

Container gardening can allow gardeners to grow anything anywhere, but some guidelines will foster greater success.

Why? Why Not?

Advantages

- Patio or balcony, fence or steps...anywhere
- Move per seasons to follow or avoid direct sun
- Move for enjoyment when in bloom or fruiting
- Create special soil mix as for blueberries or orchids

Disadvantages

- Roots restricted
- Sensitive to weather – summer heat, winter cold, wind
- Frequent irrigation and fertilization
- Frequent root pruning and repotting

What Type of Container?

Almost any kind of container is usable, but here are some basic requirements.

- Drainage holes allow water to drain fully from air pores.
 - Use a single rock or clay piece or coffee filter to block the drainage hole so soil mix won't run out. Using more than a single piece reduces the space the root system can grow.
 - Planted container can be placed inside an outer container without a drip hole if drained water is poured out so it doesn't stagnate. Filling the interspace with soilless mix will help insulate the plant's root system.
- Size matches the plant's root system – larger is better – to allow roots to develop as large a root system as possible within that confined space.
- Deeper is better than wider so gravity holds cooler water at the base.
- Material and color affects plant growth.
 - Glazed clay will evaporate less and insulate more
 - Unglazed clay will evaporate more
 - Wood will absorb and hold water and insulate more but will rot
 - Plastic will heat up more and evaporate less
 - Metal will heat up the most.
 - Light color will reflect sun's heat.
 - Dark color will absorb sun's heat.
- Hanging baskets require even more frequent irrigation, especially if they're in the direct sun.

How Much Sun?

It depends on what kind of plant, and why you're growing it.

- If you're growing a plant for its foliage, it needs about 6 hours of direct sun daily.
- If you're growing a plant for its flowers or fruits, it needs more than 8 hours of direct sun daily.
- Plants that require bright shade like African violets may also be grown as houseplants.

What Kind of Soil Mix?

- Don't use regular dirt since it may contain disease spores and weed seeds; it is generally too heavy to drain well in the restricted space.
- Use a high-quality, sterilized soilless planting mix combination of organic materials that will absorb and hold moisture but also drain well so roots remain evenly moist with access to air pores.
- When filling the container, leave a 1-inch space at the top after lightly compressing the soil mix with your fingertips to allow watering space.

What Can I Plant?

Vegetables

Food production requires as much space for root systems as possible, and more attention to irrigation and fertilization.

12" deep container

Beets	3" apart
Bok Choy	6" apart
Carrots	2" apart
Garlic	3" apart
Leaf Lettuce	6" apart
Onions	3" apart
Radishes	2" apart
Spinach	5" apart
Strawberries	6" apart
Swiss Chard	9" apart

18" deep container

Beans	5" apart
Broccoli	12" apart
Cabbage	24" apart
Cauliflower	24" apart
Cucumbers	5" apart
Eggplant	12" apart
Peas	3" apart
Peppers	12" apart
Squash	18" apart

24" deep container

Blackberries	18" apart
Blueberries	18" apart
Potatoes	6" apart
Tomatoes	18" apart

Fruit and Ornamental Trees

The largest possible container is best, and the most attention to fertilization and irrigation because expect long-term growth.

- Will require root pruning and repotting every couple of years
- Fig trees can tolerate restricted root systems well, and extensive annual pruning will still produce a good-sized crop.

Flowers

Most annuals and perennials will do well.

- Annuals will tolerate crowding. Some include alyssum, begonia, coleus, impatiens, lobelia, marigold, nasturtium, pansy, petunia, snapdragon, sunflower, zinnia
- Bulbs do well when planted in layered depths, especially when topped with annuals. Some include daffodils, tulips
- Perennials, especially drought-tolerant varieties, will thrive for at least a couple of years before requiring root pruning and repotting. Some include bromeliad, chrysanthemum, clivia, coreopsis, geranium, lantana, orchids, salvia, succulents

How Many Plants Can I Plant In Each Container?

The more plants in a container, the less successful each will be. Estimate space use for both root systems and foliage.

Seeds or Transplants?

Both are fine when root and foliage space are considered.

- Seeds are best for plants that germinate and grow quickly.
- Transplants are best for eggplant, pepper, tomato, and most flowers.
- Both – at beginning of each season, sow seeds and purchase first seedlings of lettuce, spinach and Swiss chard from nurseries to get a quick start on harvests before your seedlings catch up.
- Choose high-yielding vegetables – beans, beets, broccoli, carrots, lettuces, peppers, radishes, squashes, tomatoes.

How Frequently Must I Water?

Keep soil mix evenly moist. Timing will vary according to season, size of container, soil mix, and amount of direct sun it receives.

During hot weather, check containers daily.

- Larger container with more soil mix helps moderate soil temperature so the plant can grow an extensive root system.
- Double-potting moderates even more.
- Determine whether the container needs watering by sticking your finger all the way into the soil mix. If it's moist more than 1 inch down, it doesn't need water. If it's dry 1 inch or more down, it needs water.
- Water slowly enough so the soil mix absorbs it before it runs out the bottom drainage hole.
- If the soil mix is dry, the water may run down the insides of the container instead of moistening the mix. Roughen up the surface soil and water again; it may take 3 fillings before excess water exits the drainage hole after moistening the mix.
- During warm months, provide a drip pan to catch the drained water so the plant can reabsorb it as it needs.
- During cold rainy months, remove the drip pan so the soil mix won't remain oversaturated.

How Frequently Must I Fertilize?

Since plant roots are restricted in the container, they depend on you for nutrition, and every watering drains away nutrition.

- Use a "balanced" fertilizer which contains all 3 macronutrients: N = Nitrogen, for green leaves. P = Phosphorus, for flowers and fruits. K = Potassium, for root growth.
- Choose fertilizers that also include trace elements for broad-spectrum nutrition.
- Organic fertilizers include fish emulsion, seaweed, kelp, blood meal and bone meal.
- Feed with a quarter-strength liquid fertilizer every other time you water.