



# Container vegetable gardening

Adequate sunlight, water, and fertilizer plus a well-drained growing medium are essential for successful container gardens.

## Containers

Containers may be plastic, clay, ceramic, or wood. Almost any type of container can be used as long as it has drainage holes in the bottom. Drill drainage holes in plastic and wood containers, if no drainage holes are provided. If using wood, avoid treated lumber and select containers made of red cedar or redwood.

Most vegetables require containers that hold at least 6 to 8 inches of potting mix. Root crops, such as carrots, and tomatoes and other large plants require deeper containers. See Table 1 for the amount of potting mix needed to fill various sized containers. See Table 2 for the approximate size containers recommended for various vegetables.



## Growing media

Container gardens require a growing medium that drains well, yet does not dry out too fast. Soilless potting mixes have several advantages over soil. They are free of plant disease organisms and weed seeds, are less likely to compact, hold moisture and plant nutrients well, and are lightweight—making the container more portable. Soilless potting mixes can be purchased from garden centers and retail outlets or they can be prepared using the proportions in Table 3.

## Crop selection

Most vegetables that grow in a backyard garden do well as container-grown plants. Those with compact growth habits are best suited for containers. See Table 4 for suggested cultivars.

## Summer care of container gardens

**Location**—Nearly all vegetables grow and produce best when grown in full sunlight. Plants that bear fruit, such as cucumbers, tomatoes, peppers, and eggplant, require at least

6 hours of direct sunlight per day. Root crops (beets, carrots, and onions) also require 6 or more hours of direct sunlight. Leafy vegetables (lettuce, cabbage, greens, spinach, and parsley) tolerate more shade than most other vegetables.

**Watering**—Plants grown in containers require frequent watering because they dry out quickly from sun and wind. Some plants may require daily watering. Apply enough water to reach the bottom of the container and allow the excess to drain through the drainage holes. Never allow the soil to dry out completely between waterings; this may cause the plants to drop their fruits and flowers. However, over-watering also will slowly kill plants because the roots will not receive enough oxygen. When watering, avoid wetting the leaves, especially if watering late in the day. Wet leaves encourage the development of plant diseases.

**Fertilization**—Container-grown plants require fertilization more frequently than garden-grown vegetables because they have less soil from which to obtain nutrients. A soluble fertilizer (15-30-15 or 20-20-20) applied once every week or two is recommended. This can be applied while watering. Many commercial potting mixes contain a slow release fertilizer. If using one of these mixes, it may not be necessary to begin fertilization until mid-summer.

**Tomato tips**—When growing standard-sized tomato varieties, use a stake or cage to keep the vines upright. If staked, plants should be pruned to produce manageable one- or two-stem plants. To prune a tomato, remove the small shoots that form in the axils of the leaves and stems. If these shoots are not pinched out, they will grow and make the plants difficult to train. Tie the stems loosely to the stake. Tomato cages should be made of fencing material of at least 4-inch mesh so the fruit can be harvested easily. Cages should be at least 24 inches in diameter.

## For more information

Additional information about vegetable gardening and other horticultural topics is available from local extension offices and from these Web sites:

[ISU Extension Distribution Center \(online store\)](https://store.extension.iastate.edu/)

<https://store.extension.iastate.edu/>

[ISU Extension Horticulture](http://www.yardandgarden.extension.iastate.edu)

[www.yardandgarden.extension.iastate.edu](http://www.yardandgarden.extension.iastate.edu)

**Table 1. Pot size and capacity**

Diameter inside top (inches)	Approximate soil content
4	2 ½ cups
5	1 quart
6	2 ½ quarts
7	3 quarts
8	1 gallon
9	1 ½ gallons
10	2 gallons
12	3 gallons
14	5 gallons
16	7 ½ gallons

**Table 2. Container size for vegetables**

Crop	Minimum size	Number of plants per container
Beets	2 gallon	Thinned to 2-3 inches apart
Cabbage	2 gallon	1 plant
Carrots	2 gallon	Thinned to 2-3 inches apart
Cucumber	2 gallon	2 plants
Eggplant	2 gallon	1 plant
Green beans	1 gallon	2-3 plants
Leaf lettuce	1 gallon	4-6 plants
Parsley	½ gallon	1 plant
Pepper	2 gallon	1 plant
Radishes	2 gallon	Thinned to 1-2 inches apart
Spinach	1 gallon	Thinned to 3 inches apart
Swiss chard	1 gallon	1 plant
Tomatoes		
Cherry	2 gallon	1 plant
Standard	4 gallon	1 plant

**Table 3. Soilless potting mix recipe**

Materials	To make 2 bushels
Shredded sphagnum peat moss	1 bushel
Vermiculite	1 bushel
Ground limestone	1 ¼ cups
Superphosphate (0-20-0)	½ cup
or concentrated superphosphate (0-45-0)	¼ cup
Granular 5-10-5 fertilizer	1 cup
Moisten with water; store in plastic garbage bags.	

**Table 4. Suggested vegetable cultivars for container gardens**

Beets	Red Ace, Ruby Queen
Carrots	Danver's Half Long, Little Finger, Nantes Half Long
Cucumber	Patio Pickle, Pickle Bush, Salad Bush, Spacemaster
Eggplant	Fairy Tale, Ivory, Ophelia
Green beans	Derby, Provider, Topcrop
Lettuce	Black Seeded Simpson, Green Ice, Green Salad Bowl, Red Sails, Red Salad Bowl, Buttercrunch
Parsley	Champion Moss Curled, Dark Green Italian
Pepper	Bell Boy, Cajun Belle (hot), Lady Bell, Mariachi (hot), New Ace
Radishes	Champion, Cherry Belle, Comet, Sparkler, White Icicle
Spinach	Long Standing Bloomsdale, Melody, Tyee
Summer squash	Pic-N-Pic, Zucchini Elite
Swiss chard	Fordhook Giant, Lucullus
Tomatoes	
Standard	Bush Early Girl, Celebrity Jetstar
Patio	Patio Hybrid, Patio Princess, Mega Bite
Cherry	Little Sun Yellow, Terenzo

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