

Vegetable Gardening In Containers

If your vegetable gardening is limited by insufficient space or an unsuitable area, consider the possibility of raising fresh, nutritious, homegrown vegetables in containers.

A window sill, a patio, a balcony or a doorstep will provide sufficient space for a productive mini-garden. Problems with soil-borne diseases, nematodes or poor soil conditions can be easily overcome by switching to a container garden.

Crop Selection

Almost any vegetable that will grow in a typical backyard garden will also do well as a container-grown plant. Vegetables which are ideally suited for growing in containers include tomatoes, peppers, eggplant, green onions, beans, lettuce, squash, radishes and parsley. Pole beans and cucumbers also do well in this type of garden, but they do require considerably more space because of their vining growth habit.

Variety selection is of extreme importance. Most varieties that will do well when planted in a yard garden will also do well in containers. Some varieties of selected vegetables which are ideally suited for these mini-gardens. For best varieties in your area contact the local co-operative extension.

Media

A fairly lightweight potting mix is needed for container vegetable gardening. Soil straight from the garden usually cannot be used in a container because it may be too heavy, unless your garden has sandy loam or sandy soil. Clay soil consists of extremely small (microscopic) particles. In a container, the bad qualities of clay are exaggerated. It holds too much moisture when wet, resulting in too little air for the roots, and it pulls away from the sides of the pot when dry. Container medium must be porous in order to support plants, because roots require both air and water. Packaged potting soil available at local garden centers is relatively lightweight and may make a good container medium. Soilless mixes such as peat-lite mix are generally too light for container vegetable gardening, not offering enough support to plant roots. If the container is also lightweight, a strong wind can blow plants over, resulting in major damage. Also, soilless mixes are sterile and contain few nutrients, so even though major fertilizers are added, no trace elements are available for good plant growth. Add soil or compost if you wish to use a sterile mix. For a large container garden, the expense of prepackaged or soilless mixes may be quite high. Try mixing your own with one part peat moss, one part garden loam, and one part clean, coarse (builder's) sand, and a slow-release fertilizer (14-14-14) according to container size.

Containers

Almost any type of container can be used for growing vegetable plants. For example, try using bushel baskets, drums, gallon cans, tubs or wooden boxes. The size of the container will vary according to the crop selection and space available. Pots from 6 to 10 inches in size are satisfactory for green onion, parsley and herbs. For most vegetable crops such as tomatoes, peppers and eggplant, you will find 5-gallon containers are the most suitable size. They are fairly easy to handle and provide adequate space for root growth.

Regardless of the type or size of container used, adequate drainage is a necessity for successful yields. It is advisable to add about 1 inch of coarse gravel in the bottom of the container to improve drainage. The drain holes are best located along the side of the container, about 1/4 inch to 1/2 inch from the bottom.

Consider using barrels, cut-off milk and bleach jugs, window boxes, baskets lined with plastic (with drainage holes punched in it), even pieces of drainage pipe or cement block. If you are building a planting box out of wood, you will find redwood and cedar to be the most rot-resistant, but bear in mind that cedar trees are much more plentiful than redwoods. Wood for use around plants should never be treated with creosote or pentachlorophenol (Penta) wood preservatives. These may be toxic to plants and harmful to people as well.

Some gardeners have built vertical planters out of wood lattice lined with black plastic and then filled with a lightweight medium; or out of welded wire, shaped into cylinders, lined with sphagnum moss, and filled with soil mix. Depending on the size of your vertical planter, 2-inch diameter perforated plastic pipes may be needed inside to aid watering. Whatever type of container you use, be sure that there are holes in the bottom for drainage so that plant roots do not stand in water. **Most plants need containers at least 6 to 8 inches deep for adequate rooting.**

As long as the container meets the basic requirements described above it can be used. The imaginative use of discarded items or construction of attractive patio planters is a very enjoyable aspect of container gardening. For ease of care, dollies or platforms with wheels or casters can be used to move the containers from place to place. This is especially useful for apartment or balcony gardening so that plants can be moved to get maximum use of available space and sunlight, and to avoid destruction from particularly nasty weather.

Container gardening lends itself to attractive plantscaping. A dull patio area can be brightened by the addition of baskets of cascading tomatoes or a colorful herb mix. Planter boxes with trellises can be used to create a cool shady place on an apartment balcony. Container gardening presents opportunities for many innovative ideas

Seeding and Transplanting

Best suited for container culture are vegetables which may be easily transplanted. Transplants may be purchased from local nurseries or can be grown at home. Seeds can also be germinated in a baking pan, plastic tray, pot or even a cardboard milk carton. Fill the container with a good media such as the one previously described, and cover most

vegetable seed to a depth of 1/4 inch to 1/2 inch to insure good germination. Another method would be to use peat pellets or peat pots which are available from local nursery supply centers.

The seed should be started in a warm area that receives sufficient sunlight about 4 to 8 weeks prior to the anticipated transplanting date into the final container. Most vegetables should be transplanted into containers when they develop their first two to three true leaves. Transplanting should be done carefully to avoid injury to the young root system. (See Table 2 for information about different kinds of vegetables.)

