

# URBAN FARMER

LOVE THE EARTH

## A beginner's guide to cover crops

### What are cover crops?

Cover crops are an agricultural staple that are low cost, easy to maintain and beneficial to the growth of other vegetables and flowers. Cover crops are a platform of feeding the garden or farm soil in a natural way that can be more affordable than some chemical-based fertilizers.

Many different types of plants can be used as cover crops, and cover crops have a variety of uses, all of which benefit the soil, crop and grower. Cover crops benefit the soil health, but they also help maintain cleaner groundwater. Some cover crops can supply nutrients to the crop planted after the cover crops have died off or are tilled, and others suppress weeds or break pest cycles. Some cover crops even break up the soil beneath the surface, which makes it easier for the following crop's roots to grow in the soil. Looser soil makes it easier for the following crops, but it also makes the soil more appealing to earthworms to create a residence there. Loose soil can hold moisture better, which makes the garden more resistant to drought.

One of the most popular cover crops is legumes. Legumes come in many different kinds, including varieties that are for summer, some are winter hardy and others grow on a biennial or perennial schedule. One important tip gardeners must keep in mind when planting legumes as cover crops is legumes must go through an inoculation process prior to planting. Unless similar legumes have previously been planted in the ground where you are growing your cover crops, legume seeds must be inoculated with



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commercial rhizobial inoculant prior to planting. Gardeners also can add milk or water to the seed-inoculant mix to assist the bacteria in sticking to the seeds.

- Winter annual legumes include plants such as crimson clover, hairy vetch, field peas and subterranean clover. Crimson clover is a good cover crop to grow in the southeastern United States. It can grow in fall or winter and grows quicker than other types of legumes. It will also contribute nitrogen to the soil to benefit the following crop. It is not very winter hardy, which is why it thrives in a warmer climate. In more northern climates, crimson clover is grown as a summer annual. Field peas are similar to crimson clover, and they are grown as a summer annual in northern climates and a winter annual in the southern states or areas like California. They grow quickly in cool, moist climates. Hairy vetch is a winter-hardy cover crop that can grow in



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areas that undergo a hard freeze. Hairy vetch can contribute up to 100 pounds of nitrogen per acre when it is well adapted. Subterranean clover is a warm-weather winter cover crop, and it will typically complete its life cycle before the summer crops need to be planted.

- Summer annual legumes include berseem clover, cowpeas, soybeans and velvet beans. Berseem clover is a summer annual cover crop to be grown in cooler climates. It provides a dense cover, which suppresses weeds. Cowpeas do best in hot climates because they are native to South Africa. However, cowpeas cannot tolerate frosts, even mild ones. Soybeans serve as a cover crop if they are grown through their flowering season. They are easily damaged by frost, like cowpeas, and require fertile soil to grow. Velvet beans are mostly grown in more tropical climates. They can grow high, as they grow on a climbing vine, and they are often used to suppress weeds.
- Biennial and perennial legumes include alfalfa, crown vetch, red clover, sweet clover and white clover. Alfalfa is a winter-hardy cover crop that fixes nitrogen into the soil. Crown vetch is often used for roadbank stabilization and as permanent groundcover. Red and sweet clovers are winter hardy. However, red clover begins growth slowly and sweet clover grows vigorously. White clover tolerates shading more so than other legumes.

Nonlegume cover crops mainly include different types of grasses, which also includes annual cereals like oats, rye and barley. Grasses are mainly used for



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scavenging nutrients, specifically nitrogen, that remains from a previous crop. Grasses typically have an expansive root system, which allows them to establish rapidly and prevent soil erosion. They also produce lots of residue and are often used to add organic matter back into the soil. They also will suppress weed growth.

However, growing grasses as a cover crop may reduce the amount of nitrogen needed for the following crop. To prevent this, kill the grass early or add nitrogen through fertilization.

