

## Fall Fields Don't Have to Be Empty Fields

### *Increasingly popular cover crops offer many benefits*

Cover crops are becoming more and more popular with farmers as an essential component of their crop rotation. In fact, an April 2014 survey conducted by *Farm Journal* showed that out of over 1,700 respondents, more than 60 percent have planted a cover crop.<sup>1</sup> So why do so many farmers make the extra investment cover crops require in time and money?

### **Do cover crops pay?**

Properly managed cover crops grown on the field in the fall or early spring lead to numerous benefits, including overall healthier soil and increased yields. If you're still on the fence about cover crops, consider these advantages:

- **Erosion control** – As their name implies, cover crops shelter soil to reduce wind erosion. Roots and residue also anchor soil to reduce water erosion.
- **Increased soil moisture** – In dry weather, cover crop residue helps trap any available water so it can be used by the cash crop. Grass-type cover crops such as rye, wheat, and sorghum tend to be very effective for this purpose.
- **Lower fertilizer costs** – Cover crops trap nitrogen (N) and reduce fertilizer loss. Since less fertilizer is lost, less needs to be added in-season. Trapping N also keeps it out of the watershed, benefiting the environment.
- **Supplemented organic matter and soil fertility** – Cover crops increase organic matter and promote soil aeration. Some people refer to cover crops as “green manure” because, like manure, they can increase soil fertility and N levels. You may even be able to decrease N application for your cash crop, but soil testing should still be done before making a fertilizer plan.
- **Pest and weed prevention** – Cover crops can out-compete and smother weeds trying to take root. Some crops help to reduce populations of bacterial and fungal diseases and combat parasitic nematodes.
- **Alleviating soil compaction** – Cover crops with long roots, such as the tillage radish, can help break up the soil and prevent the negative consequences of compacted soil.

Different cover crops offer different advantages in different regions. For help choosing the cover crop that's right for your operation, visit the Midwest Cover Crop Council's online Cover Crop Decision Tool.<sup>2</sup>



*The Yetter Maverick™ creates the perfect strips through red clover, a winter-hardy cover crop used to fix N for the cash crop, protect against soil erosion, and more.*

### **Seeding methods**

Part of effective cover crop management is knowing what seeding method to use. Depending on when you plan to plant your cover crops and the size of your field, among other variables, there are a wide variety of seeding options to choose from. If you are growing cover crops for the first time, try several methods to see which works best for you.<sup>3</sup>

#### **Drilling**

- Achieves good seed-to-soil contact and uniform seed placement, which is essential for successful cover crops.
- Ideal time to seed is after harvest, which means less time for the cover crop to get established before winter. In the Midwest, good cover crops for this seeding method are cereal rye, winter wheat, or triticale.<sup>4</sup>

## Broadcast and incorporation

- Done at an increased seeding rate.
- Typically less reliable than drilling.

## Surface broadcast

- Used when planting cover crops during the growing season.
- A highboy seeder can accurately deliver seed between rows while cash crop is still in the field.

## Management and termination

A cover crop is a part of an overall system whose parts must function well together, and knowledgeable cover crop management is essential. If the wrong combination of cash crop and cover crop is chosen, unintended side effects can follow. "Just south of Marvell, Arkansas, soybeans were planted into a cover crop of Austrian winter field peas. Shortly thereafter, pea weevils were discovered chewing on the young soybean plants," said University of Arkansas Entomologist Gus Lorenz.

Beyond choosing the right cash crop/cover crop combination, another crucial part of cover crop management is termination. If cover crops are not properly terminated, they can turn into weeds.<sup>6</sup> With some cover crops, winterkill takes care of termination with little to no help from the farmer. Others, such as annual ryegrass, wheat, and crimson clover are hardier and must be killed in time for spring planting. To help increase the effectiveness of your cover crop kill, spray during daylight and when temperatures are higher.

Cover crops require careful management, but with the many benefits they offer, it's easy to see why the number of cover crop acres has increased from fewer than 10,000 in 2009 to 300,000 in 2013 in Iowa.<sup>7</sup> For more information on how to get started with cover crops in your operation, visit any of the websites mentioned in this *Leading Edge* or look for cover crop conferences or field days in your area.

## Aerial seeding

- Seed distributed/planted by aircraft.
- Used when planting cover crops during growing season.

Keep in mind that the seeding rate must be adjusted for different seeding methods. CoverCropSolutions.com suggests the following when using broadcast and aerial seeding, taking the recommended drilling rate as a starting point:<sup>5</sup>

- For broadcast seeding, increase rate by 25%
- For aerial seeding, increase rate by 30%



*Fall-planted forage oats can provide winter-killed ground cover to protect soil.*



*A cover crop grows amidst still-standing corn stalks.*

## Endnotes

1. Schafer, Sara, "Cover Crops Swing Into Popularity," AGWEB, *Farm Journal*, April 23, 2013, <[http://www.agweb.com/article/cover\\_crops\\_swing\\_into\\_popularity\\_NAA\\_Sara\\_Schafer/](http://www.agweb.com/article/cover_crops_swing_into_popularity_NAA_Sara_Schafer/)>, accessed June 27, 2014.
2. Cover Crop Decision Tool, Midwest Cover Crop Council, <<http://mccdev.anr.msu.edu/VertIndex.php>>, accessed August 19, 2014.
3. Liz Morrison, "Winning ways to seed cover crops," *Corn and Soybean Digest*, August 2014.
4. Ibid.
5. "Seed Planting Guide," Cover Crop Solutions, 2013, <<http://www.covercropsolutions.com/documents/literature/CCS-seed-planting-guide.pdf>>, accessed August 19, 2014.
6. Ben N. Potter, "Don't Let Cover Crops Turn Into Weeds," AGWEB, *Farm Journal*, April 4, 2014, <[http://www.agweb.com/article/dont\\_let\\_cover\\_crops\\_turn\\_into\\_weeds\\_NAA\\_Ben\\_Potter/](http://www.agweb.com/article/dont_let_cover_crops_turn_into_weeds_NAA_Ben_Potter/)>, June 30, 2014.
7. "Cover Crops," Practical Farmers of Iowa, <<http://practicalfarmers.org/member-priorities/cover-crops/>>, accessed August 19, 2014.

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