Fertilization

This is a perfect time to go organic with your fertilization practices. Using different manures and/or planting and dressing with rich organic composts. Check into kitchen composting and vermiculture practices. Compost tea's are excellent and can be used daily.

The easiest way to add fertilizer to plants growing in containers is by preparing a nutrient solution and pouring it over the soil mix. There are many good commercial fertilizer mixes available to make nutrient solutions. If one is utilized, follow the directions on the label. An adequate nutrient solution can be made by dissolving 2 cups of a complete fertilizer such as 10-20-10, 12-24-12 or 8-16-8 in 1 gallon of warm tap water. This solution will be a base solution. From this can be made a growing nutrient which will actually be poured around the plants. To make the growing solution, mix 2 tablespoons of the base solution in 1 gallon of water.

Watering

Proper watering is essential for a successful container garden. Generally one watering per day is adequate. However, poor drainage will slowly kill the plants. The mix will become water-logged and plants will die from lack of oxygen. If at all possible, avoid wetting the foliage of plants since wet leaves will encourage plant diseases. Always remember that each watering should be done with the nutrient solution except for the weekly leaching with tap water. Using a moisture meter is an excellent way to combat over watering.

Light

Nearly all vegetable plants will grow better in full sunlight than in shade. However, leafy crops such as lettuce, cabbage, greens, spinach and parsley can tolerate more shade than root crops such as radishes, beets, turnips and onions. The root vegetables can stand more shade than those which bear fruit, such as cucumbers, peppers, tomatoes and eggplant. One advantage to container gardening is mobility. Container gardening makes it possible to position the vegetables in areas where they can receive the best possible growing conditions.

Vegetables grown for their fruits generally need at least 5 hours of full, direct sunlight each day, and perform better with 8 to 10 hours. Available light can be increased somewhat by providing reflective materials around the plants, e.g., aluminum foil, white-painted surfaces, marble chips.

Diseases and Insects

Vegetables grown in containers can be attacked by the various types of insects and diseases that are common to any vegetable garden. Plants should be periodically inspected for the presence of foliage and fruit-feeding insects as well as the occurrence of diseases. Should problems occur, then the timely application of EPA-approved fungicides and insecticides is advised. Contact your local county Extension agent for the latest information on disease and insect control on vegetable plants.

Harvesting

For the greatest amount of enjoyment from a container garden, harvest the vegetables at their peak of maturity when a vegetable's full flavor has developed. This will yield maximum pleasure from the excellent taste of vine-ripened tomatoes, tender green beans and crisp flavorful lettuce.

Common problems in container gardening

Symptoms	Cause	Corrective measures
Plants tall, spindly and unproductive	Insufficient light	Move container to area receiving more light
	Excessive nitrogen	Reduce feeding intervals
Plants yellowing from bottom, lack vigor, poor color	Excessive water	Reduce watering intervals; Check for good drainage
	Low fertility	Increase fertility level of base solution
Plants wilt although sufficient water present	Poor drainage and aeration	Use mix containing higher percent organic matter; increase number of holes for drainage
Marginal burning or firing of the leaves	High salts	Leach container with tap water at regular intervals
Plants stunted in growth; sickly, purplish color	Low temperature	Relocate container to warmer area
	Low phosphate	Increase phosphate level in base solution
Holes in leaves, leaves distorted in shape	Insects	Use EPA-recommended insecticide

Plant leaves with spots; dead dried areas, or powdery or rusty areas	Plant diseases	Remove diseased areas where observed and use EPA-recommended fungicide
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Information for Growing Vegetables in Containers



Vegetable * Light Requirement**	Minimum Container Size	Distance (inches) Between Plants in Containers	Days from Seed to Harvest	Comments
Beans, bush FS	2 gal.	2-3	45-60	Several plantings, two-week intervals
Beets FS/PS	1/2 gal.	2-3	50-60	Thin plants when 6 to 8 inches tall
Carrots FS/PS	1 qt.	2-3	65-80	Several plantings, two-week intervals
Cabbage FS/PS	5 gal.	12-18	65-120	Requires fertile soil
Chard, Swiss FS/PS	1/2 gal.	4-6	30-40	Harvest leaves for long yield
Cucumbers FS	5 gal.	14-18	70-80	Support vining types
Eggplant FS	5 gal.	1 plant per container	75-100	Requires fertile soil
Kale FS/PS	5 gal.	10-15	55-65	Harvest leaves
Lettuce,	1/2 gal	4-6	30-35	Harvest leaves

leaf PS				
Mustard greensPS	1/2 gal.	4-5	35-40	Several plantings, two-week intervals
Onions FS/PS	1/2 gal.	2-3	70-100	Require lots of moisture
Peppers FS	2 gal.	1 plant per container	110-120	Require hot weather
Radishes FS/PS	1 pint	1	25-35	Several plantings, weekly intervals
Squash FS	5 gal.	1 plant per container	50-60	Plant only bush type
Tomatoes FS	5 gal.	1 plant per container	55-100	Stake and prune or cage
Tomatoes, cherry FS	1 gal.	1 plant per container	55-100	Helps to stake and prune
Turnips FS/PS	3 gal.	2-3	30-60	Harvest leaves and roots