When getting started, the best method is to start with easier cover crops to grow. Some of the easiest cover crops to grow include rye, field peas and oats, sorghum sudangrass, buckwheat and clover. Annual rye is an easy option because it is killed by the winter months, and the gardener doesn't have to waste time tilling the rye into soil and then waiting to plant the following crops. Field peas and oats serve as a duo with all the great components of cover



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crops – nitrogen fixation and contributing organic matter to the soil. The plants compliment each other when growing, because the peas will climb up the oats with their vine growth. Peas and oats also are killed by the winter, which allows for an early spring planting for other vegetables. Sorghum sudangrass is a cross and creates lots of organic matter and can easily reach up to 12 feet tall. Mowing the grass to six inches once it grows to 36 inches tall, or plant it only seven weeks before the first frost, which will inhibit its growth. Buckwheat is actually not a wheat, but a broadleaf plant. It smothers weeds and grows quickly. Kill the buckwheat before it goes to seed, but its flowers can be used to attract beneficial insects or to be used as filler in flower bouquets. Clover has a wide variety of different colors and shapes. It works best as a living mulch, and it can attract beneficial insects. Clover will provide a nitrogen fixation to the soil and will assist with rich soil. To create the best results, inoculate the clover seeds with Rhizobium bacteria prior to planting.

Cover crops are a good option because they are easily available in the winter months when compost may not be.

### How to care for cover crops?

To best utilize cover crops, pick one or two and try them out in your garden. Cover crops can be utilized in a variety of different ways, such as planted following a main crop, grown for an entire season to fully benefit the soil or intercropped between main crop growing seasons.



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Compared to most crops, cover crops are very low maintenance. Sometimes, mowing can help keep the cover crops manageable if they are taller, and some varieties of cover crops actually increase their root growth if mowed multiple times. Cover crops need to be watered in times of drought.

In most situations, cover crops must be killed before they go to seed and their top growth gets out of control. The best time to kill cover crops is right when they are flowering or as soon as seed heads emerge. To kill them, mow the crops down and wait a day or more until the mowed stems and leaves become dry and brown. Dig those pieces of the dead crops into the soil, because longer stems or vines can interfere with tilling. Till the cover crops into the soil but wait at least three weeks before planting vegetables or flowers where the cover crops once were to allow the nutrients from the cover crops to take hold in the soil.

### When to plant cover crops?

Most times, farmers will plant cover crops



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immediately following the harvest of their main crop so the crops don't interfere with each other's growing season. This works well in other areas, but in colder climates, the cover crop may not have enough time to become established before the winter months.

Many times, gardeners express concern about the amount of space it takes to grow cover crops and this deters them from planting the beneficial plants in their garden. However, cover crops can fit easily into nearly any garden plan. The best way to do this is through succession planting. An example of succession planting is when spring crops such as lettuce or radishes are done growing and have been harvested, a gardener can plant a fast-growing cover crop such as buckwheat. In many environments, buckwheat can begin to flower, and there will still be time to plant cooler-weather or fall vegetables after the buckwheat is tilled into the ground. Succession planting also can occur in the fall, typically after cabbage and other main-season crops have finished growing.

However, there are a few different ways to plant cover crops. One such way is through interseeding, where farmers will spread the cover crop seeds among the other crops when they are well into their growing period. This typically occurs with winter grain cropping systems or in the early spring. Interseeding cover crops can be trickier than using the succession planting method, because cover crops must be controlled so they don't spread into the flowers or vegetables growing nearby, and they must



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receive plenty of water and nutrients similar to other plants. Interseed the cover crops by sowing them approximately one-third of the way through the vegetables' growing season. Some examples of vegetables and cover crops that grow well together when interseeded are yellow blossom sweet clover with lettuce and onions.

Another way to plant cover crops is to use them as living mulches which are planted in between the rows of growing crops. Living mulches also are referred to as an intercrop, polyculture and an orchard-floor cover. A living mulch prevents soil erosion more so than leaving the soil bare, increases the soil's organic matter and provides an easier condition for harvesting. Living mulches also will attract beneficial insects to flowering crops, such as predatory mites. However, living mulches also can bring forth its fair share of problems.

When planting cover crops, keep in mind cover crop rotation is very important. Rotation is needed to allow different cover



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crops to complete different jobs within the garden. Soil that is lacking nitrogen can benefit from legumes, but a general rule of thumb for cover crops is to separate plants in the same family by two years. So, don't plant legumes in the spring as a cover crop and then plant in the same space again the following fall. An easy way to do this is to follow cover crop planting times. For example, hairy vetch grows in the spring so it shouldn't be planted in the fall. A cover crop in a different plant family can be planted in the fall following hairy vetch. Planting vegetables or cover crops of the same family season after season can cause disease amongst the plants.

Rotating cover crops is the easiest when done with short-season cover crops and vegetables, such as growing lettuce in the spring, harvesting it and then planting red clover. The red clover is quick in its growth, and it will be ready to till in to the garden before the fall crop.

