



NEWSPAPER ARTICLES

Cover Crops for Home Gardeners (November 30, 2024)

By Pam Wallace, Tulare/Kings Counties Master Gardener

I used to take the soil in my yard for granted. The plants were the backbone of a garden, right? Wrong! I've learned that the soil itself is the most important thing, the foundation upon which our plants depend.

Our garden soil is not just an inert growing medium that we place our plants into but a living ecosystem in itself. There are millions of microorganisms, including bacteria, fungi, insects, worms, and many others living in a teaspoon of soil. When soil is healthy and well-managed, it is primed to feed our plants and keep them healthy.

According to the USDA Natural Resources Conservation Service, a healthy soil ecosystem can provide nutrients for our plants, absorb and retain rainwater for use during dry periods, and filter and buffer water to remove potential pollutants. Key soil health management principles involve the following:

- Minimize disturbance (till as little as possible)
- Maximize soil cover (don't leave soil bare)
- Maximize biodiversity (plant a variety of different plant species)
- Maximize the presence of living roots (keep something growing at all times)

A way we can incorporate these principles into our home gardens is by planting cover crops. If you normally plant only a summer garden, instead of letting your garden space go fallow this fall, try incorporating some cover crops. You might be surprised to find that some cover crops are also good to eat! Fava beans, along with other bean varieties and sugar snap peas, are great winter vegetables to grow. Plus, they add the benefits of covering crops while producing a great harvest for you to enjoy.

Cover crops can boost soil fertility, cycle nutrients, improve soil structure, attract pollinators, suppress weeds, and protect against erosion by blanketing the soil with a protective cover of vegetation. Gardeners have even found that cover crops can replace or reduce reliance on artificial fertilizers.

Why Cover Crops?

According to UC Santa Cruz, cover crops planted in the fall can create "an abundance of lush growth that in the spring will translate into lots of organic matter for your soil or compost pile. Organic matter is an essential part of the soil that is made up of decaying plants and animals. Whether turned under in the spring or made into compost, cover crops will act as a slow-release fertilizer, feeding the organisms that will help feed your vegetables and flowers."

In addition to their aboveground growth, covering crops' roots also improves soil structure and adds organic matter to the soil as the plants develop. When these root systems decompose, they release nutrients back into the soil.

Basic types of cover crops:

- Grains & grasses – annual grasses such as barley, fescue, rye, oats, and wheat. These crops build biomass and break up soil compaction with extensive root systems.
- Legumes – peas, beans, soybeans, clover and vetch. These crops are known as nitrogen-fixers, where the plants pull carbon dioxide (a greenhouse gas) from the air and reduce it to organic compounds such as nitrogen, which plants use to grow. When the plants decay, they deposit the nitrogen back into the soil, where it is then available for the next crop to use.



Beans, along with other legumes and vetches, are excellent nitrogen-fixing crops. Barley roots can work topsoil into a friable loam—essentially doing the work of digging for you. The deep tap roots of bell beans penetrate and loosen heavy clay soils and retrieve nutrients – particularly trace elements – from the subsoil. Red or white clovers are great nitrogen-fixers and are rather attractive in a garden bed, especially when they flower.

Planting cover crops

In our area, cover crops can be planted from mid to late fall. Combine legumes and non-legumes for double the benefits. In my experience, cover crop seeds will be found in online resources. Try True Leaf Market, Hudson Valley Seeds, Territorial Seed Co., or

American Meadows, among others. Some cover crops, like certain varieties of mustard, release chemicals into the soil, which deter some harmful nematodes and grubs.

Removing cover crops

Between March and May, cover crops can be cut down. The ideal time to cut down cover crops is after flowering and before the seeds are set. The cut crops can be handled in two ways:

- 1) Chopping up the crop with a sharp spade, mower, or weed whip and working the foliage into the top foot of the soil.
- 2) Cutting only the tops down, leaving the roots in the soil. The tops can then be gathered up and added to the compost pile, enriching your growing beds as a nutritious compost next season.

If using the first method of incorporating your cover crop into your garden soil, allow 2-4 weeks for the cover crops to be broken down before sowing edible crops. Roots break down more quickly than foliage, so using the second method, with just the roots in the soil, will reduce that digestion period. Leaving roots holds soil particles in place and keeps nutrients and soil organisms in your soil.

Cover Crop Alternatives

Are weeds ever considered a cover crop? There are nutrients stored in the foliage, flowers, and roots of weeds. As long as you turn the weed cover crop back into the soil before the weed goes to seed, they can add some nutrients back into your soil. The problem with weeds, however, is their rampant, uncontrolled spread, especially since some seeds are so miniscule that it can be hard to tell when they are viable. For this reason, using weeds as a cover crop is not recommended, although it is a better alternative than just bare soil.

Mulch is a great low-maintenance alternative to a cover crop. Mulch will break down over time to provide organic material and nutrients to the soil, with no effort needed to turn it into the soil. In addition to wood mulches or straws, you can try incorporating clovers or alyssum as a "living" mulch. They can both be planted around vegetables without out-competing them and have the added benefit of drawing in pollinators while shading out weeds.

For more information on cover crops in our area, visit the UCANR [Cover Crops Database](https://sarep.ucdavis.edu/covercrop), <https://sarep.ucdavis.edu/covercrop>.

Why not try incorporating cover crops into your winter garden or any bare spots in your yard? You'll be doing yourself and the environment a big favor, and your soil will thank you!

The Tulare-Kings Counties Master Gardeners will answer your questions in person:

Visalia Farmer's Market, 1st & 3rd Saturdays, 8 - 11 am, Tulare Co. Courthouse

Dec. 14, 9 am – Noon, Citrus Tasting Event at Lindcove Research and Extension Center, 22963 Carson Ave. Exeter

Questions? Call the Master Gardeners:

Tulare County: (559) 684-3325, Tues & Thurs, 9:30-11:30;

Kings County: (559) 852-2736, Thursday Only, 9:30–11:30 am

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