



## Garden Tips & Techniques: Soil for Containers and Raised Beds

Last week we explored ways to build, maintain, and increase the fertility of the soil for in-ground garden beds. But what about those of us with container gardens, or sites without much soil at all?

Urban gardening is all about finding creative growing spaces! And there are lots of possibilities for healthy gardens, even without a yard. Read on to find out which soils work best for different types of “unconventional” gardens, and how to build and maintain fertility in containers and raised beds.

### Containers

Many types of containers can work well for gardens. In general, the bigger the vessel, the better! Plants need soil to provide an anchor for their roots, to hold water and nutrients, and to help regulate temperatures. So the more soil, the better! Also, watering is a constant need with container gardens, and larger pots require less than small ones. Make sure that containers have drainage holes, so overwatering or a thunderstorm won't drown the plants!



These long, deep containers, on the roof of the restaurant [The Porch](#) in Oakland, provide growing space for strawberries and other tasty additions to dishes!

You can purchase pots or find some thrifty alternatives. Here are a few creative ideas for containers:

- Old bathtub
- Half of a whiskey barrel
- 5-gallon bucket
- Apple or milk crate lined with burlap
- Old grill, wagon, small trashcan...you name it!

When selecting soil for containers, the word “soil” is somewhat of a misnomer. We recommend finding a good quality “soil-less mix,” which relies on compost or peat for the bulk of its make-up. During the growing season, these mixes are available at home improvement or hardware stores, plant nurseries, and grocery stores. We recommend working with organic mixes, as they offer good soil structure and lots of nutrition without relying on chemicals.

Soilless mixes with larger “chunks” of materials work best for containers. Because of the constant need for watering, soil in container gardens tends to get compacted. Larger pieces in the mix hold air pockets in the container and help to ensure that plant roots get the space they need to grow. You can find these types of mixes by trial and error, or look for a “container blend.” Please don’t use garden soil in containers, as it gets compacted easily and doesn’t drain well when placed in a container. To add fertility throughout the growing season, top off the container with some compost or worm castings.

Soilless mix can be somewhat pricey; will you need to throw it out after the growing season? As long as your plants didn’t have significant disease or pest problems, you can reuse the soil the following year. One tried and true method for reusing potting mix is to remove 1/3 to half of the mix and replace it with compost. Mix the compost into the previous year’s potting mix, for a boost of nutrition and beneficial microorganisms.

## Raised Beds

There is a major distinction between raised beds; some sit on impermeable surfaces while others are placed on soil or turf.

Raised beds on impermeable surfaces are basically large container gardens. They need to be lined with burlap or a [commercially available fabric](#) to keep soil from escaping the bed. The deeper these beds are, the better, since more soil equals healthier plants. Deep beds will require less frequent watering.



The kitchen garden at the Frick Art & Historical Center contains primarily raised beds. These beds help visitors to walk on the pathways rather than through beds and provide rich soil for lush garden growth.

Raised beds on permeable ground create an opportunity to add fertile, healthy soil to areas where there isn't much "good" soil. Raised beds can also be used as a way to create a clear distinction between garden bed and walkway, or to provide easier, raised access to the garden for people with special needs. If you are building a raised bed to avoid a heavy metals issue in the soil, build as deep a bed as possible, and line it with thick landscaping fabric to restrict access to the contaminated soil.

We recommend a 70% topsoil to 30% compost ratio, when filling raised beds. You can purchase bags of topsoil and compost for a small bed, or find a local nursery or compost supplier to deliver a larger amount of materials. Mix the topsoil and compost well. If there is soil under the bed, dig some compost into the ground, to encourage plant roots to grow down into the earth.

If you are setting a raised bed on turf, place cardboard or thick layers of newspaper over the grass, before covering with the topsoil/compost mix. Without access to light, the grass will eventually decompose and add nutrition to the bed.

A raised bed with 30% good-quality compost will not need supplemental nutrition in its first year. In subsequent years, test the soil to see what nutrients are lacking, and amend the soil based on the test results (see [Testing, Amending, and Caring for Garden Soil](#)). Plan to add some form of Nitrogen (blood meal, feather meal, or cottonseed meal) each year before planting.