HOW TO MASTER CROP ROTATION



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Planting lettuce, cauliflower, turnips, and other vegetables each season is something that all gardeners look forward to. However, as the years pass, you may notice that your harvest isn't quite as bountiful or as healthy as it has been. Why? Well, planting the same specific crop in the same location can make your plant more susceptible to diseases and pests. Mastering crop rotation can help break the cycle, improving the quality of your harvest. To learn more, including how to get started, just read our guide to crop rotation below.

What is crop rotation?

Crop rotation is the practice of systematically changing the location of different crops each year. Commonly used by seasoned fruit and vegetable gardeners, crop rotation allows you to break the cycle of pest and disease problems by disrupting the routine and making it harder for them to locate their preferred plant to infect. It also prevents the depletion of nutrients from the soil, all without resorting to chemical fertilisers or pesticides.



BENEFITS OF CROP ROTATION

While the main benefit of rotating crops for many gardeners is the ability to control pests and manage diseases, they are not the only reasons you should think about opting for a rotation cycle. Other benefits include:

- Improved soil health: Rotating crops will help maintain your soil's fertility and balance of nutrients. Growing the same crop repeatedly in the same raised bed or patch of garden will eventually lead to nutrient imbalances, which can hinder the growth of your next crop.
- Weed suppression: Crop rotation interrupts the life cycle of weeds by alternating plants. Planting crops like squash and potatoes can also help suppress weeds with their dense foliage.
- More successful growing season: You should see increased, healthier yields when you start rotating your crops. This is because this practice will help manage pests, diseases whilst maintaining soil fertility.

HOW TO PRACTICE CROP ROTATION

Do your research

The first thing you will need to do to be able to rotate your crops successfully is research! As a grower, you must understand the different plant families, as each family has its own nutrient requirements and is susceptible to different diseases and bugs. You can then use your knowledge of these families to plan your crop rotation.

Some crops may never need to be rotated (like asparagus), while others like those in the 'alliums' family, will. To help you get started, here is a breakdown of the major crop families:

- Alliums (onion family): Onions, leeks, garlic, shallot.
- Solanaceae: Potatoes, tomatoes.
- Brassica: Cabbage, cauliflower, radish, swede, turnips, kale, brussel sprouts, etc.
- Legumes: French beans, runner beans, broad beans, peas.



CREATE A CROP ROTATION PLAN

Planning a crop rotation can seem overwhelming. After all, there's lots to think about. However, breaking things down into manageable chunks will help you tackle your to-do list. First, consider your space. Do you have enough raised beds or land to zone off areas for different crop families to grow? If you are working with limited space, you may only be able to focus on one or two plant families. Remember to consider where the sunlight hits when deciding the location of your garden beds.

You can then divide your garden according to the plant families of the crops you wish to grow. These sections should be of equal size and large enough to accommodate different crops' root structures. It can even help to sketch out your plans in your garden journal to help keep track of what you want to plant where. After this is done, it's time to plan the schedule for the rotation.

There are many tried and tested methods you can apply. For instance, it can be helpful to start growing potatoes in a specific area and then plant onions and root crops in that position the following season. The potato growth will have helped to break up the soil, providing optimal conditions for these other plants to grow. It's also recommended to follow the growth of 'heavy feeder' plants (like broccoli, tomatoes, etc) that take a lot of nitrogen from the soil with 'light feeders' (like carrots, onions, etc.) that require fewer nutrients. Do a little research into the types of crops you wish to plant, and you can begin to draw out your schedule using this information.

Example: A 3-year crop rotation plan

The following is an example plan of a gardener who wishes to prioritise growing brassicas and potatoes. Use this example as a guide on how to create your own three or four year crop rotation plan.

AREA ONE Potatoes AREA TWO Legumes, onions and root veggies AREA THREE Brassicas	Year 1	
AREA TWO Legumes, onions and root veggies AREA THREE Brassicas	AREA ONE	Potatoes
AREA THREE Brassicas	AREA TWO	Legumes, onions and root veggies
	AREA THREE	Brassicas

Year 2

AREA ONE	Legumes, onions and root veggies
AREA TWO	Brassicas
AREA THREE	Potatoes

Year 3

AREA ONE	Brassicas
AREA TWO	Potatoes
AREA THREE	Legumes, onions and root veggies

Record, review and adjust

Now that you have a plan, it's time to get going. As you begin the crop rotation practice, it's wise to carefully document the steps you need to take, breaking your to-do list down by year, month, and even week if you feel it's necessary. This process will also help you learn from your mistakes.

It helps to stick label markings into each section to keep track of your plants as they grow and keep a close eye on their progress. If something isn't working quite right, don't hesitate to do a little research and make some changes. Monitor and record the nutrient levels and structure of your soil. If it's not quite up to standard, think about adding some compost. Or, if you're struggling with optimising your crop combinations, seek out some advice and consider replanting. No matter your problem, you can use your findings to improve from year to year, and before you know it you'll be a master at rotating your crop.



TIPS & TRICKS

- Avoid growing crops in the same location for longer than a year. This can lead to soil degradation, a build-up of bugs, and weed infestations.
- Incorporate cover crops in between rotations to improve the structure and fertility of your soil. These plants (grasses, buckwheat, etc) will help to replenish nutrients and add organic matter to the soil.
- You can also further specialise your crop rotation by considering the growth habit of your plants. Just break them down by low, medium, or tall growing. This should help you to optimise your space.

