

Cover Crops Provide Winter Benefits for Spring Garden Production

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If you've harvested all of your tomatoes and squash from the summer and haven't planted any winter vegetables such as lettuce or cabbage, planting cover crops in your garden can be a great alternative to leaving your garden fallow this winter. Cover crops can provide several benefits, such as build soil organic matter, prevent soil loss, retain soil nutrients, suppress weed growth and reduce insect pest and disease pressures. Using legumes as cover crops also provides valuable nitrogen additions to the soil that can be used by vegetables come next spring and summer. Ideally, winter cover crops should be seeded soon after harvest of your summer crops or by the first of October. However, some cover crops can still be planted now and provide benefits.

There are two groups of plants used for cover crops, non-legumes and legumes. Each is useful individually or in combination. Non-legumes include cereal crops such as rye, wheat, and oats, annual grasses such as ryegrass, warm-season grasses such as sorghum-sudangrass, or brassicas and mustards. These crops scavenge nutrients (especially nitrogen) left over from previous fertilizer applications, prevent erosion, produce large amounts of residue aboveground which suppresses weeds, and also produce large amounts of biomass underground (fibrous root development) which improves soil quality through organic matter additions. Legumes that are useful in this region include crimson clover, hairy vetch, white clover, and also field peas and soybeans. The primary benefits of these legumes is their ability to "fix" nitrogen, meaning they take atmospheric nitrogen and biologically convert it into a form that plants can take from the soil and use for growth. Legumes also provide a habitat for beneficial insects which protect crops against crop pests. Mixtures of these two crop types really provide the best of both worlds: increased soil fertility and beneficial habitats along with heavy residue production and weed management.

One combination of these two crop types I would recommend is winter rye and crimson clover. Rye is a hardy cereal crop that can be seeded later in the year while producing quick growth and plentiful biomass. Crimson clover is a quick grower as well and can fix from 70 to 150 lbs of nitrogen per acre by mid-May. Seeding rates for this combination should be about 2.5 ounces of seed per 100 sq ft for rye and .5 ounces for crimson clover. This equals to about 60 lb/ac for rye and 15 lb/ac for crimson clover. These rates are for broadcasting seed aboveground and should be reduced by a third to half if directly drilling seed into the ground.

Prior to broadcasting the clover seed, you will need to inoculate the seed with a proper seed inoculant which will allow for nitrogen fixation, especially if you've never planted clovers before. After broadcasting the seed into the ground, you should lightly till it into the ground no deeper than 3/4 inch

for the seed mix. In spring, the cover crop can be killed back with an herbicide or tilled in. For maximum nitrogen fixation from the clover, do not kill it back until after it has bloomed.

Planting cover crops provides several benefits for gardeners and crops alike. If you have any other questions, feel free to contact the Madison County Extension office at 706-795-2281.