

Cover Crops in Iowa: A Quick Guide

This is general guidance for cover crop management. Consult an agronomist to create a plan for implementing cover crops on your farm that considers climate, soil type, crop rotation, and goals.

Cover crop benefits

- Increase soil organic matter
- Improve soil health, quality & productivity
- Adds grazing potential
- Reduce erosion even in no-till
- Reduce nitrate leaching
- Suppress winter annual & early season weeds

“If people could ask their great-grandparents, they’d call cover crops ‘green manures’ and everybody used to use them but that whole generation’s knowledge is pretty much lost now except in the books, unless you remember stories from grandpa.”

-Wade Dooley

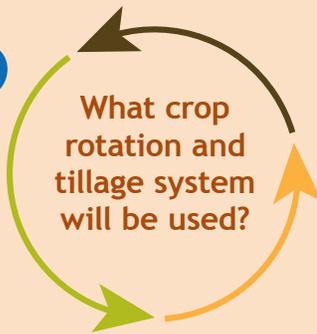
Goals

What do you want to achieve with your cover crop?



Align the cover crop species or mixture with your goals.

What crop rotation and tillage system will be used?



Where is the field located?



“Even if you’re the only person in your area doing cover crops it’s okay to think outside the box and try something different. Just because everybody else isn’t doing it, that doesn’t mean it’s not working.”

-Jeremy Gustafson

To get started, try:



Prior to corn: spring oats or spring wheat seeded into standing soybeans when the leaves begin to yellow



Prior to soybeans: winter-hardy cereal rye, winter wheat or winter triticale over-seeded into standing corn or drilled after harvest.

Cover crop planting windows



The latest date of planting for reasonable growth and benefits:
For winter-kill cover crops

Zone 1 – September 9

Zone 2 – September 16

Zone 3 – September 23

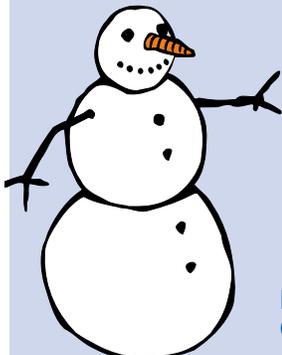
For winter hardy cereal grains

Zone 1 – October 21

Zone 2 – October 28

Zone 3 – November 5

Winter-hardy crops



Winter cereal rye
Winter wheat**
Winter triticale**

***Spring versions of wheat and triticale do not survive the harsh Iowa winters.*

Winter-kill crops

Oats
Spring wheat
Brassicas: radish, turnip, mustard
Legumes: crimson clover

*Maybe hardy...

Annual rye grass
Winter canola/rapeseed
Hairy Vetch
Common Vetch

**Further study is needed to explore hardiness of these plants*

For more cover crop choices and to find what will work in your fields, go to the Midwest Cover Crop Council’s cover crop decision tool: <http://mcccdev.anr.msu.edu/VertIndex.php>

Seeding methods

- **Drilled/planted:** uniform seeding depth and adequate seed to soil contact.
- **Broadcast:** requires higher seeding rate and should be rolled or lightly incorporate for better results. Species with smaller seeds may establish better than larger seed species.
- **Aerial/Surface (overseeding):** covers larger areas in late summer when cash crops begin to drop leaves, allowing sunlight to pass through the canopy.
- **Slurry Manure:** surface apply a mixture of cover crop seed and manure. The manure nutrients encourage cover crop growth and the cover crop prevents nutrient losses.

“Timing is everything. You’ve got to watch the rains, you’ve got to watch the wind if you’re doing a broadcast operation, you’ve got to make sure whatever cover you’re putting on matches your operation or change your operation to fit it.”

-Wade Dooley

Termination suggestions

It is recommended to terminate grass cover crops two weeks prior to corn planting unless nitrogen is applied at planting.

Cover crop termination can be done close to or following soybean planting, depending on your zone.

“I believe a week to two weeks or so is the ideal time to try and kill it and let it die down. And it depends on how big it gets, too.”

-Gary Nelson

“The first year we did rye, we covered 60 acres and learned the hard way that you want to make sure you kill it at the right time instead of waiting too long.”

-Wade Dooley

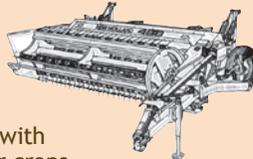
Termination methods

Herbicides



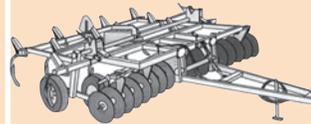
- Low cost, easy to use and cover many acres quickly
- Can be applied at any time or growth stage prior to flowering

Mowing, chopping or roller crimpers



- Work best with taller cover crops
- Provide a mat of biomass on the surface for weed control
- Delay until the flowering stage or later
- Row cleaners are recommended to manage residue

Tillage



- Comes with weather uncertainty
- Not dependent on temperature or cover crop growth stage

“The management is pretty simple— you just come out and spray it in the spring... It’s not much different than what you would usually do except it’s going to take a little more time in the fall to get things done.”

-Rick Juchems



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Discuss objectives with your local agronomist to evaluate which is best for your operation when selecting cover crops.

For more information on cover crops, visit:

- Practical Farmers of Iowa: www.practicalfarmers.org
- Iowa Learning Farms: www.iowalearningfarms.org
- Iowa Department of Agriculture & Land Stewardship: www.cleanwateriowa.org
- Midwest Cover Crop Council: www.mccc.msu.edu

Resources:

- Managing Cover Crops Profitably, Sustainable Agriculture Network http://www.practicalfarmers.org/assets/files/field_crops/additional/ManagingCovercropsProfitably.pdf
- Midwest Cover Crops Council Field Guide

Iowa Learning Farms partners: Iowa Department of Agriculture and Land Stewardship, Iowa Department of Natural Resources (United States Environmental Protection Agency), Natural Resources Conservation Service, Iowa State University Extension and Outreach, Leopold Center for Sustainable Agriculture, Conservation Districts of Iowa, Iowa Farm Bureau, Iowa Water Center, Practical Farmers of Iowa. This cooperative project has been funded in part through Section 319 of the Clean Water Act.