

PLANT FOR SUCCESS!

Improve Your Soil

What? Soil is the home of a food web where microorganisms (bacteria, fungi, algae, worms, and arthropods) recycle nutrients that provide a natural and steady source of food and support for growing plants.

Why? Healthy soil is essential for a productive garden. It's important to ensure that garden soil is fertile and has enough of the organic matter it needs to fuel plant growth. Organic matter also improves soil *texture*, which is a key factor to promote healthy plants.

Use Cover Crops



What? A crop you grow for the benefit of the soil.

Why? Cover crops act as mulch, weed inhibitors, organic fertilizers, and aerators.

How? In fall (or at other times of the year), broadcast the cover crop seeds into garden beds. Seeds germinate before the ground freezes and continue growing in the early spring. Once they flower, cut them down and dig the entire plant or roots only into the soil. Leaves and stalks can be used on the compost pile but are more beneficial if turned into the soil.



Schroeder (2022), Graphic collection of crops and cover crops – by Julia Schroeder (1.0). Zenodo. <https://doi.org/10.5281/zenodo.7341143>

Reasons to Plant Cover Crops

Improve Soil Structure

Cover crops break up compacted soil and prevent erosion.

Create Habitat

They provide late-season shelter and food sources for pollinators and other beneficial insects.

Suppress Weeds

Often more vigorous than weeds and once established function as mulch.

Control Pests and Disease

Some, such as mustards, release compounds that deter pests and diseases and become natural pest deterrents when turned into the soil.

Add Nutrients

Some fix nitrogen in the soil for future crops to use, ie, organically sourced fertilizer. When cut and turned into the soil, they function as “green manure” that provides even more nutrients as it breaks down.

Cover Crops to Use in Pennsylvania

Annual grasses are hardy crops that can be planted in the fall to prevent erosion, break up compaction, prevent weeds, and add organic matter to the soil: winter rye, wheat, and oats.

Legumes fix nitrogen in the soil and suppress weeds. Plant them in the fall or early spring: crimson clover, hairy vetch, and winter peas.

Broadleaves can be planted in the spaces between spring and summer crops. They add nutrients to the soil when tilled in, suppress weeds, and attract pollinators: mustard, alyssum, and buckwheat.

Amend Soil With Other Organic Matter

Compost: increases available water in the soil, adds nutrients, reduces the need for fertilizer, and helps with disease suppression: homemade garden compost and composted animal manure.

Mulch: helps soil retain water, suppresses weed growth, and eventually decomposes into soil: shredded bark, straw, wood chips, and leaf mould.

