Cover Crops for a Naturally Better Garden
How and Why to Use Cover Crops
(Botanical Interests)

Cover crops are fast growing plants, usually grains, legumes or grasses, that are utilized by farmers and gardeners for one or more of their beneficial qualities and not usually intended as food crops. These crops are usually worked into the soil or removed before they set seed. The use of cover crops has taken place since ancient times. Over 2500 years ago the ancient Japanese and Chinese noticed that many crops grew and produced better when following the growth of certain plants. This practice continued with the ancient Greeks and Romans and continues up to the present.
Cover crops have a number of specific uses and many of their benefits are realized in concert with each other.

Above Ground: Weed Control

Weed control is one of the many benefits realized by cover cropping. Because of their fast-growing nature, cover crops are often able to out-compete weeds for resources like water, light, and nutrients. In some cases this competition suppresses weeds to a manageable level. In other cases it stops weed growth altogether. When used in this manner, they are referred to as "smother crops".

Disease/Pest Control

Sowing cover crops can also be an effective step in disease and pest prevention and control. When used as part of a healthy crop rotation, cover crop plants displace disease organisms by replacing their preferred hosts. The same can be said for their ability to prevent insect pests. Weeds often harbor insects that prey upon garden plants. By suppressing weed growth, cover crops can suppress pest insect populations as well.
In The Soil:

Soil Flora and Fauna

Some of the best know benefits of cover crops are their effects on the soil. When cover crops decay and leave behind organic matter, they act as a food source for earthworms and beneficial soil microorganism. Increased diversity of soil life usually leads to healthier soil and therefore healthier plants.

Physical Effects

Cover crops are often grown to improve the physical characteristics of the soil. Many cover crops, like buckwheat, oats, and crimson clover have very fine roots that are able to penetrate tough soils. They loosen the hard soil as they penetrate and when the roots die they leave behind looser soil and organic matter.

Many times, cover crops are planted in fall and left for the winter. The mat of plants that are left behind help hold the soil in place and protect it from the potential ravages of winter and early spring weather. Their above ground parts, alive or dead, help hold snow and rain and allow it to penetrate more evenly, preventing excessive runoff and erosion.
When cover crops are incorporated into the soil, their decay provides organic matter that lighten soil, improves its texture and aeration, and can equilibrate its water holding capacity.

Nutrient Effects

Cover crops are often referred to as "green manures". This is because, like manure, they add organic matter to the soil. But, also like manure, they can increase the fertility of soil. The humus that they add to soil helps hold nitrogen for plants to utilize and prevents it from leaching away. Some cover crops are legumes, like peas, and have the ability to, with the help from soil microorganisms called Rhizobium, take nitrogen from the air and turn it into a form that plants can use as food. Some others, like buckwheat, are adept at gathering phosphorus from the soil and making it available to other plants upon their decomposition. These two nutrients, nitrogen and phosphorus, are major contributors to plant health and production and are also often added as fertilizer. Therefore, cover crops can reduce or eliminate the need to add fertilizer.

Tips For Use

Cover crops are usually easy, fast growing plants that anyone can use. Start by preparing your soil for sowing. Preparation can usually be minimal for sowing cover crops. Cultivate the soil to a depth of about 1 inch and rake out any large debris or weeds. Sow the seeds at the rate recommended on the packet. Cover crops can usually be scattered evenly and it is unnecessary to sow careful rows or thin crowded plants. After sowing, tamp down the soil lightly to create good contact between seed and soil. If you live in an area with seasonal rains, try to time your sowing to just precede the rains, as it will be easier to depend on the rain for even watering. If your precipitation is insufficient or unpredictable, water immediately after sowing, and keep the area moist until your plants emerge. After establishment, most cover crops require minimal additional water.

It is usually best to cut down or incorporate cover crops before they produce seed. If you don't live in an area where winter cold will kill the plants, then cut or till the plants just as they begin to flower or before. If used in an area where frost will kill a fall-sown crop, the plants can be left all winter as discussed above. Small plants can be directly tilled into your soil. Larger plants can be cut down with a weed trimmer or mower and left on the soil surface to dry for a few days before they are tilled in. If you choose not to incorporate your cover crops directly into the soil, they can be composted or cut and placed on top of the soil as a mulch to be removed later. Wait 3-4 weeks after tilling or turning in to begin seeding, allowing time for the plants to break down.

Cover crops are used in many areas after fall harvest and clean up to benefit the soil and prevent erosion. But, they can be used any time of year. In mild winter climates, cover crops can be used year round but should be cut before they set seed. They can also be sown in spring to benefit the soil and suppress weeds. There, spring-sown areas can later be tilled and used for mid-summer and early fall sowing.

There are numerous reasons to choose cover crops as part of a healthy garden. It seems that for most any problem, there is a cover crop solution. Try one and you'll notice over time how much better your garden performs with less inputs of extra water, fertilizer, and insecticide. Cover crops are the natural choice for a naturally better garden.

	When to sow					Amends soil					
	Spring	Summer	Late summer/ Early fall	Will overwinter in mild climates	Will not survive freeze	Fixes nitrogen	Smothers weed	Mines phosphorous	Looses topsoil	Loosens subsoil	Beneficial insect habitat
Soil Builder Peas Oats	x		x	x	x	x	x	x	x		x
Crimson Clover	x		x	x	x	x	x	x			x
Common Buckwheat		x			x		x	x	x		x
Fava Bean Sweet Lorane Improved	x		x	x	x	x		x		x	x