

It's Time to Rotate!

By Jan Pickrel, Fairfax Master Gardener Intern

We have hit the peak of summer, and it is time to think about planting fall and cool weather crops. The mindful practice of Crop Rotation, or Succession Planting, benefit both the professional farmer and the backyard vegetable gardener, even if managed at different scales (multiple acre farm field versus the smaller backyard bed).

The terms both mean replacing a spent crop or plant with a new crop or plant once the previous plant has ended its growing cycle. Proper planning in choosing the new crop (or plant family) to grow next in that location will determine how well you may be able to achieve the full benefits of the practice: to minimize soil nutrient depletion while naturally restoring soil nutrients, and to prevent pests and pathogens from taking over your plat of paradise. Our goal as gardeners is to maximize crop yield.



photo: Anne Moyer, Creative Commons

Garden logic that forms the basis of these principles include:

- Planting a particular vegetable (and other members in the same family) in the same place will use the same nutrients to grow.
- Insects, if they like the food supply that you provided for them as adults (eating and damaging the crop that you wanted for yourself), will likely lay their eggs in your garden, believing that the area will be a good place to raise their offspring.
- Some soil fungus and disease also prefer particular plant families and will hibernate, waiting for the next season of a non-resistant crop.

If nutrients are not replaced in the soil, both crop yield and fruit size may get smaller and smaller as less soil “food” is available to the plant. Although you might think that a particular vegetable is prone to certain insects, you might just be repeatedly providing for their future generations by your plant selection. A similar situation lies with the soil fungus, which continues in your garden bed because the same conditions (e.g., moist soil or food sources) persist. Vegetables in the same family are often both tasty to the same insects as well as also susceptible to the same plant diseases, and both may overwinter in the soil for the following year.

What is the gardener to do in order to combat these problems?

Low soil nutrients can easily be remedied by amending the garden with compost, commercial fertilizers or green manure/cover crops. Ask your local Extension Agent for the soil test that checks the soil nutrient contents for particular vegetables’ needs. Then, you can ensure that you are supplying the correct balance of the necessary nutrients for your next crop. Your Agent may also be able to provide information on timing the fertilizer application with the point in the crop growth cycle when that nutrient would be used to ensure a healthy yield.

When dealing with resident insect populations and soil fungus, the best organic remedy may be to merely “break the cycle.” Instead of commercial pesticide use, remove the food supply from the insects, and future generations, by making them find a different farmer’s market (or... garden bed source) than yours.

When do you know when a plant has completed its growing period and is ‘done’ for the season (and when that plant bed will be available for a new crop o something tasty)?

photo: University of
California Davis Magazine



The “Virginia Home Garden Vegetable Planting Guide Recommended Planting Dates and Amounts to Plant” identifies the recommended planting and harvest periods for various crops for the major Hardiness Zones of Virginia. Already stated above was the hint to not plant the same plant or same plant family in the same place. Table 1 of the North Carolina Extension Publication, “Vegetable Gardening: A Beginner’s Guide,” identifies vegetables grouped by their plant Family. This Guide also provides a four-year crop

rotation plan using four different plant families.

Where can I find information on good and bad insects in my garden? Virginia Tech provides extensive discussion of insects in its publication, “Home Vegetables: Organic Controls for Insects,” in the “Introduction for Home Vegetable Insect Section.” Another caution to be aware of regards the use of different pesticides and herbicides and their retention in soil. Different plants may absorb a chemical differently; where one vegetable may not store the chemical in the typical edible portion of the vegetable, the next vegetable chosen for that garden area may uptake the chemical differently. Read labels when selecting any pesticide and herbicide and considering your current and future planting plans. Contact your Local Extension Agent if you have questions.

Hmmm.... What shall I plant this fall? Beets? Carrots? Turnips?

Resources

- [Rotation Restrictions for Vegetable Gardens](#), Harlene Hatterman-Valenti, Department of Agronomy, Iowa State University Extension and Outreach Horticulture and Home Pest News
- [Plan now for crop rotation in your vegetable garden](#), Rebecca Krans, April 3, 2014, Michigan State University Extension
- [Vegetable Gardening: A Beginner’s Guide](#), Shawn Banks and Lucy Bradley, North Carolina State University Extension
- [Virginia Home Garden Vegetable Planting Guide Recommended Planting Dates and Amounts to Plant](#), Alex Hessler, Virginia Cooperative Extension Publication 426-331
- [Home Vegetables: Organic Controls for Insects](#), Eric R. Day, Chapter 2, Home Vegetables, 2020 Pest Management Guide, Virginia Cooperative Extension
- [Succession Planting, Vegetables](#), Home and Garden Information Center, University of Maryland Extension
- [Succession Planting Chart](#), University of Illinois Extension