

CROP ROTATION

Vegetables crops are grouped into families.

Crop rotation simply means that related vegetables that are grown as annuals are grown together in their families and their positions moved around the plot once a year (or more).



Why Rotate Crops?

There are a number of reasons for doing this:

- It helps to **prevent pests and diseases** that live in the soil. For example, two major worries in vegetable growing are clubroot disease in cabbage crops and the nematode known as eelworm in potatoes. If the crops are grown in the same place each year, the chances of these problems occurring are much greater. By moving them around annually and only growing them in the same ground every four years or so, the pest and disease lifecycles should be broken.
- It **stops the soil becoming drained of nutrients** that the same plants would use every year.
- Crops can follow each other that will **benefit each other**. E.g., bean and pea roots hold lots of nitrogen. If their disease free roots are left in the ground once the crops have been harvested, the brassicas (*cabbage type plants*) that will follow in the next rotation will reap the rewards by producing lots of leafy greens. Also brassicas like soil that's consolidated so by leaving the legume roots behind and thus causing little disturbance to the soil, the brassicas that follow will root better.
- If vegetable families are grown together, it's likely that **the soil for each will need to be treated in the same way** and that they will be **prone to the same pests and diseases** so can be treated together easily.

Important Families: *(That are likely to be grown outdoors in a cooler climate)*

Potato:	Potato, tomato
Legumes:	Peas, beans
Brassica:	Cabbage, broccoli, swede, turnip & radish
Alliums:	Onion, garlic, shallot, leek
Others:	Carrot, parsnip, parsley, and celery

Anything else can be fitted in such as sweetcorn, squashes, salads etc.

Basic Rules

The main rule is to keep families together; if a section is to hold more than one family, try and keep those with similar growing requirements together. This is one of several popular crop rotations.

Using a bed system can make planning a rotation easier. You may also find it helpful to write crops on to post-it pads. You can play around until you find a combination that fits your own patch.

A Four-Year Rotation

The following is a guideline. You may not want (*or need*) to follow this rotation at first. However, after a couple of seasons you may start to wonder what can be planted in the gaps. This should help with your planning.

People Like Bunches of Roses

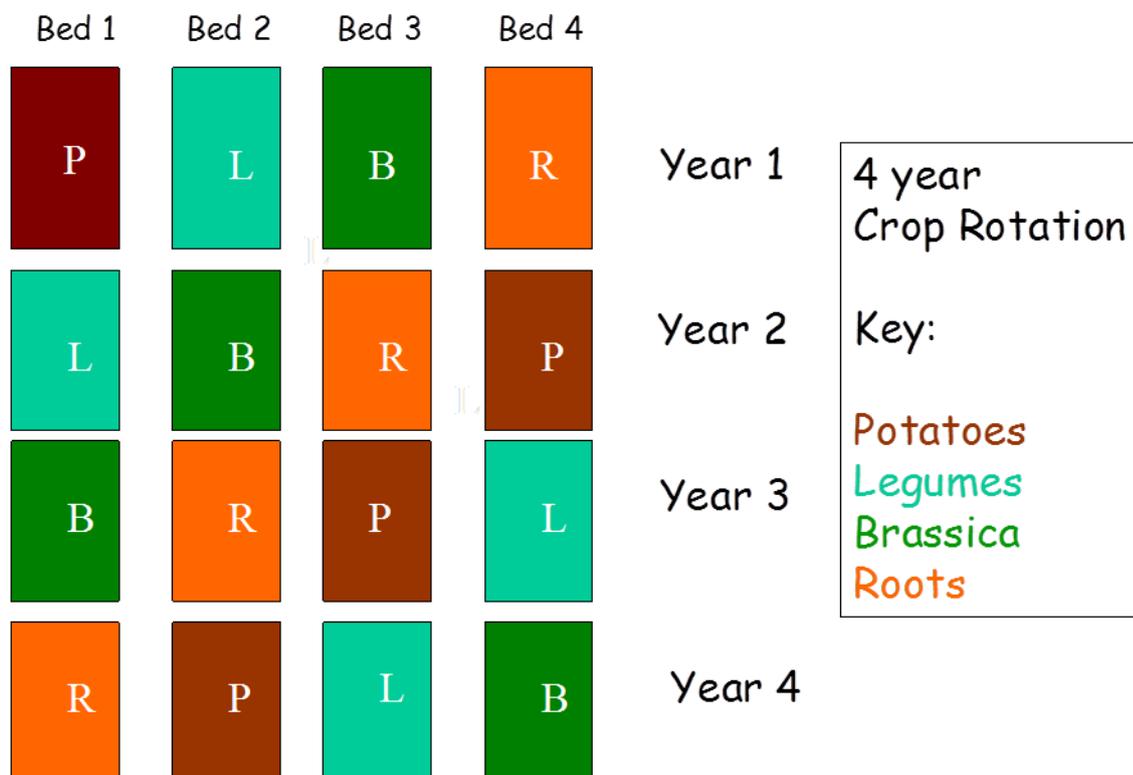
I've come across lots of different crop rotations but a popular one, and one that works well for our own garden over four (or five) year intervals is:

