

Vegetable Crop Rotation

For healthy soil and high yields, it's a good idea to practise crop rotation. With crop rotation, vegetables in the same botanical family are grown in a different part of the garden each year. Rotation can also be practised when planting successive short-season crops in the same plot during a single growing season.

Why Use Crop Rotation?

Crop rotation can improve soil fertility and structure; help manage diseases and insects that affect a specific plant family and aid in weed control.

Vegetables in the same botanical family have similar nutrient requirements. Some are “heavy feeders” and deplete more of the soil's minerals, while others are “light feeders” using up fewer minerals. In addition, there are those plants that actually improve the soil and add nutrients. By alternating the planting of these three types of crops in a single plot, the health of the soil can be maintained. Heavy feeders include broccoli, sweet corn, and tomatoes. Light feeders include carrots, onions, peppers, and potatoes. Soil builders include legumes such as peas and beans. See [Soil Amendments for Vegetables](#) for details.



The History of Crop Rotation

Before the 1950s, crop rotation was a common means of maintaining soil fertility. Once synthetic fertilisers came on the scene, however, farmers began practising monocropping – growing one type of crop – and relying on chemical fertilisers to replace soil nutrients. While this worked for a while, over time the practice took its toll on soil fertility. While most farmers rotate crops today, they still often only follow a short rotation of two or three years.

Common Rotations

There are different systems of crop rotation. Although the common rotation is a 4-year plan, some experts advise a 3-year plan for home gardens. Here are some common rotations:

- Potatoes, brassicas, legumes, and roots
- Legumes; onions, carrots and tomatoes; and brassicas
- Heavy feeders, light feeders, and soil builders
- Roots, brassicas, and all other crops

In the first rotation above, for example, the first year plant potatoes in the bed. The next year, plant brassicas. The third year, plant legumes; and the fourth year, plant roots.

As you can see, there are many choices. One element common to virtually all rotations is to plant brassicas in a different spot each year. Brassicas are heavy feeders and are all susceptible to a fungal disease called clubroot. While clubroot can last for up to 20 years in the soil, crop rotation helps slow down the proliferation of club root spores. Brassicas include broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, mustard, swedes and turnips.

Planning Your Rotations

First, learn the botanical families by reading the articles in the [All About Vegetables](#) section. Next, make a list of the vegetables you plan to grow and group them according to botanical family.

It's easier to rotate crops if you divide your garden into sections or beds that are roughly the same size. If you plan to use a 4-year rotation, divide the garden into beds that are a multiple of four; for a 3-year rotation, use multiples of three. Try to group plants of the same family, with the same growth requirements, in the same bed. If you don't have enough of one crop to fill a section, combine crop groups with compatible needs. Leafy greens and shallow-rooted vegetables that don't belong to the botanical families used in crop rotation can be planted to fill in spaces. Keep a record from year to year of your crop rotations.

Keeping It Simple

You may be thinking: “My garden is too small to practise crop rotation.” While you may not be able to rotate crops on a grand scale, you can still use the principles behind crop rotation to improve your soil and your yields. Divide a smaller garden into smaller beds in order to rotate crops.

At first glance, crop rotation may seem too complicated or impractical for a home garden, but it doesn't have to be. Basic crop rotation can be accomplished by remembering one simple rule: don't plant the same crop in the same place two years in a row. Start with that premise and refine your crop rotation plans each year.

Crop Rotating Tips

Here are a few rules of thumb for crop rotation:

- Group crops according to which diseases they are susceptible to
- Alternate root vegetables and vegetables with shallow roots: this will improve the soil structure
- If you use interplanting (planting different vegetables together in the same bed), use the main crop in your rotation plan
- Remember tomatoes and potatoes are both members of the nightshade family: don't plant one to follow the other
- Plant brassicas and leafy greens to follow legumes: they like the added nitrogen
- Beware of planting carrots or beetroot in direct succession to a legume

To improve your chances of gardening success, try devising a simple crop rotation plan.

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