Frost seeding red clover into winter wheat

Red clover cover crop adds benefits to your rotation.

Posted on **March 8, 2016** by **Paul Gross**, Michigan State University Extension

Frost seeded red clover in wheat stubble. Photo by Paul Gross, MSU Extension

With spring right around the corner, we are approaching the ideal time to frost seed red clover into your winter wheat crop. Frost seeding is the practice of broadcasting red clover into winter wheat just prior to green-up. In most years, the ideal time is between mid-March and early-April. It is important the snow melts prior to frost seeding. Deep snow will cause the seed to move to the lower areas of fields as the snow melts and can result in poor stands. Seasonal freeze-thaw cycles cause the soil to repeatedly develop small cracks on the surface, allowing the clover seed to achieve good soil contact for germination. Seed inoculation is highly recommended in fields where red clover has not been grown within the last several years. Make sure the label states the inoculant contains *Rhizobia trifolii.*

The Michigan State University Extension Cover Crops Program has had excellent results frost seeding mammoth and intermediate red clover in winter wheat. Seeding rates range from 6 to 18 pounds per acre. The most consistent stands of red clover have resulted when seeding at 12 pounds to the acre. Many farmers are using ATVs with spinners to seed red clover into wheat, covering a lot of ground without rutting or causing compaction.

Uniformity of the stand is important to get the full benefits of the red clover. One effective strategy to insure uniformity and avoid skips is set the spreader at half the intended seeding rate, spread the seed, then go over the field a second time applying the second half of the rate driving half-way between the tire tracks left by the first application. Many ATVs are equipped with GPS systems that can also be used to insure accurate coverage.

Red cover crop has several benefits, including:

- Contributing 30 to 100 pounds of soil nitrogen for the following crop.
- Reducing soil erosion and surface water pollution.
- Increasing soil organic matter, improving soil health and increasing water holding capacity.
- Reducing weed pressure.
- Serving as a forage and pasture for livestock.

What nitrogen credit can I expect?

According to MSU researchers, a 1.8 ton per acre red clover cover crop will have approximately 100 pounds of nitrogen in the top growth and 50 pounds in the roots. With good management, a farmer can expect that half of those 150 pounds should be available to the next crop; the rest will gradually be released over time. The actual nitrogen available depends on variables such as soil temperature, precipitation, soil texture, tillage and the maturity of the red clover. Taking a pre-sidedress nitrogen test can help determine nitrogen credits available for the current crop.

For more detailed information on red clover, read the MSU publication, "Using red clover as a cover crop in wheat." Additional cover crop information can be found at the Midwest Cover Crops Council (MCCC) website.

MSU Extension educators have developed fact sheets and pamphlets that will help you determine the best clover for your management needs. They are available at the MCCC website. For more information on using cover crops or to request copies of the fact sheets, contact Christina Curell at curellc@anr.msu.edu or me at grossp@anr.msu.edu.

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