

## DIFFERENT PLANT FAMILIES IN THE VEGGIE GARDEN

Alliaceae: Asparagus, Chives, Garlic, Leek, Onion, Scallion, Shallot.

Apiaceae: Carrot, Celery, Celeriac, Cilantro, Dill, Fennel, Parsley, Parsnip.

Asteraceae: Artichoke, Chicory, Endive, Jerusalem Artichoke, Lettuce.

Brassicaceae: Arugula, Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Choi, Collards, Cress, Kale, Kohlrabi, Mizuna, Mustard, Oilseed Radish, Radish, Turnip.

Chenopodiaceae: Beet, Chard, Spinach.

Cucurbitaceae: Cucumber, Gourd, Melon, Pumpkin, Squash.

Fabaceae: Austrian Peas, Beans (all kinds), Crimson Clover, Fava Beans, Dutch White Clover.

Gramineae: Annual Rye Grass, Corn, Fall Cereal Rye.

Lamiaceae: Basil.

Polygonaceae: Bloody Dock, Buckwheat, Sorrel.

Solanaceae: Eggplant, Ground Cherry, Potato, Pepper, Tomatillo, Tomato.

Valerianaceae: Mache/Vit/Corn Salad



## APPLICATIONS IN SMALL GARDENS

- If you are growing the same family in containers year after year, replace the soil every two years.
- If you grow so much of one family that a 3 year rotation is impossible, try to put things in a new place each year.
- If you grow mixed plantings throughout your garden, consider noting groups of things that you like to plant next to each other, and moving those groups together as you rotate.



## GARDEN SANITATION

Garden sanitation plays a large role in defense against pests and diseases. When a plant is done producing, remove it promptly and clean up all surrounding debris. If you decide to keep a diseased plant in the garden (squash with powdery mildew, peas with enation, etc.), remove all affected leaves as they appear.

Written by Drew Waldman

## WHAT IS CROP ROTATION?

Crop rotation is the practice of alternating crops of specific vegetable families to different areas of the garden from year to year. This gives the soil a rest from each vegetable family before that family returns to the same garden space again.

### Benefits of rotating crops include:

- Pests have a harder time finding suitable host plants and so cannot build up their numbers as quickly.
- Diseases are less likely to overwinter and infect next year's crops.
- Yields are improved because nutrients in the soil are used more evenly.

Crop rotation ideally has a 3 year cycle, but if a small garden has you thinking a 3 year rotation is not for you, you can still plant different families in different places each year, or grow mixed plantings in your whole garden. Rotation is more important to some plant families than others. The most important ones to move are: brassicas, cucurbits, and solanums, in that order.

# Crop Rotation

Increase yields while  
diminishing pest and  
disease problems



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# GETTING STARTED



In the table below we are assuming that whatever shape of garden, there is 60 feet of row to be used for planting. First, write down all the crops you want to grow and how many feet of row or bed space each will need. Next, group the larger families with the smaller families in any way that they make 3 equal groups. Then divide your garden space into 3 equal size plots and number them 1-3.

Bed #	Crop	Family	Row ft.
1	Broccoli/Cauliflower	BR	7'
	Kale	BR	3'
	Brussels Sprout	BR	2'
	Mustard/Collards	BR	3'
	Garlic	AL	5'
	Bed 1 total = 20		
2	Tomatoes	SO	6'
	Peppers	SO	3'
	Potatoes	SO	1.5'
	Carrots	AP	4.5'
	Dill/Cilantro	AP	3'
	Bulbing Fennel	AP	2'
	Bed 2 total = 20		
3	Peas	FA	2.5'
	Snap Beans	FA	2.5'
	Zucchini	CU	3'
	Pumpkin	CU	3'
	Cucumber	CU	3'
	Corn	GR	6'
	Bed 3 total = 20		

Some short season greens such as lettuce, mache, sorrel, and spinach do not currently appear in the rotation. These should be planted before or after the same crop every season. For example, if in year one spring spinach is grown and followed by summer tomatoes in the same spot, then in all future years spring spinach should be followed by summer tomatoes.

## RULES FOR CROP ROTATION

- Two growing seasons should pass before a plant family returns to soil it has already grown in.
- Heavy feeders such as brassicas, cucurbits, and solanums should follow light feeders (all others).
- Surface feeders such as corn should follow deep rooters like brassicas.
- When removing a finished crop, clean up thoroughly in that area, and leave no debris in which pests or diseases may overwinter.
- Keep records of what happens, and use this information to help plan future plantings.



# YEAR 1

**IN BED 1:** Grow brassicas and alliums spring, summer, fall, and over winter. Overwintering alliums will not be ready to harvest when it is time to plant next year's beans and cucurbits.

**IN BED 2:** Grow mache, spinach, and carrots in the spring, followed by solanums in summer, and bulbing fennel and carrots over winter.

**IN BED 3:** Grow peas, lettuce, and sorrel in spring, followed by beans, cucurbits, and corn.

# YEAR 2 AND ONWARD

In year 2, plant the bed 1 plants in bed 2, the bed 2 plants in bed 3, and the bed 3 plants in bed 1. Continue this rotation so that no family returns to its original spot until year 4.

	Year 1	Year 2	Year 3	Year 4
Bed 1	BR/AL	FA/CU	SO/AP	BR/AL
Bed 2	SO/AP	BR/AL	FA/CU	SO/AP
Bed 3	FA/CU	SO/AP	BR/AL	FA/CU

BR/AL= Brassicaceae and Alliaceae  
SO/AP= Solanaceae and Apiaceae  
FA/CU= Fabaceae, Curcubitaceae, and Graminae

# COVER CROPS

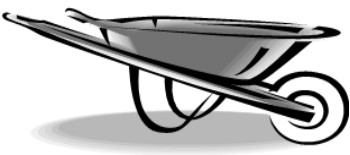
Some cover crops are in the same family as common food crops. These should be placed in the rotation directly before or after the food crop of the same family, and kept out of other parts of the garden.

A mix of cover crops like Gardenway Mix is useful because the buildup of pests and overwintering of diseases depends on there being a large area of a single plant family, which this cover crop mix does not provide. For more info about cover crops, please see the Cover Crops brochure.

Here is a chart of the 3 beds in our sample and the best cover crop choices for each:

	Winter 1	Winter 2	Winter 3
Bed 1	O/GW	CC/F/GW	GW
Bed 2	GW	O/GW	CC/F/GW
Bed 3	CC/F/GW	GW	O/GW

O = Oilseed radish    GW= Gardenway Mix  
CC= Crimson Clover    F= Fava Beans



\*Please note that if you grow overwintering veggies in a bed, cover crops may not be desirable too close to the vegetables. They may prove to be too competitive.