

# Small grains spawn biodiversity

## Key Points

- Acreage of oats, wheat, cereal rye and other small grains declined for years.
- Demand for cover crop seed is causing more farmers to grow small grains.
- Adding small grains to a farm's crop rotation has several agronomic benefits.

By **DRAKE LARSEN**

**T**HE acreage of small grains harvested in Iowa is at an all-time low. At the same time there are more acres of small grains being planted than there has been in a generation.

Why the discrepancy? Cover crops. And demand for cover crop seed has driven up seed costs, especially for the most popular cover crop: cereal rye.

Rising seed costs have persuaded a growing number of farmers to produce seed for themselves and for sale as cover crop seed. These farmers are finding that adding small grains to their crop rotation has benefits for their land and their bottom line. With the added crop diversity, many are seeing increasing wildlife as well.

## Growing your own

Lack of markets is a primary driver of declines in small-grain production in Iowa. Where grain markets exist, post-harvest handling and transport costs can quickly eat into the profit margin. However, demand for cover crop seed has driven the price of cereal rye to more than double in the last five years. For dedicated cover crop users, growing their own seed is sound reason to add small grains to the rotation.

Buchanan County farmer Dick Sloan has been using cover crops for several years. The first couple of years Sloan was buying seed from a local seed dealer, "but the seed was costing more every year," he explains. "I grew some out as a trial one year, then decided to grow my own seed." A generation ago the farm had cattle, and oats were grown as a nurse crop for alfalfa. Now Sloan is planting a different small grain, cereal rye, with an underseeding of clover to provide nitrogen for the corn crop that will follow in the rotation.

This year Sloan had 800 bushels of cereal rye cleaned and bagged for use on-farm. With a local seed cleaner available 20 miles away, Sloan says, "With money saved, I made a decent income on those acres, and clover is still there helping to fix nitrogen and prevent erosion." On his farm in eastern Iowa, Sloan is participating in a field trial with Practical Farmers of Iowa to quantify the nitrogen credit from the clover.

## Most bang for the buck

Any farmer with a nearby market or a value-added purpose on-farm, such as producing cover crop seed or animal feed, will find small grains to be a profitable addition to the crop rotation.

Compared to corn or beans, small grains have low input costs, the seed is relatively cheap, and small grains tend to need fewer fertilizers and pesticides. In years of low corn and bean prices, small grains look even better. "Cereal rye is



**BENEFITS ADD UP:** Bringing diversity into the crop rotation with small grains can help to lower costs, boost yields and save soil, says Dick Sloan. Farmers are noticing an increase in wildlife biodiversity as well.

## Once common in Iowa

**S**MALL grains are small potatoes compared to corn and beans in Iowa today. Planted by nearly all Iowa farmers before World War II, small grains are now planted on less than 120,000 acres. Oats are the most popular, making up half of the total. According to the USDA Census of Agriculture, about 44,000 acres were used for forage (hay, silage, green chop) in 2012. There are nearly 14,000 acres of wheat, and the remainder is comprised of scant acres of barley, rye and sorghum.

The recent resurgence of small grains in Iowa is for use as cover crops; rye and oats are most popular, with wheat and triticale also commonly used. Last year nearly 400,000 acres of cover crop small grains were planted in Iowa. More acres are expected this year (planes and helicopters were busily aerial-seeding rye at press time, much of which will have germinated by the time you are reading this).

"I grow corn-soybean-rye, and soil quality is my fourth crop in a three-year rotation," says Buchanan County farmer Dick Sloan. Blooming clover under the rye helps pollinators, while cover crop roots reach deep, adding diversity to my soils.

The Iowa Nutrient Reduction Strategy suggests widespread use of cover crops will be needed in the future to meet nutrient reduction goals. Expanded use of cover crops has also prompted the production of these grains for seed. An estimated 300,000 acres of seed production will be needed to cover-crop upward of 40% of Iowa's corn and bean ground in some nutrient-reduction scenarios. While not all of this will necessarily be sourced from Iowa, increasing demand for cover crop seed brings added opportunities for Iowa farmers.

the best corn I never grew," quipped one farmer in the audience at a recent Practical Farmers of Iowa field day.

Sloan plants his cereal rye crop in strategic locations on his farm where he can make the most of the added benefits. "I can improve my profitability by taking low-yielding ground out of corn production on occasion," says Sloan. He has some sandy ground that is prone to drought later in the season; places where the corn will look good and then run out of water in August. "I can use that moisture early when it's there and get the rye crop off before it dries out."

Farmers in rolling landscapes may plant their small grains on the steeper slopes. "The soil won't move at all in the rye year of the rotation, and the soil-building properties of the roots make the soil more resistant to erosion in the corn and bean years, too," says Sloan.

Planting a winter-seeded small grain in low-lying areas that are wet during typical spring fieldwork can also help to keep the tractor out of the field when chance for compaction is greatest. Often, even spring-seeded small grains, such as oats, allow a farmer to get in the field in March before spring rains saturate the field. May showers nurture the crop rather than prevent planting.

Sloan also makes cover crops pay off by including them in his Conservation Stewardship Program contract through the USDA Natural Resources Conservation Service. Having used a rye cover crop before enrolling in CSP, he also has decided to implement multi-species cover crop mixes as part of the program.

## For the birds

The decisions to add a small grain to the crop rotation will often hinge on agronomic and financial realities. But with the added diversity on the farm, other benefits begin to stack up.

Farmers who are bringing small grains back into the rotation for the first time (whether for cover crops, grain production or both) are seeing more wildlife on the farm. For these farmers, the once common cackle of the rooster pheasant is heard a little more often now. For some, the whistle of "bobwhite" returns to the farm.

One day in the spring Sloan was scouting his corn. The cash crop was looking good as it quickly grew above the terminated rye cover crop that had held the soil months before.

As he walked through knee-high corn, the midday calm was broken as a hen turkey exploded in flight. Just a few steps ahead he found her nest. A turkey nest in a cornfield is not something he was expecting, Sloan admits.

For the upland birds, including turkey, pheasant and quail, harvested small-grain fields can also provide essential brood-rearing habitat for their offspring. Morning doves and nongame birds, such as bobolinks, find the small waste grain a welcome addition to their diet.

Wildlife in the field is not always welcome, of course. But at a time when there are fewer of some of these critters around, "it's good to know the farm supports the biology," says Sloan.

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