

Cover Crops in a Nutshell

What is a Cover Crop?

A cover crop is a plant that covers the soil when a cash crop is not present.

Why Cover Crops for Landowners?

- Protect your asset
- Reduce soil erosion - by up to 1/2
- Scavenge and hold nutrients
- Improve soil organic matter (SOM)
- Increase water infiltration
- Reduce water run-off
- Improve soil health
- Improve water quality

Without Cover Crops?

Erosion jeopardizes the future rental value or price of your land.*

*The Cost of Soil Erosion - Mike Duffy - January 2013

Several farmers gather to learn about cover crops at a spring field day.



Farmers explore a healthy cover crop stand close-up at an early-spring field day.

Practical Landowner Checklist

Do you know...

How much do you know about the farming practices on your land? Here are a few questions you might ask to familiarize yourself with the farming operation.



Does the farmer own his/her spraying equipment? Does he/she apply herbicides himself/herself?

Owning, or having access to, equipment broadens a farmers' options for cover crop management. When applications are outsourced, service providers get to farmers' operations when they can. The result can be untimely application and less success. Also, the products being used to control the cover crop, weeds or diseases may be closer to "one size fits all" than site-specific.



Does the farmer plant other cash crops besides corn and soybeans (oats, wheat, alfalfa, etc.)? Has he/she ever planted a cover crop?

If your tenants have additional land where they plant crops other than corn or soybeans, they may be more willing to try cover crops or a more diverse rotation on your farm as well.

There are no wrong answers. But these are the sorts of questions you need to ask to get to know your farm – and farmer – better.



There isn't enough time in the fall to deal with cover crops.

Use planes, helicopters or high-clearance machinery to overseed cover crops prior to grain harvest. Check out PFI's Cover Crop Business Directory to find one near you! www.practicalfarmers.org

Even if cover crops are seeded after grain harvest and little fall growth is present, spring growth will protect soil from erosion, and nitrogen and phosphorus losses. Make sure to pick the correct cover crops for your goals.



Using airplanes can be a successful way to seed cover crops early in Iowa.



I'm worried about getting cereal rye killed before corn.

- **Get prepared in March.** Scout fields to check the height of the cover crops near the end of March; watch that cereal rye doesn't grow taller than 6 inches.
- **For chemical control,** watch air temperature: Spray cereal rye in the middle of the day on the first day of a three-day warm spell. This allows cover crop plants more time to take up the herbicide before cold nighttime temperatures.
- **For corn,** nitrogen applied closer to planting, at sidedress or near tasseling = success.
- **Adding citric acid** to the tank for mixing with herbicide can improve control, or trying herbicides with different modes of action to kill the plants. Avoid mixing atrazine and 28/32% N in the tank.
- **Cover crops can be killed** when they have greened.

For starters, try something that will winter-kill, such as fall-planted spring wheat or spring oats. They will die in the winter and need no management in the spring.



I've heard there's a yield decrease after a cover crop.

Iowa farmers are finding that a combination of spring management practices reduces any potential yield decreases from cover crops. Best management practices include:

- proper planter settings for higher residue
- good spring cover crop control through herbicide or tillage.

Results from a 5-year on-farm study by PFI and Iowa Learning Farms farmers found that: • 19 out of 22 times, corn following a winter rye cover crop yielded similarly to corn following no winter rye cover crop; • 13 out of 18 times soybeans yielded the same; • 1 out of 18 times, soybeans yielded less, while 4 out of 18 times soybeans yielded an average of 4 bushels per acre more.



How much is this going to cost?

Using planes to aerial-seed 60 pounds of cereal rye costs about \$32-\$40 per acre. Legumes and mixes will cost more, ranging about \$40-\$50 per acre. But over time less nitrogen can be applied, which helps offset costs.



Will overseeded cover crops negatively impact fall harvest?

With enough rainfall there could be a green carpet of cover crops under corn and beans at harvest time. Some green cover crop material could be cut by the soybean head, but the amount of material is so small that farmers affirm it is not an issue.



What are my options? I've heard about small grains, grasses, brassicas? tillage radish?!

Cereal rye or **winter wheat** are the most frequently used cover crops in Iowa. They can be planted at any time, using any method, due to their hardiness. If looking to gain nitrogen, try **common vetch**, **hairy vetch** or **winter lentil**. They can be aerial-seeded. Brassicas like cover crop radish or turnips only seem to fit if drilled prior to Sept. 10, as they need good soil-to-seed contact and sunlight. Always put them in a mix. **Oats** can work if planted by Sept. 10. However, don't overseed consistently unless there is good rainfall of about 1 inch after seeding. **Spring wheat** is a good alternative to oats for overseeding.