

BUILDING
SOIL

COVER CROPS

The Urban Farmers Project

FALL 2009

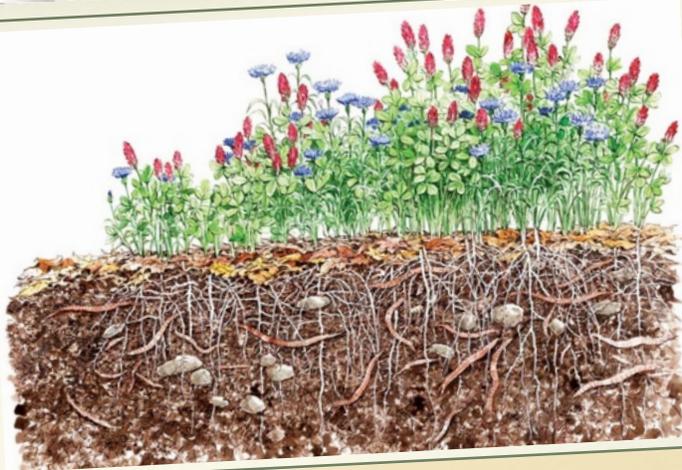
Know Why

The Magic of Cover Crops

A major benefit obtained from green manures is the addition of organic matter to the soil. During the breakdown of organic matter by microorganisms, compounds are formed that are resistant to decomposition—such as gums, waxes, and resins. These compounds—and the mycelia, mucus, and slime produced by the microorganisms—help bind together soil particles as granules, or aggregates. A well-aggregated soil tills easily, is well aerated, and has a high water infiltration rate. Increased levels of organic matter also influence soil humus.

Other benefits of cover crops include:

- * The extensive root systems of some cover crops are highly effective in loosening and aerating the soil. Some cover crops act like a "biological plow" in penetrating compacted soils.
- * Nitrogen production from legumes is a key benefit of growing cover crops. Nitrogen is the most common indigent in any fertilizer.
- * A rapid increase in soil microorganisms occurs after a young, relatively lush green manure crop is incorporated into the soil. The soil microbes multiply to attack the freshly incorporated plant material. During microbial breakdown, nutrients held within the plant tissues are released and made available to the following crop.



GOOD FOR YOU & THE WORLD

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Cover crops could be considered the backbone of any annual cropping system that seeks to be sustainable. It is the ancient technique of growing manure on your land for free!

THE BIG PICTURE

Cover crop or green manuring, is the process of growing crops for their organic matter and their ability to improve the soil. Cover crops can dramatically build up poor and exhausted soils. Cover crops will help the soil in many ways. Most importantly it boosts your plot's organic matter level. A high organic matter is useful because it,

- * keeps nutrients from leaching down beyond reach of the crops
- * provides the food for the microbial soil life
- * helps legumes fix nitrogen in their root nodules (which will be used by food crops)

* helps the soil produce good structure and maintain the air-pore spaces essential to good crop health.

And all of this comes at very low out of pocket cost and is good for the environment.

What Is The Process of Planting Cover Crops?

Early November is an excellent time to put in the cover crops. The plants will protect your garden from winter damage and will produce organic matter during the off season.

To begin, your land must be lightly tilled. You can do this using a tiller or if you feel like getting some exercise, use

Cover Crops

a shovel. Alternatively you can hire help. Once the soil is loosened, the seeds can be spread and lightly covered with the loose soil.

Water the seeds thoroughly then let winter rains irrigate your crop.

As I think most of you know, I plan to attend a workshop with John Jeavons later this week. I'm taking several soil test results from Lafayette with me and plan to ask his advice for the selection of the cover crop. I will let you know what he recommends as our starting cover

Group Purchase

While I'm at the workshop in Willits, I will buy a large quantity of seeds for our group. Depending on what John Jeavons recommends, a typical 20ftx20ft farms needs 4,000 to 8,000 seeds costing around \$5 to \$15. The seeds will be available on a first come first served basis.

How to Sow Seeds?

Cover Crops can be directly sown into prepared soil by hand-broadcasting. When doing so, under-broadcast at first, so you'll have some seeds left to fill in any gaps. Tamp the area in order to eliminate air pockets and water the area thoroughly.

What's The Next Step

Once the seeds are planted, sit back and pray for rain! There is nothing else to do until next spring.



Where Do I Start?

Begin by tilling the land. It is essential to do this step before the next rainfall, when much of Lafayette soil turns into sticky clay mud.

What Do I Plant?

There are many cover crops, each serving a specific purpose. For example Cereal Rye produces lost of organic matter, while deep-rooting drought tolerant Alfaalfa, can fix a lot of nitrogen in the soil and fiberize the clay soil. There are speciality crops such as Alsike Clover for improving poor soil. Also two or more cover crops can often be grown together to their mutual benefit.

crop.

Where Do I Get The Seeds?

You can purchase seeds from any good organic seed supplier. In my opinion the best source for seeds (heirloom, untreated, open pollinated) seeds is Bountiful Gardens which is part of John Jeavons organizations:

[Bountiful Gardens](#) (707) 459 6410

Another good source is

[Peaceful Valley Farm & Garden Supply](#) (888) 784-1722.

Please be sure to buy organic seeds. Otherwise seeds like Alfaalfa may contain methoxichlor pesticide residues.