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Cover crops for home gardens

Cover crops planted in late summer are an inexpensive way to build better soil for gardening. Cover crops are often called *green manure crops*. They are grains, grasses, or legumes that will grow during fall and winter and that you can plow, spade, or till under in the spring.

During their growth, cover crops help to reduce soil compaction and prevent erosion. Their roots penetrate and help to loosen heavy-textured soils, allowing better air and water penetration.

Inoculated legume cover crops add nitrogen to the soil. When you turn cover crops under, they add organic matter to the soil—building better soil structure and level of fertility.

Cover crops are also called *catch crops*. In the rainy part of Oregon, this might be one of the more economical reasons for planting a cover crop. A growing grass or legume crop catches and uses the nitrogen and other mineral nutrients that winter rains normally leach away.

When you plow the cover crop under in the spring, these nutrients return to the soil, ready for your crop of vegetables.

Nearly all garden soil needs organic matter to maintain the bacteria, fungi, earthworms, and other forms of life needed to make a healthy, fertile soil.

However, organic matter is quickly used in the food chain of earthworms and other soil organisms, so you will need a continuous supply. In addition to green manure crops, manures, sawdust, bark dust, and composts also supply organic matter.

Which crop should I use?

Cover crops for home vegetable gardens should grow quickly, cover the area to shade out weeds, and be easy to work into the soil in the spring. Table 1 lists some suggested cover crops for garden soils.

You can combine a legume with a grass or cereal plant crop to produce and store nitrogen. Vetch with rye or oats, Austrian peas or garden peas with winter wheat or rye make good combinations for the home garden.

Table 1.—Some suggested cover crops for garden soils^a

Cover crop	Sowing rate per 1,000 sq. ft.)	Comments
<i>Grasses and grains</i>		
Winter oats	1½ lb	Rank growth, tolerates heavy soils and low pH
Annual ryegrass	½-1 lb	
Winter wheat	1¼ lb	Rank growth
Rye grain	½ lb	Rank growth
Buckwheat	1½ lb	Tolerant of low-pH soil; susceptible to frost
<i>Legumes</i>		
Austrian field peas	2 lb	Rank growth
Garden peas	2 lb	Use for edible crop and winter cover crop
Vetch	1½-2 lb	
Crimson clover	½ lb	

^aUnder each subhead ("Grasses and grains" and "Legumes") crops are listed generally in the order of their tolerance of wet soils—for example, winter oats are the most tolerant.

Know your soil's needs

Depending on your soil type and pH, you may need lime or sulfur to correct deficiencies in plant nutrients or pH extremes. A soil test could indicate needs. Generally, west of the Cascades, use 80 to 100 lb of ground limestone or dolomite lime per 1,000 square feet, about every other year. (Dolomite lime contains magnesium and is recommended for acid, low-magnesium soils.)

East of the Cascades, lime is seldom necessary.

Preparing your soil

You can plant cover crops in your garden from about mid-August until late September. Plant them early enough to be well-established before cold weather



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arrives. If fall vegetable crops are still growing in your garden, plant the cover crops between the rows.

Fertilizing for grasses and cereals. You have two basic choices—either will get your cover crop off to a good start:

- ✓ *Use a complete fertilizer* such as 15-15-15 at 10 lb per 1,000 square feet. (The figures 15-15-15 tell you the *percentage* of nitrogen, phosphorus, and potassium.) Be sure that the fertilizer you choose provides 1.5 to 2 lb of nitrogen and 1 lb sulfur per 1,000 square feet.
- ✓ *Use enough manure* (about 200 lb or 1 cubic yard) to supply 1 to 2 lb actual nitrogen per 1,000 square feet.

Fertilizing for legumes. These have little need for nitrogen. However, you will need to till phosphorus, potassium, and lime into your soil before you plant (lime to pH 5.8 or above). Use any low-nitrogen formulation of fertilizer that will supply 1 to 2 lb each of phosphorus and potassium per 1,000 square feet.

Wood ashes. If you plan to use these in your garden, see *OSU Fertilizer Guide 61*.

Tilling your soil. Prepare your seedbed by tilling or spading to loosen the top 6 inches of soil. Rake to break it up into a fine seedbed.

Planting your cover crop

Plant your cover crop early enough to permit 4 weeks of growth before cold weather stops that growth.

After preparing the soil, you can plant large-seeded cover crops (peas, vetch, and wheat) in shallow, closely spaced furrows. Broadcast small-seeded crops (ryegrass, buckwheat) over the surface and cover with a light raking. If the soil is dry, irrigate often enough to keep the soil damp and germinate the seeds.

In the spring, as soon as the ground dries enough for tilling or plowing, turn the cover crop under. To allow time for the organic matter to decompose, turn the cover crop under at least 3 weeks before you intend to plant. If the cover crop is too tall to turn under easily, mow it first.

Organic-matter additions to the soil are a continuing necessity. You can supply organic matter through manure, compost, or other vegetable or animal matter—or through an annual planned program of cover-crop planting and management.

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