9 Things To Know About Annual Ryegrass

Cover crops are gaining more interest among Midwestern corn and soybean growers looking to improve soil quality, combat compaction, eliminate erosion and maximize soil nutrients.

"Cover crops provide ground cover over the winter to help improve soil quality and increase crop production," says Mike Plumer, an extension educator with the University of Illinois based in Carbondale, Ill. "By improving soil quality and the rooting of the corn or soybean crop, you get more consistent yields, rather than having large swings from one year to the next."

Although a variety of grasses, cereal grains, legumes and oilseeds are used as cover crops, Plumer says one effective option to improve crop rooting is annual ryegrass.

Annual ryegrass is different from cereal rye, Plumer says. As a Midwestern cover crop, it's typically planted in early September, either aerially over standing crops, or it's planted soon after harvest using a grain drill or broadcast applicator with light tillage. It's then burned down in the spring, typically with a glyphosate herbicide, prior to planting row crops into the field.

Midwestern growers that plant annual ryegrass early in September can expect up to 20 inches of root growth by late December, according to Nick Bowers, an annual ryegrass seed producer and co-owner of KB Seed Solutions in Harrisburg, Ore. Bowers says the fall growth provides soils with an excellent supply of organic matter because of ryegrass' massive root system.

“Growers who use annual ryegrass as a cover crop for just 2 years say they see soil tilth improvements comparable to using a mechanical ripper to break up hardpan compaction,” Bowers says.

Annual ryegrass survives the winter approximately 75% to 80% of the time, according to Bowers. Planting dates, variety type and winter weather patterns, including snowfall which can insulate plants in extremely cold temperatures, are all factors that affect winter survivability.

Pete Bussey, a corn and soybean grower in Greenville, Ohio, says using annual ryegrass helped mitigate compaction problems at his operation due to spring manure applications.

“The annual ryegrass has a tremendous amount of roots that will grow right through the compacted soil,” he says. “This allows air and water to move. After the ryegrass dies, those roots leave spaces where the corn or soybean roots can follow.”

Bussey and his family have noticed that it's easier to operate equipment where ryegrass has been planted.

In addition to enhancing root systems, annual ryegrass and other cover crops help keep soil and nutrients in the field.

“Overwintering cover crops will help keep soil in place, which will help keep phosphorus in place, and grass cover crops will uptake nitrogen in the soil profile and carry it through from the fall to the spring,” Plumer says.

“Ryegrass is like a bank that holds nitrogen during the fall and spring, and then releases it in the soil when it is killed," Bowers adds. "When that ryegrass is killed in the vegetative stage of growth, most of the nitrogen is available to the corn crop 6 to 8 weeks later, just when it is needed most."

Here are 9 things to consider if you are thinking about planting annual ryegrass.

1. Do your homework. Growing any cover crop, including annual ryegrass, requires growers to learn a new set of management skills. Consult experienced growers in your area about their management techniques, challenges and successes in using cover crops. Look for seed suppliers that can provide in-depth technical information about planting, management and burndown. A good source of information is the Oregon Ryegrass Growers Seed Commission.

2. Start small. Bowers and Plumer both recommend that first-time ryegrass growers plant a small plot the first year. “Begin with a small check strip with 30 or 40 highly erodible or compacted acres,” Bowers says. “This allows you to learn techniques required to grow ryegrass and judge the benefits for yourself.”

3. Select a winter-hardy variety. “There are a lot of varieties out there and a lot of them don’t work because they aren’t winter hardy,” Plumer says. He recommends

reviewing university variety trials within your region and talking with grass seed dealers to select a "good, vigorous growing variety that's winter hardy."

4. Plant early. The ideal planting window for annual ryegrass is September 1 to September 20 for most areas in the Midwest, says Plumer. This allows approximately 60 days of growth prior to a hard freeze. "Ryegrass has to be planted early in the fall in order to establish a stand and survive the winter," he says.

5. Understand planting methods. Annual ryegrass can be planted using a standard grain drill following corn or soybean harvest, or it can be broadcast over the top of a maturing crop using an airplane or high-clearance sprayer. Another option is to seed ryegrass after harvest with a fertilizer applicator followed by light incorporation.

Bowers and Plumer each say that drilling is typically the most cost-effective option and provides the best germination results because of good seed-to-soil contact. The drawback is timing — you have to wait until after harvest to plant.

If you do drill, be sure to set the drill properly. "Seed should be placed into the ground between 1/8th and 1/2 inch deep," Bowers says. "Do not plant too deep." The recommended drill seeding rate is 10 to 15 pounds per acre.

Many growers opt for aerial seeding to get the ryegrass growing earlier. Seed can be flown onto fields after corn begins to turn yellow-brown or soybeans are at the leaf yellowing stage prior to first leaf drop. The recommended seeding rate for aerial application is 20 to 25 pounds per acre. Bowers says costs typically run about $25 to $30 per acre with custom aerial application.

6. Judge the roots, not the grass. "With annual ryegrass, what is below the soil is more important than what's on top of the soil," Bowers says. "You really don't know what you have until you start digging up the roots to evaluate the depth and volume under the surface." In addition to fall growth, Bowers says it's not uncommon to see 10 to 40 inches of early spring root growth when the crop survives over the winter.

7. Manage burndown carefully. Perhaps the biggest management challenge in growing annual ryegrass is properly orchestrating the burndown. Bowers urges growers to be patient in the spring and wait to kill ryegrass until after daytime temperatures are consistently above 50 F for the glyphosate to be most effective.

"Glyphosate doesn't translocate well during cold weather," says Dan Towery, Oregon Ryegrass Growers Seed Commission's Midwest Educational Coordinator. He says a good rule of thumb is to wait to spray until the annual ryegrass is approximately 8 to 10 inches in height or about 2 weeks before planting corn or soybeans.

He also suggests growers pick a sunny day to spray and stop spraying by midafternoon as translocation stops with darkness. Be sure to control water hardness and pH to improve glyphosate effectiveness.

8. Think long term. Using a cover crop is not a 1-year fix for damaged soils, Bowers says. "Cover crops are something you may need to think about doing every year or every other year to achieve lasting results," he says.

9.) Check out EQIP and CSP incentives. Growers using cover crops are eligible for cost-share funding through the Environmental Quality Incentives Program (EQIP). Additional funding is available through the Conservation Stewardship Program (CSP) for growers using cover crops as part of a conservation system. Visit your local USDA Natural Resources Conservation Service office to learn more.

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annual ryegrass

Posted from: Larry Bonnell, 12/3/12 at 9:31 AM CST

I have used annual ryegrass for 12 years in Michigan. I have built up organic matter to 3% and up till 4. This all helps your crops to survive the drought better 1st time use of no till use cover crops an your soils will take care of you. My corn averaged 140 with no rain in June and July.