Year 1: **P**otato crops

Year 2: **L**egumes (peas, beans)

Year 3: **B**rassicas (cabbage type crops)

Year 4: **R**oot crops/others.



In this four year rotation the potatoes and squashes are planted first (Bed 1) as the potatoes break up the soil nicely. In year 2 the legumes (peas & beans) will be planted in Bed 1 as they will fix nitrogen into the soil for the brassica (cabbages) that will follow. Therefore in

year 3 the leafy crops (brassica) will be planted in bed 1 and lastly in year 4 the roots and others can be planted in bed 1 as they are the least demanding of the crops.

You may also find it useful to use a five year rotation, rotating the allium (onion) family separately. Whichever you decide, avoid leaving the soil empty. Either cover it when not in use with carpet or similar or plant a green manure or a crop into it.

Bed 1: Early, maincrop potatoes, pumpkins, courgettes and tomatoes

These are the biggest feeders. In the autumn months (once the root crops have been cleared), apply well-rotted manure or compost or grow a green manure such as grazing rye. In spring, dig in the green manure (grazing rye) and if you didn't have the opportunity to manure, or have sandy soil, apply manure or compost now, leaving a few weeks between manuring and sowing if you can. After harvesting the potatoes, plant anything from the legume family.

Bed 2: Legume (now *Fabaceae*): beans, peas, French beans and runner beans

The Legumes. These fix nitrogen themselves so do not require extra manure. They will benefit from leaf mould mulch once they've been planted out however (to improve soil structure). Once harvested, sow a nitrogen fixing green manure such as winter tares, check the soil pH and add lime in the autumn if necessary.

Bed 3: Brassicas (cabbage, swede, turnips, broccoli, and radish)

Leafy veg (brassicas & salads) like to follow peas & beans. Dig in the green manures (winter tares) or add compost (or well-rotted manure) in the spring prior to planting. Mulch with leafmould in the autumn.

Bed 4: Others (carrots, beetroot, parsnips, celery and sweetcorn, onions, garlic, shallots)

Mostly comprises of root crops but miscellaneous crops fit in well here too.

They don't need much feeding, as they'll use up everything that's leftover from previous crops. However, apply compost in the spring *where alliums, celery, leaf beet and sweetcorn* will grow as they will benefit from the additional feeding.

Sow a green manure (such as grazing rye) over winter, ready for the potatoes in the spring.

If you only have one small bed, don't worry. Just divide it into four with a bamboo stick and plant your families in the different squares or rectangles. You may also find for instance, that you plant more alliums (onions) than brassicas. It doesn't matter. As long as you aim to keep the veg families apart for as long as possible, you'll have done your best.