

Growing a cover crop (also called green manure) is an excellent and economical way of improving your soil. Adding organic matter to your soil improves its ability to hold water, air and nutrients, lightens heavy soils, increases soil life, and adds trace nutrients in an easily-absorbed form. The idea of cover cropping is simple: rather than hauling in compost or manure to add organic matter, simply grow it in place!

In its simplest form, you just plant the cover crop, let it grow, then either cut it down and till it in, or just till it in. The nutrients the cover crop used in its own growth are then returned to your soil along with all the organic material the plant has created. Deeply rooted cover crops can draw nutrients from your subsoil and make them available to other plants. In addition, leguminous cover crops (clover, peas, vetch, and faba beans) actually “fix” nitrogen from the air and turn it into a plant-usable form. When tilled in, these plants can act as a mild nitrogen fertilizer. (Before chemical fertilizers were available, rotations of peas or clover were used to fertilize grain crops.) Rye, buckwheat, and lacy phacelia do not fix nitrogen, but they will add organic matter.

Cover crops can also help reduce soil erosion and compaction. Most of these plants can be planted in bare garden beds in the fall to grow throughout the winter. They will protect the soil from erosion and nutrient leaching during our heavy winter rains. Finally, cover crops reduce the growth of weeds in your beds by smothering and shading them.

All cover crops are sown similarly. First, prepare your soil by liming (if needed) and tilling. Broadcast the seed by hand or use a seed spreader. For more even coverage, make two seeding passes over your garden at right angles to each other. Lightly rake the seed into the top ¼” of soil. The seed must be covered and in firm contact with the soil for good germination.

Allow the cover crop to grow until about two weeks before you want to plant in that bed, or until the cover crop is flowering or about to flower. If you till in the cover crop before it flowers at all, it will break down fastest but will not produce as much organic matter. If you till it in when flowering has started, it will break down a little slower but produce more organic matter in your soil. Do not wait until your cover crop has started to set seed, as the seed could come back as a weed in your next crop. If the cover crop has started flowering but you are not ready to till, just cut it down, compost the tops separately, and let the roots regrow until you are ready to till.

The “best” cover crop to use depends on your soil conditions and on your objectives: are you most interested in smothering weeds, adding nitrogen, adding organic matter...? See the descriptions on the back to help you decide.

### SUMMER COVER CROPS

**Buckwheat** tolerates infertile soil, pulling up subsoil nutrients. The very young leaves can be eaten in salads, the white flowers attract beneficial insects, and the seeds are edible (though hard to process). Seeding rate: 2-4 pounds per 1000 square feet. Sow: April to early August.

**Lacy Phacelia (seed packets only)** tolerates drought and infertile soils. Bell-shaped violet flowers are very attractive to honeybees and other pollinators. Seeding rate: one packet covers about 140 square feet. Sow: April to early August.

### OVERWINTERING COVER CROPS

**Austrian Peas (Winter Peas, Field Peas)** like fertile soil. They tolerate poor drainage and will add nitrogen to your soil. They produce best in well-limed soil. "Pea vines" can be eaten in early spring. The peas are edible but not choice. Seeding rate: 2-4 pounds per 1000 square feet. Sow: September through early November.

**Vetch** prefers well-drained, fertile soil; it is not tolerant of wet soil. Vetch is a vigorous vining plant; it is sometimes mixed with rye to provide it support. Seeding rate: 1 pound per 1000 square feet. Sow: September through early November for overwintering; can also be sown in spring or summer as a summer cover crop.

**Crimson Clover** is a small-seeded ANNUAL clover that tolerates some soil acidity. It does well in low-fertility soil provided drainage is good. The dense mass of 18-24" hairy stems and leaves add organic matter and nitrogen to your soil. Bright red flowers in the spring are loved by bees. Seeding rate: 1 pound per 1000 square feet. Sow: September or October.

**Faba Beans (Small Seeded Fava Beans)** are large seeded, tall growing legumes. The seeds are edible (but not very tasty), and the plants generate lots of organic matter and nitrogen for your soil. Fabas do best in well-drained, fertile soil. Seeding rate: 5 pounds per 1000 square feet. Sow: October or early November.

**Ryegrain (Fall Rye, Winter Rye)** is a winter-hardy grain. It germinates and grows quickly in cool fall weather. It tolerates infertile soil, smothers weeds, and produces lots of organic matter. The 2-3' stalks get tough and hard to till once flowering starts, so till this one in early. Seeding rate: 4-5 pounds per 1000 square feet. Sow: September through early November.

**Gardenway Mix** is a mix that may include ryegrain, triticale, oats, annual ryegrass, Austrian peas, vetch, and/or crimson clover. It tolerates a broader range of conditions than a single species does. It is winter-hardy, tolerant of poor soil, and adds both organic matter and nitrogen. Seeding rate: 4 pounds per 1000 square feet. Sow: September or October.

**Soil Builder Peas and Oats (seed packets only)** is excellent at smothering weeds, fixing nitrogen, and adding organic matter. It is less winter-hardy than Gardenway Mix (to about 10°F) but will break down faster in the soil when dug under in the spring. Seeding rate: one packet covers about 80 square feet. Sow: August/September for overwintering; can also be sown in March/April as a summer cover crop.