

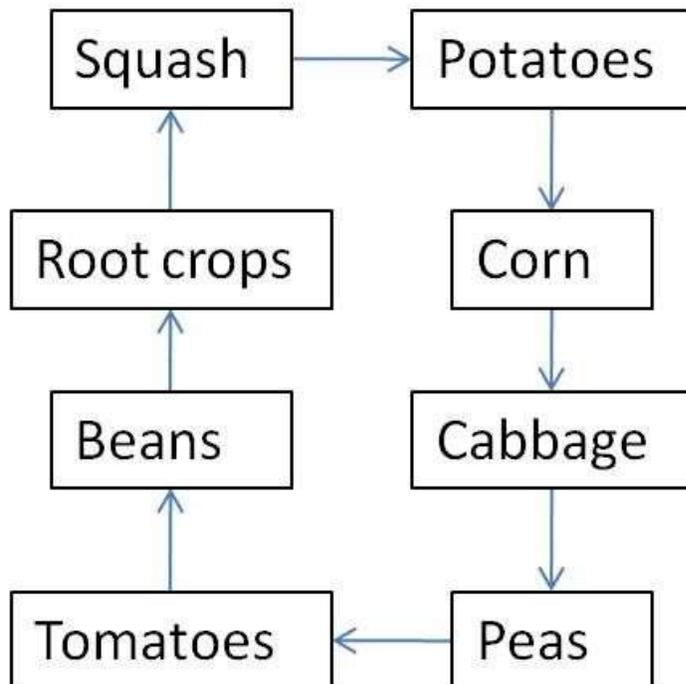
# CROP ROTATION IN YOUR VEGETABLE GARDEN

A simple doctrine to follow to keep your garden vegetables (and soil!) healthy and reduce the possibility of disease is to rotate what you plant so the same (or related) crop isn't planted in the same area for several years. Several studies have shown that without crop rotation, yields can lower by as much as one half within just a year or two. Crop rotation helps maintain the balance of nutrients, organic matter, and microorganisms necessary for healthy soil.

Most pests and diseases can only damage plants of the same botanical family, but do not seem to hurt other plants. Potatoes, for example, are susceptible to fungi and nematodes that build up over the course of a year. Those pathogens have then built up and tend to have very strong negative effect on plants like tomatoes and eggplant (and more potatoes obviously) if they're planted in the same spot.

In addition to the reduction of dangerous pathogens, crop rotation has a positive effect on soil nutrients. Not all plants need the same balance of nutrients. For example, beans and beets like extra manganese and tomatoes need extra calcium. Beans tend to leave more nitrogen in the soil than they take, which is very beneficial to almost all other plants, but if beans are planted in the same location year after year their yields quickly decrease.

Crop rotation can become quite overwhelming depending on your original soil's composition, what plants you like to put into your garden, all of the nutrients each plant species needs, how much of last year's residue you leave in the garden, and if you turn the soil over to mix in the remnants of last year's plants. An eight-crop rotation plan has been developed over years of testing and research. Although it isn't perfect for all situations as we'll soon point out, it's a great place to start planning



rotations for your garden. In order, plants should be rotated as follows: (1) tomatoes (2) peas (3) cabbage (4) sweet corn (5) potatoes (6) squash (7) root crops (8) beans. So if you only grow these 8 crops and plant them in rows, you can simply shift each crop over each year from the last.

However, it's pretty rare that the space required for each crop takes the exact same space as others. Squash tends to need lots of space while root crops do not. Most gardeners also tend to have favorites and plant lots of those while others they plant much less of. The best solution then is to plan your rotations by listing your favorite crops and how much space is required you'll need based on

individual plant needs and how many you're going to plant. Then sort them into the families:

- Onion, garlic, leeks and shallots
- Carrots, celery, parsley and parsnips
- Lettuce, sunflowers and a few other leafy greens
- Cabbage, broccoli, Brussels sprouts, kale, rutabagas, kohlrabi, and many other leafy greens
- Spinach, beets and chard
- Cucumbers, melons, squash and gourds
- Peas and beans
- Corn, wheat, oats and rye
- Tomatoes, peppers, eggplant and potatoes

Draw out your garden space(s) and to the best of your knowledge, write down where various crops grew last year. Photographs or drawings of plant locations in your garden at different times during the season, makes all of this much easier to refer to each year.

Then by taking your time, perhaps even using a couple of years to figure things out, get to the point where you can rotate your plants in a logical order, whether it's left to right, front to rear, circular or even jump from bed to bed. Expect to improvise and innovate, few gardens are used or shaped like others. When in doubt about a rotation, perhaps plant an extra crop of beans or leafy greens.

It may take some time, but in the end, it's worth it. Your garden will grow healthier plants, which in turn produce better, and in turn puts more food on your plate. After a few years of planning and fine-tuning, crop rotation can basically run itself and benefits both you and your plants!