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Riverton Organic Growers Fact Sheet | [www.sces.org.nz](http://www.sces.org.nz)

## CROP ROTATION

**Crop rotation is a way of growing plants in different places each season, to avoid build-ups of pests or diseases and make sure plants have access to the nutrients they need.**

When plants grow, they take nutrients from the soil. Different plants require different concentrations of nutrients, so by moving them around we can make sure they get what they need. Beans and peas (and other plants from the Fabaceae family, known as legumes) actually 'collect' nutrients and leave them in the soil for a following crop (see the Green Crops information sheet).

Broccoli and cabbages (and other plants from the Brassicaceae family, known as brassicas) can get infected with a type of fungus called 'clubroot' which causes the roots to be misshapen and plants to wither, grow poorly and often die. It is a serious problem that can be minimised by practising good crop rotation (although it is mostly caused by being brought into the garden on infected seedlings or soil).

Gardeners have devised many different crop rotations (just do a quick internet search and you will see!), but a simple one might look like this:

1. **Compost** is added to a garden bed and a '**heavy feeder**' (very nutrient-hungry) crop is planted, for example broccoli or tomatoes. As they grow, they remove a lot of leaf- and flower- or fruit-making nutrients from the soil.
2. After the broccoli or tomatoes have finished cropping, they are cut out and a '**light feeder**' (less nutrient-hungry) crop is planted, for example lettuces or other salad greens. As they grow, they remove some more leaf-making nutrients.
3. Once the lettuces or salad greens have finished being harvested they are cut out and a '**root crop**' is sown, for example carrots or winter radishes. As they grow, they remove some leaf-making and a lot of root-making nutrients from the soil.
4. After the roots are all harvested, a **legume** crop is planted. As the legumes grow, they 'collect' nitrogen from the atmosphere (through a handy arrangement with a bacteria that lives in 'nodules' on the plants' roots) and deposit it in the soil, enriching it. This crop could be a 'green crop' that is just grown to be returned to the soil.

Once the legumes are harvested, the cycle can start again. The compost is an important part of the cycle - it should be good, balanced compost that will provide a long-lasting supply of a range of nutrients.

To prevent build up of pests or diseases that target specific plant families (like clubroot in brassicas), the crop rotation should avoid following a crop from the same plant family, so heavy feeders like broccoli shouldn't be followed by light feeders like mizuna (or other winter greens like mustard or pak choi) and those greens shouldn't be followed with root crops like radishes, as all these plants are in the same family!

It can seem pretty overwhelming, but the main thing is to make sure you are adding good compost each season to your heavy feeders and that you move things around in the garden. It gets a bit tricky when you realise that most of the crops in our gardens over the winter are brassicas - you have to have a pretty big garden to make sure all your beds aren't full of these every winter!

### Plant families and common garden crops:

*Plant names are from Latin and no one really knows exactly how to pronounce them, so don't fret about getting it wrong! It is very useful to know them though, especially when you start saving seeds from your garden. A general guide to pronunciation is in brackets.*

#### **Amaryllidaceae** (am-ar-illa-day-sea-ee) family:

Onion, shallot, leek, chives, garlic chives, spring onion, ramps, daffodils, tulips;

#### **Apiaceae** (ape-ee-ay-sea-ee) family:

Carrot, parsnip, celery, parsley, coriander, dill, fennel, angelica, chervil, lovage;

#### **Asteraceae** (ass-ter-ay-sea-ee) family:

Lettuce, chicory, artichoke, sunflower, marigold, goldenrod, calendula, endive, chamomile;

#### **Brassicaceae** (brass-ick-ay-sea-ee) family:

Broccoli, cabbage, kale, cauliflower, mustard, mizuna, mibuna, pak choi, collards, turnip, radish, daikon, swede, cress, kohlrabi, wallflower, alyssum;

#### **Chenopodiaceae** (chen-o-pode-ee-ay-sea-ee) family:

Spinach, beetroot, silverbeet, quinoa, lambs quarters, fathen;

#### **Cucurbitaceae** (kew-curb-it-ay-sea-ee) family:

Pumpkin, squash, courgette / zucchini, watermelon, rockmelon, gourd;

#### **Fabaceae** (fab-ay-sea-ee) family:

Peas, beans, clover, lucerne (alfalfa), soybean, peanut, chickpea, licorice, lentils;

#### **Solanaceae** (sole-an-ay-sea-ee) family:

Tomato, chilli, capsicum, eggplant, potato;