STEP-BY-STEP

Sowing a Cover Crop

Planting legumes or cereal grains on what would otherwise be bare ground will benefit your garden soil in several important ways. First, the crop will keep the soil from eroding over the winter. It will also ensure that important nutrients are not leached out. In addition, the humus a cover crop forms as it decays will improve the soils structure and enhance its ability to retain moisture. This is especially important in vegetable gardens because organic matter and humus are constantly depleted as we cultivate and harvest. Devoting your garden to a cover crop is a good way to rejuvenate the soil. However you needn't apply this technique only in the fall—many types of cover crops can be sown in empty patches in the garden from early spring through summer. Cover crops also have extensive root systems that bring up deeply buried nutrients. Legume's such as vetches, beans, and clovers, add extra nitrogen because of their association with *Rhizobium* bacteria. These bacteria take nitrogen from the air and "fix" it in nodules on a legume's roots; this essential nutrient is then released into the soil as the plants decompose. Grass or cereal crops don't add much nitrogen, but they do produce masses of organic matter. To give your garden the benefits of both types, plant a combination of legume's and grasses.

Sow cover crops early enough to give the plants four to six weeks to become established. Hardy, quick-growing cereal grains such as winter rye and winter wheat are the best choices for short-season northern gardens; combine either one with hairy vetch to add nitrogen. Farther south, gardeners can also sow oats, several other vetch varieties, Austrian winter peas, annual clovers, and fava or bell beans. Whatever your climate, experiment with these and other cover crops to learn what works best for your garden.

1. prepare the planting area

Cover crops germinate and grow best in a well-prepared bed. Till in or remove and compost weeds and any plant residues, then rake the surface of the soil smooth. You probably won't need to add fertilizer before sowing a cover crop. But if you are starting a new garden or if an existing garden has given disappointing results in the past, it is a good idea to have the soil tested. If you plan to sow a grain crop in poor soil, first broadcast blood meal or another high-nitrogen fertilizer at the rate of three to five pounds per 100 square feet. Legumes grown in poor soil certainly won't require extra nitrogen, but they will benefit from extra phosphorus and calcium, easily added in the form of bonemeal applied at the same rate.

2. sow the cover crop

If you decide to plant a legume, treat the seeds with an inoculant powder to be certain that the *Rhizobium* bacteria needed to fix nitrogen in the soil are present. Packets of the proper strain of inoculant are available where the seeds are sold. Moisten the seeds and roll them in the powder, or sprinkle the powder on the prepared soil prior to sowing. You can simple broadcast cover-crop seeds. If you sow the seeds in furrows, however, you will get a better stand of seedlings, because you can cover them more evenly with soil. Use a hoe to make furrows, spacing them several inches apart. Either way, for each 100 sq. ft., sow about half a pound of winter rye, wheat, or oats; for the same size area sow only one-fourth of a pound of the vetches, clovers, fava beans, or Austrian winter peas. Rake soil over the seeds, firmly covering the smaller grain and clover seeds with half an inch of soil, and the larger seeds with an inch or two.

3. early care

If there is no rain, water regularly until the seeds sprout and are growing well. Pull out any weeds that appear in the first few weeks. Usually only one weeding is necessary because cover crops grow quickly, shading out most weeds. In some areas birds devour newly sprouted plants, especially in the fall. If this is a problem, cover the entire area with bird netting, supporting the netting several inches above the soil surface with wooden stakes or a framework of plastic pipe. Or spread a cover such as Reemay directly on top of the soil and anchor it with rocks or bricks. In either case, remove the cover once the seedlings are several inches tall, and leave the crop to grow for the ensuing months.

4. harvest

Mow or chop your cover crop into smaller pieces before it becomes tough and woody, just before it begins to set seed. Then turn it into the soil, either by hand of with a rear-tines rotary tiller. If the crop is thick and impenetrable, harvest the leaves and stems for the compost pile, then dig in the remaining stubble and roots. Keep in mind that a large mass of green manure worked into the soil all at once takes several weeks to break down. This is because soil microbes temporarily tie up much of the nitrogen already present in the soil while they are busy digesting the cover-crop remains. As the process is completed, the nitrogen is returned to the soil. Legumes break down more quickly simply because they themselves contribute nitrogen, which speeds decomposition. Your new, improved garden will be ready for planting when most of the stems and leaves of the cover crop are no longer recognizable, having become a part of the soil.

Good News Gardening

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