



FACT SHEET: CROP ROTATIONS

Basic, Practical Crop Rotation

Crop rotation is a practice designed to minimise pests and diseases, reduce chemical use, aid in building and maintaining healthy soil, and manage nutrient requirements - all which will maximise yield. The principles of crop rotation have been successfully used for thousands of years in agriculture and are still used today. The simplicity of crop rotation allows the practice to be used in your own home with great success. In the 'Gardening Australia Vegetable Planting Guide' you will find each vegetable is listed with its family name, it is this information that will help you apply the principles of crop rotation to your vegetable plot at home.

Crop rotation is just that - rotating crops, so that no bed or plot sees the same crop in successive seasons. Using the information in the 'Gardening Australia Vegetable Planting Guide' to help plan your rotation system, you can benefit in many ways from this practice.

Reduces the build up of pests and diseases in the soil by removing their preferred host and therefore breaking the pest or disease's lifecycle, reducing and even removing your requirement for chemical spraying.

Manages soil pH and nutrient levels, to help your vegetables get the most out of your soil. Use of composts, manures, lime and fertilisers at the right times will benefit successive crops.

Building soil. Using organic matter, your own compost and growing green manure crops to add nitrogen keeps your soil healthy and working – good soil is the key to producing great crops.

For Starters

Just think of vegetables in terms of family name. In successive years or seasons, we don't want to plant Broccoli for example, which is a member of the Brassicaceae family in the same plot. As well as this we don't want to plant any other members of the Brassicaceae family in this same plot either (Cauliflower, Kohlrabi, Cabbage etc...), as they are affected



by the same pests and diseases. So we group them together (Brassicaceae) and rotate them to another bed that hasn't seen Brassica for a number of years. We group certain plants together and they are rotated as a group. For example, beans and peas are both in the Legume group, and garlic and onions are in the Allium group. With a little planning you will have your crop rotation system going in no time.

The Next Level

For advanced gardeners we also need to think about the way plants feed or draw nutrients from the soil, for example; The Brassicaceae family (Cauliflower, Kohlrabi, Cabbage etc...) require lots of nitrogen for good leaf growth and are generally considered heavy feeders. A crop to follow nitrogen hungry Brassicas may be legumes such as peas, beans, and lentils. Legumes feed lightly and have the ability to 'fix' nitrogen into soils, improving the nitrogen content for future plantings. Tomatoes and capsicums (acid lovers) like a lower pH, and the pH usually drops (becomes more acidic) as more compost and manure is added to soil, so lime should be applied after they are finished ready for a crop that enjoys a higher pH – common sense.

Example of a Simple Rotation Plan

Crop rotation plans can be based around any number of successive years past about 3. Pete's Patch was based around a six year/six bed system and has been quite successful. Six vegetable beds in your back yard may not be practical, a four year/four bed system works well. Each system will be different - as we all want to grow different things in our gardens, but this example will help you plan your individual rotation schedule.

See:

<http://www.abc.net.au/gardening/features/vegiepatch.htm>.

An example of crop groups in a four year rotation would be as follows.



Legumes & Pod Crops **Brassicas & Leaf Vegetables** **Alliums** **Other (Root and Fruiting Crops)**

Okra

Runner Beans

Lima Beans

Peas

Broad Beans **Kales, Cauliflowers**

Cabbages, Brussels Sprouts

Mustard Greens, Pak Choi

Swedes & other Turnips

Radishes, Silverbeet, Spinach **Onions (All types)**

Shallots

Chives

Leeks

Garlic **Capsicums, Tomatoes**

Celery, Beetroot, Salsify

Parsnips, Carrots, Potatoes

Sweet Potatoes, Corn

A yearly rotation schedule would look something like this.

	Bed 1	Bed 2	Bed 3	Bed 4
Year 1	Brassicas	Other	Alliums	Legumes
Year 2	Legumes	Brassicas	Other	Alliums
Year 3	Alliums	Legumes	Brassicas	Other
Year 4	Other	Alliums	Legumes	Brassicas



These examples may be used in your garden, if you so desire - though everyone's soil, climate and tastes vary so a little adaption will most likely be required. There are many methods to crop rotation some are simple like the one just shown but others can get quite complicated, some even include a 'fallow year', which is a year where nothing is grown in that particular bed. There are many things you may want to incorporate into your rotation schedule although the general and most basic rule of thumb is the longer you can leave between the same crop grown in the same spot the better.

Sources:

1. "Garden Soil - The Importance of Organic Matter" By Marie Iannotti. About Home website. http://gardening.about.com/od/soil/a/GardenSoil_3.htm. Accessed May 17 2016.
2. "The Vegie Guide: Basic, Practical Crop Rotation" Gardening Australia. ABC. http://www.abc.net.au/gardening/vegieguide/crop_rotation.htm. Accessed May 17 2016

Illustrations:

1. Photo of soil: www.offthegridnews.com
https://www.google.com.au/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKEwitsNGzo_XMAhXj3KYKHSIZBKkQjB0IBg&url=http%3A%2F%2Fwww.offthegridnews.com%2Fsurvival-gardening-2%2Fcreate-the-best-soil-mixes-for-your-indoor-and-raised-gardens%2F&psig=AFQjCNGhpzzxJSLp7V1IEWpcBplwSKHqYA&ust=1464267136926637.
2. Diagram: Autumn, Herb, Fruit and Vegies Planting Guide.
www.aboutthegarden.com