Improve Vegetable Garden Soil with Cover Crops

Consider planting a cover crop in late summer or fall to improve your vegetable garden soil. This article describes their benefits and types of crops to use.

The use of cover crops (green manure) is an excellent management practice for the home vegetable gardener. The crop is used to "cover" the soil of an otherwise bare garden, typically in the fall for most vegetable gardens. Cover crops improve soil health which results in improved production the following season.

Benefits of cover crops

- Increase soil health and structure
- Reduce soil compaction
- Prevent erosion
- Suppress weeds
- Maintain soil moisture
- Add winter interest

Cover crops are divided into two main categories: legumes and non-legumes. Legumes take nitrogen from the air and convert it into a form used by plants. It is recommended that legume seed be inoculated with species-specific rhizobacteria for maximum nitrogen fixation to occur. Using inoculated seed will provide the required fertility without helping the weeds, thus reducing the need to apply nitrogen fertilizers. Use a combination of legumes and non-legumes for the best results. There are many commercially available seed mixes to make it easier for the novice gardener.

Suggested Crops

Legumes

- Crimson clover - sow in spring or fall, reseeding annual, tolerates some shade, bright red flowers attract pollinators
- Field peas – sow early spring to summer, annual, tops can be harvested for edible shoots.
- Hairy vetch – sow in fall, perennial, will regrow in the spring
- White clover – sow in spring to late summer, perennial, slow to establish

Non-Legumes

- Annual ryegrass – sow in spring to late summer, annual
- Buckwheat – sow in spring, annual, grows quickly
- Oats – sow in spring or late summer, annual
- Tilling radish – sow in fall, fast-growing, taproots reduce compaction
- Winter rye – sow in late summer, perennial
- Winter wheat – sow in fall, hardy annual

In the fall, immediately after vegetable harvest, remove weeds and plant debris. Sow cover crop seeds, allowing at least four weeks of growth before cold weather. Follow the directions on seed packets for broadcast rates. Water when needed.

In the spring, turn cover crops under at least three weeks before planting to allow organic matter to decompose. Flowering cover crops should not be allowed to go to seed. A good rule of thumb is to turn these under when about one-third of the plants are in flower. This is the point where the plant will provide the greatest amount of biomass and nutrients to the soil.