

Crop Production

Frost-seeding red clover recycles nutrients into soil

By NATALIE RECTOR



DOES manure nutrient recycling, free nitrogen, a lower risk of manure runoff and improved soil quality all done with one simple practice sound interesting? Try frost-seeding red clover into wheat.

Frost-seeding red clover into wheat fields offers many advantages, especially for farmers who are planning to haul manure onto the wheat stubble later in the summer.

When livestock producers spread manure following wheat harvest, they find hard, dry ground with cracks that make tile drains vulnerable to liquid manure. In addition, nitrogen volatilizes in the hot weather. These conditions can be improved with seeding any cover crop, but frost-seeding red clover has multiple benefits and minimal costs.

When manure is also applied in the fall, winter or early spring, red clover offers a greater chance of capturing the manure nitrogen and recycling it to the following crop. As nitrogen and all fertilizer prices remain high, this will more than pay off the seeding costs.

Red clover can be frost-seeded by broadcasting it onto wheat fields before spring thaw. The clover will be spindly at wheat harvest, but soon after the wheat is taken off, the red clover fills in.

As it grows, the clover provides a crop to take up the manure's nutrients. As the plants' taproots grow, they improve soil structure. By fall, the red

Key Points

- Frost-seeding red clover brings numerous benefits.
- Red clover is a legume that fixes nitrogen for the following crop.
- Red clover seed usually costs between \$1 and \$1.50 per pound.

clover will be established enough to provide erosion protection from wind and rain.

A short-term perennial, red clover will survive the winter for continued soil-quality benefits. In the spring, it can be controlled by plowing or spraying before planting either corn or sugarbeets to benefit from the nitrogen potential.

Red clover is a legume that fixes nitrogen, returning it for use by the crop that follows it. When used as a cover crop it will take up nitrogen in the soil and recycle applied manure nutrients for use by the following crop.

There are several options for frost-seeding red clover. Mark Seamon, Saginaw County MSU Extension educator, has conducted on-farm demonstrations on seeding red clover for several years.

Participating farmers in his area have found three successful seeding methods that have not affected wheat yields:

- an electric spinner seeder mounted on the back of an ATV
- blending red clover seed with urea and broadcasting onto frozen soil
- drilling the seed as early as possible to drive over wheat in spring.

Seeding should be completed as close as possible to the last winter frost. Frosty mornings allow for driving over the field, and create alternating freezing and thawing that helps put the seed in contact with the soil. Red clover tolerates cool conditions, so early planting gives the seed access to early-season soil moisture that encourages germination. An unseasonably dry spring may hinder red clover establishment.

Farmers have seeded at rates anywhere between 6 and 10 pounds per acre, but 10 to 15 pounds may provide more consistent stands.

Red clover seed generally costs between \$1 and \$1.50 per pound. Medium red clover (also called June clover) and Michigan mammoth have both been used successfully. Be sure to inoculate the red clover seed ahead of planting.

The main advantage to red clover is that it fixes nitrogen, as do all legume plants. If allowed to overwinter and be plowed or sprayed in the spring, it will provide nitrogen to the following crops.

"We've found red clover can offer as much as 100 pounds of nitrogen credit in the spring," says Dale Mutch, MSU Extension specialist. "The later the clover is allowed to grow in the spring, the more nitrogen potential. That makes this cover crop especially attractive ahead of corn or other crops that are heavy nitrogen users."

For more information on maximizing nutrients in field cropping systems, visit www.rootzone.msu.edu.

Rector is a Michigan State University Extension nutrient/manure management agent.

Never too early to stop weeds

How much damage can weeds do early in the season? Really? The short answer is a lot. They weaken your corn's stand and ultimately lower your yield. If you think that's old information, well, you better pay attention to this new research.



Recent studies prove that weeds start to rob yield before corn is even 2" tall. And by 4", yield loss can easily top 10%. So even if you spray for weeds that early you're too late. The damage is done.

The best way to stop weeds from hurting your crop is with a preemergence program featuring Lumax®. Why Lumax? Because studies show that it has the highest performance you can get. Instead of repackaging the same old ingredients, its advanced chemistry outperforms any other preemergence herbicide. And postemergence applications of glyphosate just don't compare.

One pass of Lumax can stop weeds before they ever see the light of day. Before they can steal the moisture and nutrients your corn needs to produce top yields.

It's simple. If you don't give weeds a chance you won't leave yield to chance. Nothing does both as well as Lumax.

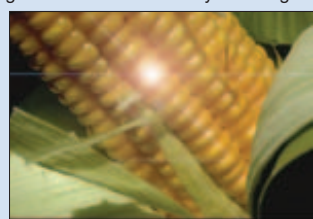
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Michigan growers leave fields with record yields

THE 2006 crop year was a historic one for Michigan corn, soybeans and sugarbeets, as each commodity produced record-breaking yields.

According to the Michigan Field Office of the National Agricultural Statistics Service, corn grown in Michigan for the grain market yielded 147 bushels per acre in 2006, topping the previous record of 143 bushels per acre set just a year earlier. While yield was up in 2006, Michigan's total production of corn for the grain market was virtually unchanged from 2005, totaling 288 million bushels.



Soybean yield, at 45 bushels per acre, far surpassed the state's previous record of 40 bushels per acre set in 1999 and 1995. In addition, soybean production, at 89.6 million bushels, was up 17% from 2005 and a new record high.

In the sugarbeet industry, Michigan sugarbeets yielded a record 23.2 tons per acre, exceeding the previous record of 21.3 tons per acre set in 1970 and 2005. Coming in at 3.6 million tons, total sugar-

beet production in 2006 was record-breaking, as well.

Dry bean production was 4.1 million cwt., 4% higher than in 2005. Yield was 1,900 pounds per acre, up from 1,700 pounds per acre in 2005.

In other commodities tracked by agricultural statisticians, Michigan's 2006 spearmint production was 96,000 pounds, up 71% from the 2005 crop. Peppermint production was 35,000 pounds, the same as 2005. All hay production, at 3.22 million tons, was up 13% from the previous year. Potato production totaled 14.19 million cwt., 2% more than in 2005.

Crop Brief

Indar fungicide approved for apple diseases

The U.S. EPA recently registered Indar fungicide for the broad-spectrum control of diseases in apples. Containing the active ingredient fenbuconazole, Indar provides control against apple scab, rusts and powdery mildew, as well as summer diseases of apples like sooty blotch and flyspeck. "Indar is a protectant fungicide offering strong residual, along with some locally systemic and curative activity," says Janice Smith, marketing specialist for Dow AgroSciences. "It provides the same level of control of scab, powdery mildew and rust that orchardists have come to expect from other sterol inhibitors or strobilurins, while also offering control of summer diseases." Brian Olson, product technology specialist for Dow AgroSciences, recommends that Indar be tank-mixed with a protectant like Dithane DF Rainshield fungicide from pink through second cover. To learn more about Indar fungicide, visit its Web site at www.indar.com or contact your local dealer.