The Back Yard Gardener August 23, 2019

J.J. Barrett WVU Extension Service

"Crimson Clover"

Hello Mid-Ohio Valley farmers and gardeners! Thank goodness for the rain this week. It has turned drier in the area and who would have thought with the extreme wet spring and early summer of 2019. As the summer winds down folk will still be outside camping, hiking and in general exploring the great outdoors. Be on the lookout for ticks, especially the black-legged or "deer" tick which can carry Lyme disease. If left untreated, Lyme disease can lead to series health problems, but when treated with antibiotics in the early stage of the infection, people usually recover rapidly and completely.

If you know you will be in tall grassy areas, brush, or in the woods, wear enclosed shoes, long pants and long sleeves. Tuck your pant legs into boots or socks and shirt into pants. Consider using insect repellent containing DEET or permethrin, and following the label instructions carefully. For extra caution, do a final, full body tick check at the end of the day, looking for what may look a freckle or speck of dirt.

This we I want to discuss cover crops, specifically crimson clover. Crimson clover has many benefits for both farming and gardening systems and has been gaining in popularity as a cover crop in Ohio and West Virginia. It has been a popular winter pasture crop in the Southern U.S. since the 1940's due to its good growth under cool temperatures and its ability to produce a substantial seed crop, if livestock are removed six to eight weeks prior to flowering. Its spectacular beauty when flowering keeps it visible even in a mix with other flowering legumes, a common use in California nut groves and orchards.

Typically planted as an annual, crimson clover provides early spring nitrogen for full-season crops and also produces high yields of good quality hay when harvested at or before the mid-bloom stage. Rapid fall growth, or summer growth in cool areas, also makes it a top choice for short-rotation as a weed suppressing green manure.

Crimson clover (*Trifolium incarnatum L.)* is easily identified when it flowers with its bright red cylinder shaped flower head. An annual in the legume family, plants are generally densely hairy with a rosette of upright, usually unbranched stems. Plants may reach one to three feet tall supported by a central taproot and many fibrous roots. Its simple taproot makes this cover crop easy to kill mechanically with tillage. Mowing after early bud stage will also kill it.

Similar to other clovers, they have trifoliate leaves growing along the stems with heart-shaped leaflets that are nearly one half to one inch long and are distinguished from the leaves of red clover by their rounded tips and absence of V-shaped leaf marks.

The distinct feature of crimson clover is the cylindrical or conic flower heads at the ends of the stems. Flowers are about one to two and a half inches long and contain many small bright red or crimson florets that open in succession from the bottom to the top of the flower head.

Crimson clover does two great things as a cover crop. First, it will produce a lot of biomass. Typically it will produce 3,500 to 5,500 pounds of dry matter per acre. This can be used for making hay, grazing livestock or as many gardeners and farmers utilize it for is organic matter to be turned under to enrich the soil.

The second attribute and maybe most important is crimson clover, similar to other legumes, fixes atmospheric nitrogen. Clover plants are able to extract nitrogen from the air, which itself is three quarters nitrogen, indirectly into the soil via bacteria in nodules on plant roots. These *rhizobia* bacteria are specific to each legume species. For examples, the bacteria specific for soybeans is different than the one needed for clovers and alfalfa.

A major benefit of crimson clover is use as a cover crop to provide nitrogen to heavy feeding crops such as corn or grain sorghum. Crimson clover can fix anywhere from 70 to 150 pounds of nitrogen per acre, saving famers and gardeners on fertilizer costs. One strategy is to let the legume reseed yearly for no-cost, season-long erosion control, weed suppression and nitrogen savings for the next year.

Keep in mind crimson lover must be allowed to reach the late bloom stage before being killed or turned under. At least three weeks should be allowed between green manure crop termination and planting another crop to allow residue to break down and soil microbial communities to stabilize.

Crimson clover is gaining popularity as a winter-killed annual, like oats, in Zones 5 and colder. Planted in late summer, it provides good groundcover and weed control as it fixes nitrogen from the atmosphere and scavenges nitrogen from the soil. Its winterkilled residue is easy to manage in spring. For example, research from the USDA-ARS site in Beltsville, Maryland has shown crimson clover has produced more than 7,000 pounds of dry matter per acre and 180 pounds of nitrogen.

Crimson clover is very versatile and is beneficial to wildlife, insects and for erosion control. It serves as a pollinator, the flowers producing abundant nectar and pollen for honey bees and other native bees. Honey bees make a light, good quality honey from the nectar. The flowers also serve as a habitat for a beneficial insect that feeds on many agricultural pests, the minute pirate bug.

For our wildlife enthusiasts, crimson clover can planted for managed forage plots for turkeys and white-tailed deer. It can be seeded by itself or in a mixture with small grains

such as oats, rye or wheat. In the southeastern United States it is planted along highways or roadsides to provide quick cover for erosion control and beautification.

Crimson clover does not grow well on poorly-drained or highly alkaline soils. It grows best on well-drained, fertile, loamy soils and can adapt to sandy to clay type soils of moderate acidity with a pH of 5.5 to 7.0. It will produces more biomass at lower temperatures than most other clover species.

Seeds should be planted at a depth of no more than ¼ inch in clay soils and ½ to ¾ inch in sandy soils. In a well-prepared seedbed, drill at a single species rate of 15 to 18 pounds pure live seed per acre, or broadcast at 22 to 30 pounds per acre. For mixtures, sow crimson clover at about two-thirds the normal rate and companion crops at one-third to one-half. For gardeners plant about 3 ounces crimson clover per 100 square feet. Contact me at the Wood County WVU Extension Office 304-424-1960 or e-mail me at jj.barrett@mail.wvu.edu with questions. Good Luck and Happy Gardening!