

Crop Rotation for the Small Garden

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Small backyard vegetable gardens can be susceptible to the same plant diseases and insects that plague bigger farms. The use of chemical controls for these problems might be undesirable or unavailable in the home setting. The age- old practice of crop rotation is one way to prevent or lessen some of these problems, even in a small garden. Crop rotation means changing the crop each year on the same piece of ground.

Home gardeners tend to plant what they like and find easy to grow. This tendency leads to cultivating the same crops on the same areas of land year after year. Growing vegetables from the same botanical family or vegetables that have the same nutritional requirements in one garden area more often than once every three years may lead to a decline in soil fertility and higher incidence of certain insect pests and disease problems. Soil born disease organisms can remain in the soil for long periods of time and some of these tend to attack vegetables from the same botanic families.

Three Reasons to Rotate Vegetable Crops:

1. Reduction of harmful insects and plant diseases by rotating the location of plants from the same families on a piece of ground.
2. Better plant nutrition by rotating location of plants that make the same nutritional demands on the soil on a piece of ground.
3. Improvement of soil structure by rotating plants that have roots at various depths and that are cultivated with different techniques.

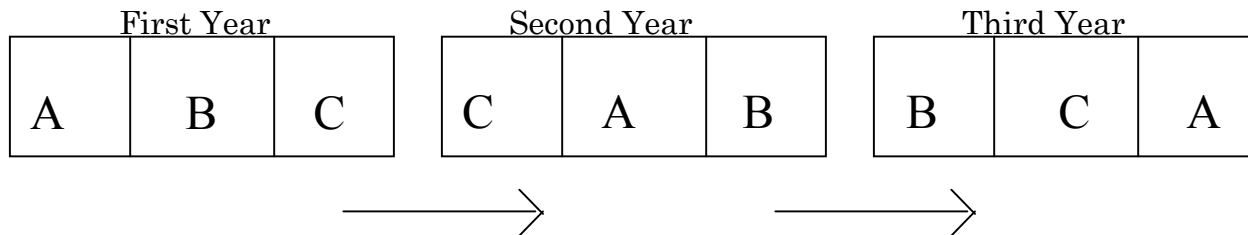
Common Vegetable Families:

Although the parts of vegetables that we eat (roots, leaves, stems, etc.) may be different, botanically the plants may belong to the same family.

<u>Sunflower family</u>	<u>lettuces, sunflowers</u>
<u>Goosefoot family</u>	<u>beets, spinach, chard, quinoa</u>
<u>Mustard family</u>	<u>mustard greens, rutabaga, kale, broccoli, cabbage cauliflower, turnip, radish, watercress</u>
<u>Onion family</u>	<u>garlic, shallots, leeks, onions, chives</u>
<u>Gourd family</u>	<u>melons, squashes, gourds</u>
<u>Pea family</u>	<u>peas, beans, jicama,peanuts</u>
<u>Nightshade family</u>	<u>peppers, tomatoes, eggplant, potato</u>
<u>Carrot family</u>	<u>celery,dill,chervil,fennel,carrot,parsnip,parsley</u>
<u>Grass family</u>	<u>corn</u>

It is ideal to allow three years between the planting of same families in the same garden area. Here is a simple example for a three-year rotation in a small garden. A family likes to plant (A) tomatoes, (B) beans and (C) squash.

The garden is divided up into three parts. The following diagram illustrates the rotation for the recommended three-year rotation. Year four would return to the first year plan.



The above example of crop rotation is a very simple one. Many home gardeners with limited space like to grow more than three crops. The arrangement of crops depends on many factors such as size and shape of beds, climate and soil in growing areas and number of crops to be grown. The planning process can seem complicated when juggling numerous plants in a limited space. A hand drawn diagram of the garden spaces available and vegetable named index cards to be laid in the appropriate spaces to be planted can be useful. A written record of each year's rotation is essential to keeping track of the plan.

In small home gardens, other crop rotation options may be considered. If space is very limited the gardener may choose to grow only beans and their family members in year one, only tomatoes and their family members in year two and only squash family members in year three. Another option, if space allowed, would be to move the entire garden plot to another garden area each year. The plot that is now vacant would benefit from a planting of some soil amending cover crop (green manure) such as annual rye, crimson clover or buckwheat. This is a great way to improve the soil prior to the return to vegetable cultivation.

Experimenting with crop rotation in the small garden may lead to healthier and more productive vegetable crops. Such a practice that contributes to reliability and sustainability can become a valuable part of gardening technique.

Resources

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