 15	12 - 24	2 - 3	1 - 2	½ lb
Parsley		April 15 - May 1	12 - 24	4 - 6	¼	1 packet
Parsnips		May 1 - 15	18 - 24	3 - 4	½	1 packet
Peas		April 10 - May 15	18 - 24	2	1½	1 packet
Pepper	March 15 - April 1	June 1	24 - 36	18 - 24	½ (indoors)	1 packet or 12 plants
Potatoes, Irish		April 15 - June 1	24 - 30	12 - 18	4 (each piece)	3 lb seed potatoes
Potatoes, sweet	April 15 (roots)	June 1	36 - 48	18 - 24		9 - 12 plants
Pumpkin		May 10 - June 1	72 - 96	24 - 36 between single plants; 60 - 72 between hills of three	1 - 2	1 packet
Radish		April 10 - June 1 or Aug. 1 - 15	6 - 12	1 - 2	½	1 packet
Rhubarb		April 15 - May 1	36 - 48	36 - 48		5 or 6 plants

Rutabaga		May 15 - June 15	18 - 24	8 - 12	½	1 packet
Spinach		April 15 or Aug. 1 - 15	12 - 18	3 - 4	½	1 packet
Squash, summer		May 10 - June 1	24 - 36	24 - 36	1	1 packet
Squash, winter		May 10 - June 1	72 - 96	24 - 36 between single plants; 60 - 72 between hills of three	1	1 packet
Sweet corn		May 10 - July 1	30	12	1 - 2	1 packet
Tomato	April 1 - 15	May 15 - June 1	24 - 36	36 - 48	¼ (indoors)	1 packet or 6 - 8 plants
Turnip		April 15 or Aug. 1	15 - 18	3 - 4	½	1 packet
Watermelon		May 15 - June 1	60 - 72	24 - 36 between single plants; 60 - 72 between hills of three	½	1 packet

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