## Where to buy cover crops?

Urban Farmer sells many different kinds of cover crops. Ten different cover crop varieties are sold through Urban Farmer. They include: forage, green manure, nitrogen fixation, no till, blends, brassicas, broadleaf, grains, grasses and legumes. Their uses are as follows:

- Forage cover crops are a short-rotation cover crop that serves multiple purposes. It is a cover crop while it occupies the land for pasture or haying, but it is a green manure once it is incorporated or killed for no-till mulch.



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Types of forage cover crops include sods of alfalfa, legumes and clover. To maximize its benefit to the soil, the forage cover crops should not be cut for hay or grazed by animals during its last growth period. This will allow the biomass to accumulate prior to killing the cover crops. Urban Farmer sells multiple different kinds of forage cover crops, including crimson clover, common clover, Austrian winter pea, mammoth red clover, sweet clover, forage chicory, wildlife sunflower and many more.

- Green manure cover crops are more specific than basic cover crops, as they typically are legumes, mustard or grasses that are specifically grown to increase organic matter and nutrients in the soil. Green manures will help add nitrogen to the soil, as well as other nutrients. Urban Farmer green manure includes a fall mix, various kinds of clovers, common buckwheat, various kinds of legumes, various kinds of cowpea seeds, common flax, annual ryegrass and many more.



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- Nitrogen fixation cover crops are grown strictly for the nitrogen they add back into the soil. According to Urban Farmer, nitrogen accumulation can reach as high as 200 pounds per acre of nitrogen fixation cover crops. Nitrogen fixation has a variety of different kinds of cover crops, including various clovers, peas and more. Many times, legumes add plenty of nitrogen back into the soil. Sometimes, nitrogen fixation cover crops have a rotation as short as 60 days, such as Sunn Hemp, a legume that produces significant quantities of nitrogen and biomass.
- Blends are often mixed to perform well during specific seasons. Urban Farmer has a variety of blends including a fall mix, a chicken forage blend, a deer attractant food plot, a spring mix, a field peas and oats blend and a rye and vetch blend. Some of these blends can be used to combine uses such as nitrogen fixation, weed suppression, winter cover, adding organic matter and more.
- Brassicas cover crops are often used as foraging, nitrogen fixation and to prevent soil erosion. Urban Farmer sells four different varieties of brassicas for use as cover crops. The Jackhammer Radish is fast growing. It is killed during the winter and turns into biomass. Dwarf Essex Rape is used as a grazer plant because it can persist well after the first frost of the season. It is ready to pasture within eight weeks of sowing. Barkant Forage Turnip produces high concentrations of protein, leaf yields and sugar content. Common Flax has short taproots. It is a cool-season annual.



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- Broadleaf cover crops include a wide range of cover crops. These cover crops don't have a more specific category and can include field pea, turnips, clover, other brassicas species and more. Urban Farmer has three different broadleaf cover crops. They are Dwarf Essex Rape, Common Flax and Forage Chicory.
- Grains are a cover crop that can be cultivated. They have multiple uses, such as being used for consumption for both humans and animals. Grains are often used in bread, beer and cereals. Grains as a cover crop are mostly used as a weed suppression, erosion prevention, no-till nitrogen fixation and straw. Grains are easy to raise in your own backyard, as they do not require specific machinery and a homegrown plot of grains can produce a substantial amount. A bushel of wheat can be grown in 1,000 square feet under optimal conditions. Urban Farmer has many different kinds of grains, including a spring mix, Canada wildrye, Jerry oats, thoroughbred barley, a common



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buckwheat, a winter wheat, a winter rye and many more.

- Grasses are used as cover crops for hay, pasture and silage for feeding livestock. They can also be used as green manure. Urban Farmer six different kinds of grasses. Annual Ryegrass is a very fast-growing grass. Pearl Millet is a tall grass, reaching up to 15 feet in height. Piper Sudangrass suppresses weeds while producing lots of organic matter. Indiangrass is a warm-season bunchgrass. It is native to central and eastern North America. Buffalo grass suppresses weeds while producing lots of organic matter. It also produces excess nitrogen. Switchgrass Alamo suppresses weeds while producing lots of organic matter. It also produces excess nitrogen.
- Legumes are often used to supply nitrogen to the soil rhizobial bacteria. This improves soil health, increases crop yields and reduces fertilization needs. It also helps with erosion control, organic matter and moisture conservation.



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Urban Farmer has a wide selection of many different types of cover crops on our website at [ufseeds.com](http://ufseeds.com)!



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