



How to Use Crop Rotation in Gardening

Growing different plants in different areas of soil each season is the cornerstone to the process known as crop rotation. Crop rotation is not solely useful in large agricultural endeavors, however; you can easily take advantage of the benefits of crop rotation in your own backyard garden. Rotating plants to new areas prevents the depletion of soil's nutrients, mitigates the spread of microbial diseases, and helps prevent insect infestation. Rotating crops also offers a lowered ecological impact, as the need for pesticides and energy-intensive fertilizers is reduced. Learning how to use crop rotation in gardening is largely a matter of careful planning.

Steps

1 Familiarize yourself with the different plant families. The vegetables you might grow in your home garden belong to several different families. Knowing these families and which plants belong to them is important for crop rotation because each family of plants depletes different ratios of nutrients from the soil. Crop rotation at its most basic level simply means avoiding growing plants from the same family in the same patch for consecutive seasons.

- The nightshade family includes common homegrown plants like tomato, eggplant, potato, and bell pepper.
- The gourd family includes all types of melons, pumpkins, and squash.
- The legume family includes all types of beans, such as lima beans, snow peas, wax beans, and snap peas.
- The carrot family contains carrots, parsley, celery, and parsnips.
- The cole family includes many common leafy green vegetables. Common cole crops include broccoli, cabbage, kale, kohlrabi, radish, mustard greens, turnips, rutabaga, Brussels sprouts, and cauliflower.
- The onion family includes onions, shallots, garlic, chives, and leeks.
- The goosefoot family includes plants like beets, Swiss chard, and spinach.

2 Determine which crops are heavy feeders and which are light feeders. Another key distinction for effective crop rotation is heavy versus light feeders. Heavy feeders are those plants that drain large amounts of nutrients from the soil in a single season. Light feeders are plants that use relatively low levels of nutrients. A third group of plants actually builds the soil's health by introducing atmospheric nitrogen into the ground.

- Heavy feeders include plants such as corn, tomatoes, cabbage, cauliflower, and squash. Even when these plants belong to different families, you should avoid planting them in the same soil for successive seasons, as they will deplete the soil too rapidly.
- Light feeders include potatoes, most root and bulb vegetables, and herbs.
- Soil building plants are mostly limited to those in the legume family. These plants perform a process called nitrogen fixation by which they pull nitrogen from the atmosphere and introduce it into the soil for future plants to use.

3 Make a map of your garden on paper. After you have gained an understanding of the different types of plants, you can begin planning your garden for crop rotation. Map out your garden with a pencil and paper and divide it roughly into different beds (this will be very easy if you use raised beds). You can then use this bed diagram to determine which type of plant will be planted in each area over each season.

- For example, consider a garden divided into beds A, B, C, and D. In the first growing season, you could plant nightshades in bed A, gourds in bed B, and legumes in bed C.
- In the second season, you would plant your nightshades in bed B, gourds in bed C, and legumes in bed D. In the third and fourth seasons, plant nightshades in beds C and then D, gourds in D and A, and legumes in A and B.
- The unused garden bed in each season would historically have been left fallow to allow the soil to recover. However, it is now known that planting cover crops such as clover or alfalfa in this bed will help keep the soil healthier.

4 Adjust your crop rotation plan as necessary. The rigid plan presented above can be adjusted to your gardening needs. For example, you may want to grow many more plants in the nightshade family than any other plants. This can generally be accomplished by making the beds different sizes. The nightshades can be planted in the largest bed the first season and split into separate beds in successive seasons.

Tips

- If you have a long growing season or are growing quick-maturing plants like radishes, you will be able to plant more than 1 crop in a bed each season. These succession plantings can even be rotated through different beds in the same season with careful planning.

Things You'll Need

- Pencil
- Paper

Sources and Citations

- <http://www.karensgardentips.com/growing-garden-plants/how-to-rotate-crops-in-the-home-vegetable-garden/>
- <http://www.ag.ndsu.edu/pubs/plantsci/crops/eb48-1.htm>

Made Recently

Did you try these steps?
Upload a picture for other readers to see.