

Gardening Fact Sheet

CROP ROTATION

The basic principle of crop rotation is to not grow members of the same family, *in the same soil*, in consecutive seasons. 'Gap seasons' allow for less exploitation of the soil keeping a more balanced fertility and microbial interaction. Depending on space available, the minimum recommended time is two years, while some gardeners prefer a rotation of up to six years.

The main reasons are to stop infection and re-infection of pathogens, diseases, and insect infestations. Plants also use different minerals and quantities of nutrients from the soil while others will 'fix' nutrients into the soil. So rather than deplete the soil with a continuous 'same' crop, it is beneficial to plant a diverse range of crops rotating to the best advantage of the plants.

By understanding how plants are related, ie. What family they belong to helps us make good planting plans. Below is a list of some of the more common vegetables, sorted into family groupings.

Cruciferaea

Kale, Cauliflower, Cabbage, Broccoli, Brussels Sprouts, Kohl Rabi, Radish, Swede, Turnip, Mustard

Solanaceae

Potatoes, Tomatoes, Eggplant, Capsicum, Chillies, Tobacco

Amaryllidaceae

Chives, Garlic, Leek, Onion, Spring Onion, Shallots

Chenapodiaceae

Beetroot, Silverbeet, Spinach

Gramineae

Corn

Compositae

Globe Artichoke, Jerusalem Artichoke, Lettuce, Endive

Leguminosae

Peas, Beans, Broad Beans, Snow Peas

Apiaceae

Carrots, Celery, Celeriac, Coriander, Dill, Parsley, Parsnip

Curcubitaceae

Cucumber, Choko, Marrow, Melons, Pumpkin, Squash, Zucchini, Gourds

What to grow, Where?

- Make a list of the vegetables you would like to grow for the season, then group these together in family groups.
- Think about your garden area, and divide it up according to the number of family groups you have selected. This can be as simple as allocating a number of rows in a traditional vegetable plot, or you can use completely separate beds in opposite corners of your garden!
- Decide on an annual ordering sequence for placement of the family groups (see example following) and record this in a garden diary or notebook which you can keep handy. Record your successes and failures so you can alter plans if required, based on your experience.
- A common vegetable to start the sequence are legumes. These plants have the ability to fix atmospheric nitrogen and store it in the soil in a form that is accessible to plants. It is particularly beneficial to allow these plants to break down into the soil once their productive life is over. This helps to add nitrogen rich organic matter to the bed.

- With all of this ‘extra’ nitrogen available, it makes sense to follow this crop with a nitrogen hungry one to reap the benefits. Good examples are corn or leafy green vegetables.
- Another general rule is to grow root crop vegetables after particularly hungry crops, as vegetables in the carrot or onion family tend to be good nutrient scavengers and can be grown in comparatively poorer soil than other crops.
- Don’t forget to improve your soil along the way! You still need to feed your plants with all the goodies like compost, manure, worm castings and the odd liquid feed to get the best from your garden.
- If you have the space, growing a green manure crop somewhere in the cycle can be an advantage. This helps to replenish nitrogen stores and is an excellent way to build up the organic matter in the soil. (Green Manure is sold by us as a 1 or 2kg pack of mixed seeds, seasonally available.)
- The more crops you intend to grow, the more complex the overall plan becomes, but don’t despair! There are no hard and fast rules, so just have fun with your garden! If it all seems too hard, scale it right down to making sure you don’t follow with the same crop in the same spot year after year.
- In small gardens, you can try growing certain crops in pots to give you more room, which also serves to rest the soil.

The following example is quite a complex one, done purely as an example. In this scenario, Winter and Summer crops are listed over a five year rotation, for four garden beds. (It would be much simpler if it were over five garden beds, but as you can see from the example there are a few things you can do to cheat the system and double up, still giving considerable periods of time between repeated plantings.)

Winter Cropping/Autumn Planting

Peas, etc. Potatoes, Broccoli/Cabbage/Cauliflower, Spinach/Beetroot, and a green manure crop.

Summer Cropping/Spring Planting

Corn, Cucumbers/Melons/Pumpkins, etc. Carrots, Tomatoes, Lettuce, Strawberries.

Crop Rotation example

<p>Winter 1</p> <ul style="list-style-type: none"> • Beans • Potatoes/Spinach • Broccoli/Cabbage • Green Manure 	<p>Summer 1</p> <ul style="list-style-type: none"> • Corn • Cucumber/Melons • Carrots/Strawberries • Tomatoes/Lettuce
<p>Winter 2</p> <ul style="list-style-type: none"> • Potatoes • Broccoli/Cabbage • Green Manure/Beans • Spinach 	<p>Summer 2</p> <ul style="list-style-type: none"> • Cucumber/Melons • Carrots • Tomatoes/Lettuce/Corn • Strawberries
<p>Winter 3</p> <ul style="list-style-type: none"> • Broccoli/Cabbage • Green Manure • Spinach/Potatoes • Beans 	<p>Summer 3</p> <ul style="list-style-type: none"> • Carrots • Tomatoes/Lettuce • Strawberries/Cucumber • Corn

<p>Winter 4</p> <ul style="list-style-type: none"> ● Green Manure ● Spinach/Broccoli ● Beans ● Potatoes 	<p>Summer 4</p> <ul style="list-style-type: none"> ● Tomatoes ● Lettuce ● Carrots ● Strawberries ● Corn ● Cucumber/Melons
<p>Winter 5</p> <ul style="list-style-type: none"> ● Spinach ● Beans/Green Manure ● Potatoes ● Broccoli/Cabbage 	<p>Summer 5</p> <ul style="list-style-type: none"> ● Strawberries ● Tomatoes ● Corn ● Cucumber ● Melons ● Lettuce ● Carrots

Please note:

(Information here is just a guide. Depending on your zone, sun aspect, shade, water availability are a few of design principles that may need to be considered, and are unique to your own plot). I keep a garden book with plantings and ideas, drawings, seed packs etc as a reference for future seasons.

