

November Newsletter

Info from <http://www.organicgardeningguru.com/>

Companion Planting

Excerpt from Carrots Love Tomatoes, by Louise Riotte

The magic and mystery of companion planting has intrigued and fascinated humans for centuries, yet it is a part of the organic gardening world that has never been fully explored. In years to come I hope that scientists, gardeners, and farmers everywhere will work together in making more discoveries that will prove of great value in augmenting the world's food supply.

Plants that assist each other to grow well, plants that repel insects, even plants that repel other plants - all are of great practical use. They always have been, but we are just beginning to find out why. Delving deeply into this fascinating aspect of gardening can provide for us both pleasure and very useful information. I hope that what I have written here will give you many of the tools to work with.

Gardeners growing vegetables find that companion planting provides many benefits, one of which is protection from garden pests. A major enemy of the carrot is the carrot fly, whereas the leek suffers from the onion fly and leek moth. Yet when leek and carrot live together in companionship, the strong and strangely different smell of the partner plant repels the insects so much that they do not even attempt to lay their eggs on the neighbor plant. They take off speedily to get away from the smell. This is why mixed plantings give better insect control than mono-culture, where many plants of the same type are planted together in row after row. Even when plants are affected by plant diseases, a mixed plant culture can usually alleviate the situation.

It is important to remember that not all "protective" botanicals act quickly. For example, marigolds, to be effective in nematode control, should be grown over at least one full season, and more is better, for their effect is cumulative. One should also realize that certain companion plants will diminish each others natural repelling ability as they grow together. All through this book you will find "what to grow with" and "what not to grow with." Both are equally important to gardening success.

The effects of plants on one another are important outside the vegetable garden, among trees and shrubs as well as grains, grasses, and field crops. These have chapters to themselves, as do growing herbs, the group of plants most widely used as protective companions.

Wild plants also play a vital part in the plant community. Some are accumulator plants - those that have the ability to collect trace minerals from the soil. They actually can store in their tissues up to several hundred times the amount contained in an equal amount of soil. These plants, many of which are considered weeds, are useful as compost, green manure, or mulch. Some are "deep diggers," sending their roots deep into the ground to penetrate hardpan and helping to condition the soil, and some have value as protectors of garden plants.

Organic vs. Synthetic Fertilizers

The earth neither grows old or wears out if it is dunged. - Columella, circa 45 A.D.

Organic fertilizers differ from chemicals, in that, they feed your plants while building the soil's structure. Soils with lots of organic material, remain loose and airy, are better able to hold moisture and nutrients, foster growth of soil organisms, including earthworms, and promote healthier root development (see [Soil Fertility & Crop Nutrition](#)). Building a healthy soil is the key to successful organic gardening.

Another advantage of organic fertilizers, is that they are made from plant and animal sources, or from rock powders. These materials need to be broken down by soil microbes in order for their nutrients to be released, and that takes time. Because [organic fertilizer](#) works slowly, it provides long-term nutrition and steady, rather than excessive growth.

On the other hand, chemical fertilizers work fast, which is a good thing, if that's what you're looking for. They can make a bad garden or lawn look good much quicker than most organics can. However, it's my opinion that the nutrients are released too quickly, creating a great deal of top growth before the roots are able to catch up. This kind of growth often leads to weaker plants. Also, because they are so rich, synthetic chemicals can easily be over applied and "burn" roots or create toxic concentration of salts. Learn more about the [adverse environmental effects of synthetic chemicals](#) here.

Chemical fertilizers will not improve the structure of the soil. In fact, because they are composed of high concentrations of mineral salts, they are capable of killing off many of the soil organisms that are responsible for decomposition, and soil formation. If only chemicals are added, the soil gradually loses its organic matter and microbiotic activity. As this material is used up, the [soil structure](#) breaks down, becoming lifeless, compact and less able to hold water and nutrients. The result is pretty clear - you'll have to use more and more fertilizer.

Dry vs. Liquid Fertilizer

Organic fertilizers fall into two categories: dry and liquid.

Dry fertilizers, such as rock phosphate and blood meal, are solid food for your soil microorganisms. They feed on it slowly and provide valuable nutrients to your plants throughout the entire growing season. Learn more about [soil organisms](#) here.

In most cases, dry fertilizers are broadcast directly over the top of your garden and are then hoed or raked into the top four to six inches of soil prior to planting. You can also add small amounts to planting holes as you sow seeds or transplant plants.

Another way to use dry fertilizers is to mix them along side plants during the growing season. This method is called side-dressing and works best if you can mix the fertilizer into the top inch or two of the soil (see [Fertilizing The Garden](#)). Unlike dry synthetic fertilizers, most organic fertilizers will not harm the delicate roots of the plants.

Liquid fertilizers are less concentrated than dry, and are to organic gardening, what PowerBars are to athletes -- a light nutrient boost for maximum performance. Fish emulsion and kelp extract are two common kinds of liquid organic fertilizer.

The most common method of delivering liquid fertilizers to plants is through their roots - by watering or root drench. Foliar feeding, an alternate method, delivers nutrients through the foliage or leaves of plants (see [Foliar Feeding of Plant Nutrients](#)).

The advantages of foliar feeding are numerous:

- Up to five hundred times more effective than soil drenching.
- Nutrients are taken up immediately by plants, so you see quick results.
- Supplies elements, such as iron, when they are not available in the soil.

Liquid fertilizers are often used to help plants during critical periods, such as blooming, after transplanting, during fruit set or during periods of drought or high temperatures. Some experts recommend applications every month -- or every two weeks -- during the growing season. The best times to apply foliar sprays is early morning and early evening when liquids will be absorbed quickly.

To correctly use any fertilizer, always make sure to apply as directed.

The N, P, K's of Fertilizing

The three main nutrients that have been identified as absolutely necessary for plants are nitrogen (N), phosphorus (P) and potassium (K). These three are also known as macronutrients, and are the source of the three numbers commonly found on organic fertilizer labels (see [How To Make Sense of a Fertilizer Label](#)).

Nitrogen (N) is responsible for above-ground vegetative growth of plants, and for overall size and vigor. It is probably best known for its ability to "green up" lawns. That's because nitrogen is a major component of chlorophyll, the green substance in plants responsible for photosynthesis. Nitrogen can be added to your soil through composted manure, blood meal, canola meal, and fish powder. Too much nitrogen and your plants will grow extremely fast, resulting in long, spindly, weak shoots with dark green leaves. Too little nitrogen and your plants will slow or even stop their growth, and have leaves turning yellow and dropping sooner than they should.

Phosphorus (P) promotes healthy growth, strong roots, fruit and flower development, and greater resistance to disease. Rock phosphate, bone meal and some guanos are sources of phosphorus. A phosphorus deficiency is recognized by dull green leaves and purplish stems. Plants are generally unhealthy, sometimes yellowing. Lack of blooming with lush green foliage may also indicate a lack of phosphorus.

Potassium (K), also known as potash, is essential for the development of strong plants. It helps plants to resist diseases and protects them from the cold. Because potassium plays a supporting role, it can be hard to spot deficiencies. Generally, leaves will show blue, yellow or purple tints with brown blotches or discoloration within or at the edges. Plants will lack growth and have small fruit and sickly blooms. Sources of potassium include greensand, sul-po-mag (sulfate of potash magnesia, quick release) and many liquid fertilizers.