

# 5 Minute Guides: Crop Rotation

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## Crop Rotation! The first question is why?

The basic answer is that it reduces the risk of build-up of pests or diseases specific to one crop, but it goes rather further than this. Crops have different fertilizer requirements, and some need more lime- for example brassicas, the cabbage and cauliflower family. Potatoes, on the other hand, are happy with soil that is actually slightly acid and applying lime immediately before a potato crop increases the risk of scab, an unsightly disease of the potato skin. They also need plenty of fertilizer. On the other hand a lot of manure recently applied would not suit brassica crops as it would be likely to make them unduly loose and leafy.

To achieve a crop rotation on a vegetable plot it is a good idea to split the plot in three or four. A four-year rotation would look something like this-

CROP ROTATION: a suggested plan.		
	Year 1	Year 2
Plot A	Legumes - add well rotted manure	Brassicas - add compost and fertiliser
Plot B	Potatoes - add manure or compost, and fertiliser	Legumes - add well rotted manure
Plot C	Roots and Onions add fertiliser	Potatoes - add manure or compost, and fertiliser
Plot D	Brassicas - add compost and fertiliser	Roots and Onions add fertiliser
	Year 3	Year 4
Plot A	Roots and Onions add fertiliser	Potatoes - add manure or compost, and fertiliser
Plot B	Brassicas - add compost and fertiliser	Roots and Onions add fertiliser
Plot C	Legumes - add well rotted manure	Brassicas - add compost and fertiliser
Plot D	Potatoes - add manure or compost, and fertiliser	Legumes - add well rotted manure

Plot A Peas, Beans- plus Lettuce, Celery, Spinach and Tomatoes.

Plot B Brassicas- Cabbage, Cauliflower, Sprouts, Broccoli etc.

Plot C Root crops - Swedes, Beetroot, Carrots and Parsnips plus Onions & Leeks

Plot D Potatoes

Each year each plot moves round one so no crop is repeated in the same place for another three years.

There are many variations. For example Potatoes may not be grown at all and this plot could be used for other crops like Courgettes or Sweet Corn.

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Climbing Beans are often grown on the same plot each year, and in their particular case this may be an advantage unless disease shows up. There are also permanent crops like Asparagus and Rhubarb which of course do not come into this rotation at all.

**Manure/ compost** improve the soil structure and add nutrients. They ‘open up’ heavy soils and improve the moisture-holding capacity of light and sandy soils. Both are beneficial for all crops and essential if growing organically.

### **Lime**

Most soils (except chalky soils) used for vegetables are likely to need lime at some stage. Some very acid soils where bracken and rhododendrons grow may need so much as to make vegetable growing impracticable. Lime provides Calcium, an important nutrient for plants, and also alters the pH of the soil.

### **pH**

This is simply a scale of measurement of the acidity or alkalinity of soils. A pH of 7.0 is neutral, but many garden plants and vegetables are happier with it slightly acid, a pH of 6.0-6.5. Plants like Blueberries and Rhododendrons are unhappy if it is above 5.0, and Brassicas are much happier if it is 6.5-7.0. Lime can also help to protect Brassicas from Club Root, a nasty soil-borne disease.

The acidity or alkalinity of the soil interacts with nutrients; if the soil is too acid, many trace elements are too soluble and can cause toxicity- in practical terms poisoning the plants. At the other end of the scale if the soil is too alkaline many of the same trace elements become insoluble, and the plant will suffer from deficiencies; one of the best-known is the chlorosis (yellowing) caused by ‘lime-induced iron chlorosis’.

### **Fertiliser**

This is covered in a separate ‘Feeding’ guide.